



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: December 18, 2008
RE: R.R. Donnelley & Sons Company / 085-23864-00009
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.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
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Part 70 Operating Permit Renewal OFFICE OF AIR QUALITY

R.R. Donnelley & Sons Company
2801 West Old Road 30
Warsaw, Indiana 46581

(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.: T085-23864-00009 | |
| Issued by:  Chrystal A. Wagner, Section Chief Permits Branch Office of Air Quality | Issuance Date: December 18, 2008 Expiration Date: December 18, 2013 |

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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 through A.3 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 publication rotogravure printing operation.

| | |
|------------------------------|--|
| Source Address: | 2801 West Old Road 30, Warsaw, Indiana 46581 |
| Mailing Address: | 2801 West Old Road 30, P.O. Box 837, Warsaw, IN 46581 |
| General Source Phone Number: | 574-267-9067 |
| SIC Code: | 2754 |
| County Location: | Kosciusko |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories |

A.2 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) Four (4) natural gas or No. 2 fuel oil fired boilers described as follows:
- (1) B1 and B2 installed in October of 1979, each with a maximum rated capacity of 85 MMBtu/hr,
 - (2) B3, installed in July of 1971 with a maximum rated capacity of 78 MMBtu/hr,
 - (3) B4, installed in June of 1994, with a maximum rated capacity of 98.4 MMBtu/hr. Under 40 CFR 60.40c, Subpart Dc, this is considered an existing small industrial-commercial-institutional steam generating unit.
- (b) Twelve (12) publication rotogravure printing presses, each using a carbon adsorption solvent recovery system with seventeen (17) adsorbers as control, Under 40 CFR 63.820, Subpart KK, these are considered an existing printing and publishing industry operation, described as follows:
- (1) WR-429, a tandem press with a maximum printing width of 70 inches and a maximum line speed of 2460 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
 - (2) WRO-487, with a maximum printing width of 69 inches and a maximum line speed of 2000 feet per minute,

- (3) WRO-488 and WRO-489, installed in February 1978, with each press having a maximum printing width of 70 inches and a maximum line speed of 2460 feet per minute,
 - (4) WRO-490, installed in August 1989, a tandem press with a maximum printing width of 70 inches and a maximum line speed of 2756 feet per minute. Under 40 CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
 - (5) WRO-491, WRO-492, and WRO-493, installed in August 1994, February 1995 and October 2002, respectively, with each press having a maximum printing width of 125 inches and a maximum line speed of 3000 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, these are considered an existing graphic arts industry: publication rotogravure printing operation.
 - (6) WR-444, installed in December of 1996, with a maximum printing width of 78 3/4 inches and a maximum line speed of 2450 feet per minute, and, although not required by rule, enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
 - (7) WR-441, WR-442, WR-443, installed in December of 1996, with each press having a maximum printing width of 78 3/4 inches and a maximum line speed of 2450 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, these are considered an existing graphic arts industry: publication rotogravure printing operation.
- (c) One (1) gravure cylinder wash machine, identified as GCW, installed in April of 1995, located in the east plant. Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
 - (d) One (1) gravure parts press parts washer, identified as GPW, installed in 1991, located in the east plant. Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
 - (e) One (1) gravure cylinder wash machine, identified as WCWM, installed in May of 2000, located in the west plant, using the carbon adsorption solvent recovery system and enclosed by permanent total enclosure (PTE). Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
 - (f) One (1) gravure press parts washer, identified as WGPW, installed in May of 2000, located in the west plant, enclosed by permanent total enclosure (PTE). Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
 - (g) Two (2) chromium plating lines, CR1 and CR2, installed in February and March of 2007, using a composite mesh pad system with a hepafilter as control, each having two (2) rectifiers with a maximum combined capacity of 18,000 amps for each tank. Under 40 CFR 63.340, Subpart N, this is considered existing chromium emissions from hard and decorative chromium electroplating and chromium anodizing tanks.
 - (h) One (1) pneumatic dust and paper trim collection system located in the east plant and consisting of the following:

- (1) One (1) cyclone, identified as EPC-3, installed in May of 1994, exhausting to one (1) baghouse, identified as EPBH-C, installed in June of 1994,
 - (2) One (1) cyclone, identified as EPC-1, installed in October of 2003.
 - (3) One (1) cyclone, identified as EPC-2, installed in 1978,
 - (4) One (1) cyclone concentrator, identified as EPCON-5, installed in June of 1995, exhausting to one (1) baghouse, EPBH-G, installed in September of 2003, EPCON-5 concentrated paper sent to EPC-3,
 - (5) Three (3) baghouses, identified as EPBH-C, EPBH-D, installed in June of 1994, and EPBH-E, with collected dust sent to one (1) dust auger, silo, and baghouse (EPBH-F) system,
 - (6) One (1) Baghouse EPBH-G, installed in September of 2003.
 - (7) One (1) cyclone, identified as EPC-4, with air exhausting to one (1) baghouse, EPBH-D with concentrated dust sent to one (1) dust auger, silo, and baghouse (EPBH-F) system.
- (i) One (1) pneumatic paper trim collection system located in the west plant and consisting of the following:
- (1) One (1) cyclone, identified as WPC-1, installed in June of 1969,
 - (2) One (1) cyclone, identified as WPC-2, installed in June of 1969,
 - (3) One (1) cyclone concentrator, identified as WPCON-3, installed in August of 1993, modified in June 2002, with concentrated paper sent primarily to a cyclone, WPC-1 or secondarily to WPC-2, exhausting to the atmosphere.
 - (4) One (1) cyclone concentrator, identified as WPCON-4, installed in August of 1993, modified June 2002, which has a maximum capacity of 10,500 pounds per hour, with concentrated paper sent primarily to cyclone WPC-1, or secondarily to WPC-2,
 - (5) One (1) cyclone concentrator, identified as WPCON-5, installed in June 2002, which has a maximum capacity of 10,500 pounds per hour, with concentrated paper sent primarily to cyclone WPC-1, or secondarily to WPC-2.
- (j) Five (5) cylinder making finishing sinks located in the east plant, identified as EPFS-1 through EPFS-5, installed in September of 1994,
- (k) One (1) wastewater treatment system located in the east plant and consisting of:
- (1) One (1) 800-gallon solvent/water separator, identified as WWT-4, installed in 2003,
 - (2) One (1) 1000-gallon solvent/water separator, identified as WWT-2, installed in 1985,
 - (3) One (1) 17,800-gallon air sparging tank, identified as WWT-3, installed in 1985.

- (l) Two (2) cylinder making finishing sink stations located in the west plant, identified as WPFS-1, installed in April of 1990, and WPFS-2, originally installed in the east plant in September 1994 and relocated to the west plant in March 2007.
- (m) Thirty-seven (37) storage tanks, installed in dates ranging from 1960 through 1989.
- (n) Eight (8) portable ink jet printers located in the east and west plants, identified as Ink Jet #1 through Ink Jet #8, each with a nominal throughput of 0.93 pounds of black ink and replenisher per hour, and one of which is an alternate ink jet printer with a maximum throughput of 0.064 pounds of ink, makeup and cleaner solvent per hour, with multiple exhaust stacks and associated ventilation ductwork, identified as IJP.
- (o) One (1) Heidelberg-Harris heatset web offset lithographic printing press with eight (8) units and two (2) webs identified as Press WM-401 with a maximum line speed of 1800 feet per minute and a maximum printing width of 38 inches, with associated in-line equipment and VOC emissions controlled by a regenerative thermal oxidizer, identified as RTO-1; and
- (p) One (1) Goss heatset web offset lithographic printing press with eight (8) units and two (2) webs identified as Press WM-402 with a maximum speed of 2500 feet per minute and a maximum printing width of 38 inches, with associated in-line equipment and VOC emissions controlled by a regenerative thermal oxidizer, identified as RTO-1.

A.3 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 does not currently have any insignificant activities, as defined in 326 IAC 2-7-1(21) that are specifically regulated.

A.4 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, T085-23864-00009, 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]

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 July 1 of each year to:

Indiana Department of Environmental Management
Compliance 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, and Northern Regional Office 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 Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)

Facsimile Number: 317-233-6865
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

- (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 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.

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 T085-23864-00009 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 Data Section, 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
Permits Branch, 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
Permits Branch, 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
Permits 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, 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) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.
- (b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2.

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
Permits Branch, 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 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.

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
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 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 Data Section, 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. 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 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 prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on November 1, 1992.
- (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.
- (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 Data Section, 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
Air Compliance Section, 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: Boilers

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

- (a) Four (4) natural gas or No. 2 fuel oil fired boilers described as follows:
- (1) B1 and B2, installed in October of 1979, each with a maximum rated capacity of 85 MMBtu/hr,
 - (2) B3, installed in July of 1971 with a maximum rated capacity of 78 MMBtu/hr,
 - (3) B4, installed in June of 1994, with a maximum rated capacity of 98.4 MMBtu/hr. Under 40 CFR 60.40c, Subpart Dc, this is considered an existing small industrial-commercial-institutional steam generating unit.

(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 Particulate Matter Limitation (PM) [326 IAC 6-2]

- (a) Pursuant to 326 IAC 6-2-3 (a) (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1 (c)), particulate emissions from boilers B1, B2, and B3 shall be limited to 0.34, 0.34, and 0.8 pounds of particulate matter per MM Btu of heat input, respectively, by the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

- where Pt = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input;
- C = maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter (µg/m³) for a period not to exceed a sixty (60) minute time period;
- Q = total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input;
- N = number of stacks in fuel burning operation;
- a = plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input. The value 0.8 shall be used for Q greater than 1,000 MMBtu/hr heat input; and
- h = stack height in feet. If a number of stacks of different heights exist, the average stack height to represent "N" stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^N H_i \times pa_i \times Q}{\sum_{i=1}^N pa_i \times Q}$$

where:

p_a = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

- (b) Pursuant to 326 IAC 6-2-4 (a) (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1 (d)), particulate emissions from boiler B4 shall be limited to 0.24 pounds of PM per MMBtu by the following equation:

$$P_t = \frac{1.09}{Q^{0.26}} \quad \text{Where } Q = \text{total source capacity (MMBtu/hr)}$$

where P_t = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and
 Q = total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input.

D.1.2 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1]

- (a) Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations), the SO₂ emissions from the ninety-eight and four-tenths (98.4) MMBtu per hour boiler B4 shall not exceed five tenths (0.5) pounds per million Btu heat input when burning distillate fuel oil.
- (b) Pursuant to 326 IAC 7-1.1 (SO₂ Emissions Limitations) the SO₂ emissions from the seventy-eight (78) MMBtu per hour and the two (2) eighty-five (85) MMBtu per hour fuel oil-fired boilers, identified as B3, B2, and B1, respectively, shall not exceed five-tenths (0.5) pounds per MMBtu heat input when burning distillate oil.

D.1.3 Sulfur Dioxide (SO₂) & Oxides of Nitrogen (NO_x) PSD Synthetic Minor Limitations [326 IAC 2-2]

Pursuant to T085-6040-00009 issued on August 5, 2002, boilers B1, B2, and B4 shall have the following SO₂ limits:

- (a) for boilers B1 and B2;
- (1) 0.5 lb of SO₂ per MMBtu for distillate oil combustion.
- (2) combined SO₂ emissions from B1 and B2 shall not exceed 245 tons per twelve (12) consecutive month period.
- ((B1 No. 2 fuel oil usage per month + B2 No. 2 fuel oil usage per month)*(SO₂ EF for No. 2 fuel)) ≤ an average of 245 tons per 12 consecutive month period.
- Where the EF for No.2 fuel shall be based on the sulfur content of the fuel burned and the AP-42 emission factors for boilers of less than 100 MMBtu/hr from Table 1.3-1 of AP-42 updated September 1998.
- (b) for boiler B4;
- (1) No. 2 fuel oil consumption not to exceed 3950 kgal per twelve (12) consecutive month period with a sulfur content not to exceed 0.05%.
- (2) For every 1 MMCF of Natural Gas used the No. 2 fuel oil consumption shall be reduced by 5 kgal. Compliance with these limits shall keep the Sulfur Dioxide

(SO₂) & Oxides of Nitrogen (NO_x) emissions to <40 tpy for boiler B4. Therefore, 326 IAC 2-2 does not apply.

D.1.4 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 the boilers.

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

D.1.5 Visible Emissions Notations

- (a) The Permittee will conduct one visible emission notation during normal operations at least once per week for each week during which the respective boiler is operated. A trained employee or other trained observer 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 or observer is someone who 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.1.6 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.2 and D.1.3, the Permittee shall maintain records in accordance with (1) through (6) below. Note that pursuant to 40 CFR 60 Subpart Dc and 326 IAC 7-1.1-1, the fuel oil sulfur limit applies at all times including periods of startup, shutdown, and malfunction.

- (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; and

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.

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.

- (b) To document compliance with Condition D.1.5, the Permittee shall maintain records of the visible emission notations of the boilers stack exhaust.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.7 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.3 and the natural gas fired boiler certification, shall be submitted to the address listed in Section C - General Reporting Requirements, 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).

New Source Performance Standards (NSPS) Requirements

D.1.8 General Provisions Relating to NSPS Subpart Dc [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart Dc, for boiler B4.

D.1.9 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units NSPS [40 CFR Part 60, Subpart Dc] [326 IAC 12]

The Permittee which engages in publication rotogravure printing operation shall comply with the following provisions of 40 CFR Part 60, Subpart Dc, (included as Attachment A of this permit).

- (1) 40 CFR 60.40c
- (2) 40 CFR 60.41c
- (3) 40 CFR 60.42c(d)(g)(h)(i)
- (4) 40 CFR 60.43c(c)(d)
- (5) 40 CFR 60.44c
- (6) 40 CFR 60.45c
- (7) 40 CFR 60.46c
- (8) 40 CFR 60.47c
- (9) 40 CFR 60.48c

SECTION D.2

FACILITY OPERATION CONDITIONS: Rotogravure Presses

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

- (b) Twelve (12) publication rotogravure printing presses, each using a carbon adsorption solvent recovery system with seventeen (17) adsorbers as control, Under 40 CFR 63.820, Subpart KK, these are considered an existing printing and publishing industry operation, described as follows:
 - (1) WR-429, a tandem press with a maximum printing width of 70 inches and a maximum line speed of 2460 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
 - (2) WRO-487, with a maximum printing width of 69 inches and a maximum line speed of 2000 feet per minute,
 - (3) WRO-488 and WRO-489, installed in February 1978, with each press having a maximum printing width of 70 inches and a maximum line speed of 2460 feet per minute,
 - (4) WRO-490, installed in August 1989, a tandem press with a maximum printing width of 70 inches and a maximum line speed of 2756 feet per minute. Under 40 CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
 - (5) WRO-491, WRO-492, and WRO-493, installed in August 1994, February 1995 and October 2002, respectively, with each press having a maximum printing width of 125 inches and a maximum line speed of 3000 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, these are considered an existing graphic arts industry: publication rotogravure printing operation.
 - (6) WR-444, installed in December of 1996, with a maximum printing width of 78 3/4 inches and a maximum line speed of 2450 feet per minute, and, although not required by rule, enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
 - (7) WR-441, WR-442, WR-443, installed in December of 1996, with each press having a maximum printing width of 78 3/4 inches and a maximum line speed of 2450 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, these are considered an existing graphic arts industry: publication rotogravure printing operation.
- (c) One (1) gravure cylinder wash machine, identified as GCW, installed in April of 1995, located in the east plant. Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
- (d) One (1) gravure parts press parts washer, identified as GPW, installed in 1991, located in the east plant. Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
- (e) One (1) gravure cylinder wash machine, identified as WCWM, installed in May of 2000, located in the west plant, using the carbon adsorption solvent recovery system and enclosed by permanent total enclosure (PTE). Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
- (f) One (1) gravure press parts washer, identified as WGPW, installed in May of 2000, located in the

west plant, enclosed by permanent total enclosure (PTE). Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.

(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 Volatile Organic Compounds (VOCs) [326 IAC 8-5-5]

- (a) Pursuant to 326 IAC 8-5-5 (Graphics Arts Operations), no owner or operator of a facility subject to this section and employing solvent-containing ink may cause, allow, or permit the operation of the facility unless:
- (1) the volatile fraction of the ink, as it is applied to the substrate, contains twenty-five percent (25%) by volume or less of volatile organic compound and seventy-five percent (75%) by volume or more of water;
 - (2) the ink as it is applied to the substrate, less water, contains sixty percent (60%) by volume or more nonvolatile material;
 - (3) the owner or operator installs and operates a carbon adsorption system that reduces the volatile organic emissions from the capture system by at least ninety percent (90%) by weight;
- (b) A capture system must be used in conjunction with the emission control systems and shall attain an efficiency sufficient to achieve an overall control efficiency, in conjunction with the emission control system of seventy-five percent (75%) for publication rotogravure processes.

D.2.2 VOC Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

- (a) for rotogravure press WR-429;
- (1) The VOC input shall be less than 34,550 tons, per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) for rotogravure press WRO-490;
- (1) The VOC input shall be less than 4,910 tons, per twelve (12) consecutive month period, with compliance determined at the end of each month, and
 - (2) Solvent recovery overall efficiency of no less than 87%.
- (c) for rotogravure presses WR-441, WR-442, and WR-443;
- (1) The VOC input shall be less than 9,468 tons, per twelve (12) consecutive month period, with compliance determined at the end of each month, and
 - (2) No less than 98% adsorber efficiency, and
 - (3) Permanent total enclosure (PTE) (100% capture).
- (d) for rotogravure press WR-444;

- (1) The VOC input shall be less than 3,120 tons, per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (e) for the parts and cylinder washers, WGPW and WCWM:
- (1) The VOC input shall be less than 500 tons, per twelve (12) consecutive month period, with compliance determined at the end of each month. When operating the carbon adsorption system to achieve this limit, the carbon adsorption system shall maintain an overall control efficiency of 98% per twelve (12) consecutive month period, and
 - (2) In the event that the carbon adsorption system is not operating, the amount of VOC input to the parts and cylinder washers shall be limited such that the VOC input with the carbon adsorption system operating times 0.02 added to the VOC input with the carbon adsorption system not operating shall not exceed VOC emissions of ten (10) tons per twelve (12) consecutive month period.

D.2.3 PSD BACT Limitations [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD BACT Limitations), the specific facilities have the following limitations:

Pursuant to CP 085-3117-00009, issued December 10, 1993 and CP 085-4396-00009, issued on November 27, 1995, BACT is as follows for presses WRO-491, WRO-492 and WRO-493:

- (1) Daily adsorber efficiency of no less than 95%;
- (2) Rolling 12 month average of no less than 98% adsorber efficiency; and
- (3) Permanent total enclosure (PTE) which is equivalent to 100% capture efficiency.

D.2.4 VOC Control Requirement [326 IAC 2-2]

Pursuant to T085-6040-00009 issued on August 5, 2002 rotogravure press WRO-487 shall have a ducted capture system to the solvent recovery system with total control efficiency of no less than 75% on a monthly basis.

D.2.5 Cold Cleaner Requirements [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2, the owner or the operator of the gravure cylinder wash machines, GCW, and WCWM, and the gravure press parts washers, GPW and WGPW, shall:

- (a) equip each cleaner with a cover,
- (b) equip each 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 operating requirements, and
- (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 not evaporate into the atmosphere.

D.2.6 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 the presses and their associated control devices.

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

D.2.7 Carbon Adsorption Unit Monitoring, CAM [40 CFR 64]

- (a) The solvent recovery system shall be in operation at all times that any of the rotogravure printing presses are in operation or are being cleaned using organic solvents.
- (b) At all time that the carbon adsorption control system for the parts and cylinder washers is in operation and being utilized to demonstrate compliance with the VOC emission limitations, the control system shall be monitored using the inlet and outlet analyzers on the solvent recovery system and monitoring the pressure differential in the enclosure to meet permanent total enclosure requirements.
- (c) The systems conveying the exhaust gases from the publication rotogravure production printing presses WR-429, WR-441, WR-442, WR-443, WR -444 WRO-491, WRO-492 and WRO-493, enclosures to the solvent recovery system shall operate at all times any of the presses in the respective enclosures are in operation, or are being cleaned using organic solvents. These enclosures shall have natural draft opening areas totaling not in excess of 5% of the total area of the walls, floor, and the ceiling of the enclosure. The enclosures shall be equipped with adequate negative pressure ventilation to provide a minimum face air velocity of 200 feet per minute, when all natural draft openings are simultaneously open. A pressure drop of greater than or equal to 0.013 mmHg (0.007 in H₂O) will demonstrate the 200 feet per minute face air velocity. All cylinder access doors (on the gear side) shall remain closed during the press operations except for the emergency escape. All personnel access doors (on the button side) shall remain closed, except for the momentary opening to allow access of personnel and materials. If these criteria are met, the VOC capture of the enclosure shall be considered to be 100%.
- (d) An inspection shall be performed each calendar quarter of the carbon adsorption unit controlling the parts and cylinder washers. All defective beds shall be repaired or replaced. The Permittee is not required to shut down the system in order to conduct the quarterly inspection. The Permittee shall monitor and inspect the carbon adsorption solvent recovery system and the ducted solvent capture system to ensure proper operation and maintenance.
- (e) In the event that a failure of the carbon adsorber has been observed, the affected compartments will be shut down immediately until the failed units have been repaired or replaced.

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

D.2.8 Record Keeping Requirements

- (a) To document compliance with Conditions D.2.1, D.2.2, D.2.3, and D.2.4, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.2.1, D.2.2, D.2.3, and D.2.4.
 - (1) The VOC content of the inks and cleaning solvents used for each month;
 - (2) The cleanup solvent usage for each month;

- (3) The total VOC usage for each month; and
 - (4) The weight of VOCs emitted for each compliance period.
 - (5) The monthly average recovery efficiency for the carbon adsorption system.
 - (6) The malfunction reports of the systems.
- (b) To document compliance with Condition D.2.5, the Permittee shall maintain records of the results of the inspections required under D.2.7(d) and (e).
 - (c) To document compliance with Condition D.2.7(a) the source shall keep records of the malfunction reports of the solvent recovery system; and other malfunction reports of the presses, when the solvent recovery system is operating but the presses are not venting to the solvent recovery system.
 - (d) To document compliance with Condition D.2.7(c) the source shall keep records of the malfunction reports of the systems conveying the exhaust gases from the enclosure; and other malfunction reports of the presses, when the systems conveying the exhaust gases from the enclosure to the adsorber, are not operating but the presses in the respective enclosures are in operation.
 - (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.2, D.2.3, and D.2.4 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).

New Source Performance Standards (NSPS) Requirements

D.2.10 General Provisions Relating to NSPS Subpart QQ [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart QQ.

D.2.11 Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing NSPS [40 CFR Part 60, Subpart QQ] [326 IAC 12]

The Permittee which engages in publication rotogravure printing operation shall comply with the following provisions of 40 CFR Part 60, Subpart QQ, (included as Attachment B of this permit).

- (1) 40 CFR 60.430
- (2) 40 CFR 60.431
- (3) 40 CFR 60.432
- (4) 40 CFR 60.433
- (5) 40 CFR 60.434
- (6) 40 CFR 60.435

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

D.2.12 General Provisions Relating to NESHAP KK [326 IAC 20-18][40 CFR 63, Subpart A]

Pursuant to 40 CFR 63.820, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1.

D.2.13 Printing and Publishing Industry NESHAP [40 CFR 63, Subpart KK]

The Permittee which engages in publication rotogravure printing operation shall comply with the following provisions of 40 CFR 63, Subpart KK (included as Attachment C of this permit):

- (1) 40 CFR 63.820
- (2) 40 CFR 63.821
- (3) 40 CFR 63.822
- (4) 40 CFR 63.823
- (5) 40 CFR 63.824
- (6) 40 CFR 63.825
- (7) 40 CFR 63.826
- (8) 40 CFR 63.827
- (9) 40 CFR 63.828
- (10) 40 CFR 63.829
- (11) 40 CFR 63.830
- (12) 40 CFR 63.831

SECTION D.3 FACILITY OPERATION CONDITIONS: Chromium Plating Lines

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

- (g) Two (2) chromium plating lines, CR1 and CR2, installed in February and March of 2007, using a composite mesh pad system with a hepafilter as control, each having two (2) rectifiers with a maximum combined capacity of 18,000 amps for each tank. Under 40 CFR 63.340, Subpart N, this is considered existing chromium emissions from hard and decorative chromium electroplating and chromium anodizing tanks.

(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.3.1 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 the chromium plating lines.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

D.3.2 General Provisions Relating to NESHAP N [326 IAC 20-8][40 CFR 63, Subpart A]

Pursuant to 40 CFR 63.340, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1.

D.3.3 Printing and Publishing Industry NESHAP [40 CFR 63, Subpart N]

The Permittee which engages in publication rotogravure printing operation shall comply with the following provisions of 40 CFR 63, Subpart N (included as Attachment D of this permit):

- (1) 40 CFR 63.340
- (2) 40 CFR 63.341
- (3) 40 CFR 63.342
- (4) 40 CFR 63.343
- (5) 40 CFR 63.344
- (6) 40 CFR 63.346
- (7) 40 CFR 63.347
- (8) 40 CFR 63.348

SECTION D.4

FACILITY OPERATION CONDITIONS: Collection System

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

- (h) One (1) pneumatic dust and paper trim collection system located in the east plant and consisting of the following:
 - (1) One (1) cyclone, identified as EPC-3, installed in May of 1994, exhausting to one (1) baghouse, identified as EPBH-C, installed in June of 1994,
 - (2) One (1) cyclone, identified as EPC-1, installed in October of 2003.
 - (3) One (1) cyclone, identified as EPC-2, installed in 1978,
 - (4) One (1) cyclone concentrator, identified as EPCON-5, installed in June of 1995, exhausting to one (1) baghouse, EPBH-G, installed in September of 2003, EPCON-5 concentrated paper sent to EPC-3,
 - (5) Three (3) baghouses, identified as EPBH-C, EPBH-D, installed in June of 1994, and EPBH-E, with collected dust sent to one (1) dust auger, silo, and baghouse (EPBH-F) system,
 - (6) One (1) Baghouse EPBH-G, installed in September of 2003.
 - (7) One (1) cyclone, identified as EPC-4, with air exhausting to one (1) baghouse, EPBH-D with concentrated dust sent to one (1) dust auger, silo, and baghouse (EPBH-F) system.
- (i) One (1) pneumatic paper trim collection system located in the west plant and consisting of the following:
 - (1) One (1) cyclone, identified as WPC-1, installed in June of 1969,
 - (2) One (1) cyclone, identified as WPC-2, installed in June of 1969,
 - (3) One (1) cyclone concentrator, identified as WPCON-3, installed in August of 1993, modified in June 2002, with concentrated paper sent primarily to a cyclone, WPC-1 or secondarily to WPC-2, exhausting to the atmosphere.
 - (4) One (1) cyclone concentrator, identified as WPCON-4, installed in August of 1993, modified June 2002, which has a maximum capacity of 10,500 pounds per hour, with concentrated paper sent primarily to cyclone WPC-1, or secondarily to WPC-2,
 - (5) One (1) cyclone concentrator, identified as WPCON-5, installed in June 2002, which has a maximum capacity of 10,500 pounds per hour, with concentrated paper sent primarily to cyclone WPC-1, or secondarily to WPC-2.

(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 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the pneumatic paper dust and trim collection in the east plant system shall not exceed allowable PM emission rate of 20.3

pounds per hour based on a process weight rate of 10.19 tons of paper per hour using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the three (3) waste paper concentrators in the west plant system, WPCON- 3, WPCON-4, and WPCON-5, and the two (2) cyclones, WPC-1 and WPC-2, shall not exceed allowable PM emission rate of 26.00 pounds per hour based on a process weight rate of 31,500 pounds of paper per hour using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

- (c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emissions from the Cyclone EPC-1 and Dust Auger and Silo shall be limited as follows:

| Facility | Process Weight Rate | Particulate Emissions Limit (lb/hr) |
|---------------------|---------------------|-------------------------------------|
| Cyclone EPC-1 | 4.0 | 10.4 |
| Dust Auger and Silo | 2.25 | 7.1 |

These limits shall be determined using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.4.2 PSD Limit [326 IAC 2-2]

- (a) PM and PM-10 emissions from the three (3) waste paper concentrators, identified as WPCON-3, WPCON-4 and WPCON-5 and the two (2) cyclones WPC-1 and WPC-2, shall be limited to 1.0 lb/ton and 0.6 lb/ton, respectively. Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable and also satisfy the requirement of Condition D.4.1.
- (b) The input of paper to the three (3) waste paper concentrators, identified as WPCON-3, WPCON-4 and WPCON-5 and the two (2) cyclones WPC-1 and WPC-2, shall be limited to less than 25,000 tons per twelve (12) consecutive month period, with compliance demonstrated at the end of each month. This usage limit is required to limit the potential to emit of PM to less than 25 tons per twelve (12) consecutive month period and PM10 to less than 15 tons per twelve (12) consecutive month period. Compliance with this limit

shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

- (c) Pursuant to Significant Permit Modification No. 085-18151-00009, issued on December 5, 2003, the input of waste paper to the Cyclone EPC-1 shall be limited to 35,040 tons per twelve (12) consecutive month period with compliance demonstrated at the end of each month. Baghouse EPBH-F shall be in operation at all times the Dust Auger and Silo are in operation.

D.4.3 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 the collection system.

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

D.4.4 Visible Emissions Notations

- (a) Visible emission notations of the Cyclone EPC-1 (when venting to a baghouse) and EPBH-F, pneumatic paper dust and trim collection systems, WPC-1, WPC-2, WPCON-4, EPC-3 & EPBH-C stack exhausts, shall be performed once per week during normal daylight operations when exhausting to the atmosphere. A trained employee or other trained observer 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 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.

D.4.5 Broken Bag or Failure Detection

In the event that bag failure has been observed:

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B- Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature,

flow rate, air infiltration, leaks, dust traces or triboflows.

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

D.4.6 Record Keeping Requirements

- (a) To document compliance with D.4.2(b), the Permittee shall maintain monthly records of paper throughput to the three (3) waste paper concentrators (WPCON-3, WPCON-4, and WPCON-5), and the two (2) cyclones (WPC-1 and WPC-2).
- (b) To document compliance with D.4.2 (c), the Permittee shall maintain monthly records of waste paper throughput to the Cyclone EPC-1.
- (c) To document compliance with Condition D.4.4, the Permittee shall maintain records of weekly visible emission notations of Cyclone EPC-1 and EPBH-F stack exhausts.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.7 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.4.2(b) and Condition D.4.2(c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the report 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 D.5

FACILITY CONDITIONS: Ink Jet Printers

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

- (n) Eight (8) portable ink jet printers located in the east and west plants, identified as Ink Jet #1 through Ink Jet #8, each with a nominal throughput of 0.93 pounds of black ink and replenisher per hour, and one of which is an alternate ink jet printer with a maximum throughput of 0.064 pounds of ink, makeup and cleaner solvent per hour, with multiple exhaust stacks and associated ventilation ductwork, identified as IJP.

(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 Volatile Organic Compounds (VOCs) Limits [326 IAC 2-2] [326 IAC 8-1-6][326 IAC 2-4.1-1]

The following equipment has VOC and hazardous air pollutants (HAPs) usage limits such that 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) and 326 IAC 2-4.1-1 (New Source Toxics Control), shall not apply:

Eight (8) portable ink jet printers (Ink Jet #1 through Ink Jet #8)

- (a) Volatile Organic Compounds (VOCs) usage shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period, with compliance demonstrated at the end of each month; and
- (b) Hazardous air pollutants (HAPs) usage shall be limited to less than ten (10) tons of any single hazardous air pollutant (HAP) and less than twenty-five (25) tons of any combination of HAPs per twelve (12) consecutive month period, with compliance demonstrated at the end of each month.

D.5.2 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 the ink jet printers.

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

D.5.3 Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs)

Compliance with the VOC and HAP usage limitations contained in Condition D.5.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from manufacturer the copies of the "as supplied" and "as applied" VOC and HAP data sheets. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-14.

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

D.5.4 Record Keeping Requirements

- (a) To document compliance with Condition D.5.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and HAP usage limits established in Condition D.5.1.

- (1) The VOC and HAP content of each ink and solvent used.

- (2) The amount of ink and solvent used less water on monthly basis.
 - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (3) The total solvent usage for each month;
 - (4) The total VOC and HAP usage for each month; and
 - (5) The weight of VOCs and HAPs emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.5.5 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.5.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the report 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 D.6

FACILITY OPERATION CONDITIONS: Lithographic Presses

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

- (o) One (1) Heidelberg-Harris heatset web offset lithographic printing press with eight (8) units and two (2) webs identified as Press WM-401 with a maximum line speed of 1800 feet per minute and a maximum printing width of 38 inches, with associated in-line equipment and VOC emissions controlled by a regenerative thermal oxidizer, identified as RTO-1; and
- (p) One (1) Goss heatset web offset lithographic printing press with eight (8) units and two (2) webs identified as Press WM-402 with a maximum speed of 2500 feet per minute and a maximum printing width of 38 inches, with associated in-line equipment and VOC emissions controlled by a regenerative thermal oxidizer, identified as RTO-1.

(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.6.1 Volatile Organic Compounds (VOCs) Limits [326 IAC 8-1-6]

Pursuant to 085-20472-00009 issued on April 18, 2005 and 326 IAC 8-1-6 (General Reduction Requirements), the Best Available Control Technology (BACT) for the two (2) heatset web offset lithographic presses, identified as WM-401 and WM-402, shall be as follows:

- (a) The exhaust shall be vented to the Regenerative Thermal Oxidizer (RTO-1) with a minimum of 97% destruction efficiency for VOC;
- (b) The VOC content of the Fountain solution shall be no greater than 3% VOC as applied;
- (c) The blanket and roller washes shall have a vapor pressure no greater than 10 mm Hg at 20 °C or the VOC content shall be limited to 2.5 lb/gal as applied; and
- (d) The capture and retention efficiencies used for reporting compliance shall be as follows and are based on USEPA's "Alternative Control Techniques Document: Offset Lithographic Printing" (EPA 453/R-94-054, June 94):
 - (1) 100 percent capture, by weight, of the VOC in press ready inks;
 - (2) 70 percent capture, by weight, of the VOC in press ready fountain solutions;
 - (3) 40 percent capture, by weight, of the VOC in press ready automatic cleaning solvents;
 - (4) 20 percent retention, by weight, of VOC in inks in the paper substrate; and
 - (5) 50 percent retention, by weight, of manual cleaning solvents in the cleaning wipers. Cleaning wipers shall always be placed in closed containers after use.

Compliance with the above limits and conditions will satisfy the Best Available Control technology (BACT) requirements of 326 IAC 8-1-6.

D.6.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to Significant Permit Modification 085-20472-00009 issued on April 18, 2005, the amount of VOC delivered to the substrate and the amount of VOC used for cleanup shall be

limited such that the VOC emitted, after controls, is less than 39.6 tons from presses WM-401 and WM-402 combined per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit will render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.6.3 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 the lithographic presses their associated control devices.

Compliance Determination Requirements

D.6.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Pursuant to 326 IAC 8-1-2(a), the Permittee shall operate the thermal oxidizer, at all times when at least one of the two (2) lithographic presses (WM-401 and WM-402) is in operation, to achieve compliance with condition D.6.1 and D.6.2.

D.6.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-4] [326 IAC 8-1-2(a)]

Compliance with the VOC content and usage limitations contained in Conditions D.6.1 and D.6.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets, Material Safety Data Sheets, or other VOC content information. IDEM, OAQ reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.6.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within sixty (60) days after achieving maximum capacity but no later than one hundred eighty (180) days after initial startup, the Permittee shall conduct a performance test to verify VOC destruction efficiency as per condition D.6.1 for the thermal oxidizer utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

D.6.7 VOC Emissions

Compliance with Condition D.6.2 shall be determined within 30 days of the end of each month. This shall be based on total volatile organic compound emitted for the previous month, and adding it to the previous 11 months total VOC emitted so as to arrive at VOC emissions for the most recent 12 consecutive month period. The VOC emissions for a month can be arrived at using the following equation for usage:

$$\text{VOC emitted} = [(\text{VOC input from inks}) \times (1 - 0.2a) \times (1 - 0.97b) + (\text{VOC input from fountain solution}) \times (1 - 0.7c \times 0.97b) + (\text{VOC input from automatic cleaning solvents}) \times (1 - 0.4d \times 0.97b)] + (\text{VOC from manual cleaning solvents}) \times (1 - 0.5e)$$

- (a) 20 percent retention, by weight, of VOC in inks in the paper substrate;
- (b) 97 percent destruction efficiency of VOC;
- (c) 70 percent capture, by weight, of the VOC in press ready fountain solutions;
- (d) 40 percent capture, by weight, of the VOC in press ready automatic cleaning solvents;
- (e) 50 percent retention, by weight, of manual cleaning solvents in the cleaning wipers;

The Permittee shall use the destruction efficiency demonstrated from the most recent IDEM approved stack test and the capture and retention efficiencies listed in condition D.6.1(d).

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

D.6.8 Thermal Oxidizer Temperature [40 CFR 64 (CAM)]

- (a) The Permittee has determined the 3-hr average temperature of 1395 °F from the most recent valid stack test, performed on October 2006, which demonstrates compliance with limits in condition D.6.1, as approved by IDEM. The Permittee shall operate the thermal oxidizer at or above the 3-hr average temperature as observed during the last compliant stack test.
- (b) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature. For the purpose of this condition, continuous shall mean no less often than once per minute. The output of this system shall be recorded continuously except when there is a fluctuation in the temperature of the thermal oxidizer such that the temperature falls below 1395 °F. At any time the temperature falls below 1395 °F, the Permittee shall record the output of the system as a 3-hr average for that period. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hr average temperature of 1395 °F.

D.6.9 Parametric Monitoring [40 CFR 64 (CAM)]

- (a) The Permittee shall determine the appropriate duct pressure or fan amperage from the most recent valid stack test that demonstrates compliance with limits in condition D.6.1, as approved by IDEM.
- (b) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizer is in operation. On and after the date the approved stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in most recent compliant stack test.

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

D.6.10 Record Keeping Requirements

- (a) To document compliance with Conditions D.6.1 and D.6.2, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.6.1 and D.6.2.
 - (1) The VOC content of each ink, coating material, cleanup solvent and fountain solution used.
 - (2) The amount of ink and coating material used on monthly basis.
 - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (3) The cleanup solvent usage for each month.
 - (4) The fountain solution usage for each month.
 - (5) Weight percent of VOC in fountain solution (wt %).
 - (6) The aggregate monthly VOC emissions and the annual VOC emissions.

- (7) The continuous temperature records (on a 3-hr average basis whenever the temperature is not continuously above the minimum required temperature) for the thermal oxidizer and the 3-hr average temperature used to demonstrate compliance during the most recent compliant stack test.
- (8) Daily records of the duct pressure or fan amperage.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.6.11 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.6.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the report 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).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T 085-23864-00009

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 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: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T 085-23864-00009

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">C The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); andC 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 DATA SECTION
PART 70 OPERATING PERMIT
NATURAL GAS FIRED BOILER CERTIFICATION**

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T 085-23864-00009

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

Report period

Beginning: _____

Ending: _____

| | <u>Boiler Affected</u> | <u>Alternate Fuel</u> | <u>Days burning alternate fuel</u> | |
|-------|------------------------|-----------------------|------------------------------------|-----------|
| | | | <u>From</u> | <u>To</u> |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |

(can omit identification of boiler affected if only one gas boiler at this plant)

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 DATA SECTION
 PART 70 OPERATING PERMIT
 CHROMIUM ELECTROPLATING AND ANODIZING NESHAP
 ONGOING COMPLIANCE STATUS REPORT**

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
 Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
 Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
 Part 70 Permit No.: T 085-23864-00009
 Tank ID #: CR1 and CR2
 Type of process: Hard and Decorative
 Monitoring Parameter: Pressure drop
 Parameter Value: 4.6 ±2 inch of water
 Limits: Total chromium concentration may not exceed 0.015 mg/dscm

**This form is to be used to report compliance for the Chromium Electroplating and Anodizing NESHAP only.
 The frequency for completing this report may be altered by IDEM, OAQ, Compliance Branch.**

*Companies classified as a major source: Submit this report no later than 30 days after the end of the reporting period.
 Companies classified as an area source: Complete this report no later than 30 days after the end of the reporting period,
 and retain on site unless otherwise notified.*

This form consists of 2 pages

Page 1 of 2

| |
|---|
| BEGINNING AND ENDING DATES OF THE REPORTING PERIOD: |
| TOTAL OPERATING TIME OF THE TANK DURING THE REPORTING PERIOD: |

| |
|--|
| MAJOR AND AREA SOURCES: CHECK ONE |
| <input type="checkbox"/> NO DEVIATIONS OF THE MONITORING PARAMETER ASSOCIATED WITH THIS TANK FROM THE COMPLIANT VALUE OR RANGE OF VALUES OCCURRED DURING THIS REPORTING PERIOD. |
| <input type="checkbox"/> THE MONITORING PARAMETER DEVIATED FROM THE COMPLIANT VALUE OR RANGE OF VALUES DURING THIS REPORTING PERIOD (THUS INDICATING THE EMISSION LIMITATION MAY HAVE BEEN EXCEEDED, WHICH COULD RESULT IN MORE FREQUENT REPORTING). |

| | | | |
|---|-----|-----|-----|
| AREA (I.E., NON-MAJOR) SOURCES OF HAP ONLY: IF DEVIATIONS OCCURRED, LIST THE AMOUNT OF TANK OPERATING TIME EACH MONTH THAT MONITORING RECORDS SHOW THE MONITORING PARAMETER DEVIATED FROM THE COMPLIANT VALUE OR RANGE OF VALUES. | | | |
| JAN | APR | JUL | OCT |
| FEB | MAY | AUG | NOV |
| MAR | JUN | SEP | DEC |

| | | | |
|--|-----|-----|-----|
| HARD CHROME TANKS / MAXIMUM RECTIFIER CAPACITY LIMITED IN ACCORDANCE WITH 40 CFR 63.342(c)(2) ONLY: LIST THE ACTUAL AMPERE-HOURS CONSUMED (BASED ON AN AMP-HR METER) BY THE INDIVIDUAL TANK. | | | |
| JAN | APR | JUL | OCT |
| FEB | MAY | AUG | NOV |
| MAR | JUN | SEP | DEC |

CHROMIUM ELECTROPLATING AND ANODIZING NESHAP ONGOING COMPLIANCE STATUS REPORT

ATTACH A SEPARATE PAGE IF NEEDED

Page 2 of 2

IF THE OPERATION AND MAINTENANCE PLAN REQUIRED BY 40 CFR 63.342 (f)(3) WAS NOT FOLLOWED, PROVIDE AN EXPLANATION OF THE REASONS FOR NOT FOLLOWING THE PLAN AND DESCRIBE THE ACTIONS TAKEN FOR THAT EVENT:

DESCRIBE ANY CHANGES IN TANKS, RECTIFIERS, CONTROL DEVICES, MONITORING, ETC. SINCE THE LAST STATUS REPORT:

ADDITIONAL COMMENTS:

ALL SOURCES: CHECK ONE

I CERTIFY THAT THE WORK PRACTICE STANDARDS IN 40 CFR 63.342(f) WERE FOLLOWED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN ON FILE; AND, THAT THE INFORMATION CONTAINED IN THIS REPORT IS ACCURATE AND TRUE TO THE BEST OF MY KNOWLEDGE.

THE WORK PRACTICE STANDARDS IN 40 CFR 63.342(f) WERE NOT FOLLOWED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN ON FILE, AS EXPLAINED ABOVE AND/OR ON ATTACHED.

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 DATA SECTION

Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Press WRO-490
Parameter: Volatile Organic Compound (VOC) input
Limit: 4910 tons per 12 consecutive month period

YEAR:

| 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 DATA SECTION
Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Rotogravure Press WR-429
Parameter: Volatile Organic Compound Input
Limit: 34,550 ton per 12 consecutive month period

YEAR:

| 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 DATA SECTION

Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Presses WR-441, WR-442, and WR-443
Parameter: Volatile Organic Compounds Input
Limit: 9,468 tons per 12 consecutive month period

YEAR:

| 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 DATA SECTION
Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Press WR-444
Parameter: Volatile Organic Compounds Input
Limit: 3,120 tons per 12 consecutive month period

YEAR:

| 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 DATA SECTION
Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Boilers B1 and B2
Parameter: Combined SO₂ emissions
Limit: 245 tons per 12 consecutive month period

YEAR:

| 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 DATA SECTION

Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Boiler B4
Parameter: No. 2 Distillate Fuel Oil Input
Limit: 6192 kgal per 12 consecutive month period with a sulfur content not to exceed 0.05%

YEAR:

| 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 DATA SECTION
Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Boiler B4
Parameter: Natural Gas Input
Limit: 864 million cubic feet per 12 consecutive month period

YEAR:

| 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 DATA SECTION
Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Parts and Cylinder Washers, WGPW and WCWM
Parameter: Volatile Organic Compound Input
Limit: 500 tons per 12 consecutive month period

YEAR:

| 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 DATA SECTION

Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Three (3) waste paper concentrators (WPCON-3, WPCON-4, WPCON-5) and the two (2) cyclones (WPC-1 and WPC-2).
Parameter: Paper input
Limit: The input of paper to each of these processes shall be limited to less than 25,000 tons per 12 consecutive month period

YEAR:

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---------|------------------------|--------------------------------|----------------------------|
| | Paper Input This Month | Paper Input Previous 11 Months | Paper Input 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 DATA SECTION

Part 70 Quarterly Report

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
Part 70 Permit No.: T085-23864-00009
Facility: Cyclone EPC-1
Parameter: Waste paper input
Limit: 35,040 tons input of waste paper per 12 consecutive month period with compliance demonstrated at the end of each month.

YEAR:

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---------|-----------------------|-------------------------------|---------------------------|
| | Tons Input This Month | Tons Input Previous 11 Months | Tons Input 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 DATA SECTION
 Part 70 Quarterly Report**

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
 Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
 Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
 Part 70 Permit No.: T 085-23864-00009
 Facility: Eight (8) portable ink jet printers, identified as Ink Jet #1 through Ink Jet #8.
 Parameter: VOC and HAPs Usage
 Limit: (1) Volatile Organic Compounds (VOCs) usage shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period, with compliance demonstrated at the end of each month; and
 (2) Hazardous air pollutants (HAPs) usage shall be limited to less than ten (10) tons of any single hazardous air pollutant (HAP) less than twenty-five (25) tons of any combination of HAPs per twelve (12) consecutive month period, with compliance demonstrated at the end of each month.

YEAR:

| Month | Column 1 | | Column 2 | | Column 1 + Column 2 | |
|---------|---------------|--|---------------|--|---------------------|--|
| | VOC Emissions | | VOC Emissions | | VOC Emissions | |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

YEAR:

| Month | Column 1 | | Column 2 | | Column 1 + Column 2 | |
|---------|---------------|----------------|-------------------|----------------|---------------------|----------------|
| | HAP Emissions | | HAP Emissions | | HAP Emissions | |
| | This Month | | Previous 11 Month | | 12 Month Total | |
| | Single | Combined Total | Single | Combined Total | Single | Combined 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 DATA SECTION
 Part 70 Source Modification Quarterly Report**

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
 Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
 Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
 Part 70 Permit No.: T 085-23864-00009
 Facility: Two (2) heatset web offset lithographic presses identified as WM-401 & WM-402
 Parameter: VOC emissions
 Limit: The amount of VOC delivered to the substrate and the amount of VOC used for cleanup shall be limited such that the VOC emitted, after controls, is less than 39.6 tons from presses WM-401 and WM-402 combined per twelve (12) consecutive month period. The following equation shall be used to determine the VOC emissions:

$$\text{VOC emitted} = [(\text{VOC input from inks}) \times (1 - 0.2^1) \times (1 - 0.97^2) + (\text{VOC input from fountain solution}) \times (1 - 0.7^3 \times 0.97^2) + (\text{VOC input from automatic cleaning solvents}) \times (1 - 0.4^4 \times 0.97^2)] + (\text{VOC from manual cleaning solvents}) \times (1 - 0.5^5)$$

1. 20 percent retention, by weight, of VOC in inks in the paper substrate;
2. 97 % destruction efficiency of VOC;
3. 70 percent capture, by weight, of the VOC in press ready fountain solutions;
4. 40 percent capture , by weight, of the VOC in press ready automatic cleaning solvents;
5. 50 percent retention, by weight, of manual cleaning solvents in the cleaning wipers;

YEAR:

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---------|--------------------------|----------------------------------|------------------------------|
| | VOC Emissions This Month | VOC Emissions Previous 11 Months | VOC Emissions 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 DATA SECTION**

**PART 70 OPERATING PERMIT
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: R.R. Donnelley & Sons Company – Warsaw Manufacturing Division
 Source Address: 2801 West Old Road U.S. 30, Warsaw, Indiana 46581-0837
 Mailing Address: 2801 West Old Road U.S. 30, P.O. Box 837, Warsaw, Indiana 46581-0837
 Part 70 Permit No.: T085-23864-00009

Months: _____ to _____ Year: _____

| | |
|---|-------------------------------|
| <p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p> | |
| <input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD. | |
| <input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD | |
| 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: | |
| 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.

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

[Browse Previous](#) | [Browse Next](#)

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

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

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

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

(f) Any facility covered by subpart AAAA of this part is not covered by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not covered by this subpart.

§ 60.41c Definitions.

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

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat,

including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO₂control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

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

Emerging technology means any SO₂control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means: (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

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

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

§ 60.42c Standard for sulfur dioxide (SO₂).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO₂ emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO₂ emissions limit or the 90 percent SO₂ reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO₂ emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 50 percent (0.50) of the potential SO₂ emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO₂ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the following:

(1) The percent of potential SO₂ emission rate or numerical SO₂ emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/hr); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

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

Where:

E_s = SO₂ emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a = 520 ng/J (1.2 lb/MMBtu);

K_b = 260 ng/J (0.60 lb/MMBtu);

K_c = 215 ng/J (0.50 lb/MMBtu);

H_a = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H_c K_a H_b = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO₂ emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO₂ emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO₂ control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(i) The SO₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged

into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions is not subject to the PM limit in this section.

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO₂ emission limits under §60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO₂ emission limits under §60.42c is based on the average percent

reduction and the average SO₂emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO₂emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO₂emission rate (E_{ho}) and the 30-day average SO₂emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E_{ao}when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho}(E_{ho0}) is used in Equation 19–19 of Method 19 of appendix A of this part to compute the adjusted E_{ao}(E_{ao0}). The E_{ho0} is computed using the following formula:

$$E_{ho0} = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:

E_{ho0} = Adjusted E_{ho}, ng/J (lb/MMBtu);

E_{ho}= Hourly SO₂emission rate, ng/J (lb/MMBtu);

E_w= SO₂concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E_wfor each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_wif the owner or operator elects to assume E_w= 0.

X_k= Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E_wor X_kif the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO₂emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO₂emission rate is computed using the following formula:

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

Where:

%P_s= Potential SO₂emission rate, in percent;

$\%R_g$ = SO₂ removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$ = SO₂ removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_g$ ($\%R_{g0}$) is computed from E_{a00} from paragraph (e)(1) of this section and an adjusted average SO₂ inlet rate (E_{ai0}) using the following formula:

$$\%R_{g0} = 100 \left(1 - \frac{E_{a00}}{E_{ai0}} \right)$$

Where:

$\%R_{g0}$ = Adjusted $\%R_g$, in percent;

E_{a00} = Adjusted E_{a0} , ng/J (lb/MMBtu); and

E_{ai0} = Adjusted average SO₂ inlet rate, ng/J (lb/MMBtu).

(ii) To compute E_{ai0} , an adjusted hourly SO₂ inlet rate (E_{hi0}) is used. The E_{hi0} is computed using the following formula:

$$E_{hi0} = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E_{hi0} = Adjusted E_{hi} , ng/J (lb/MMBtu);

E_{hi} = Hourly SO₂ inlet rate, ng/J (lb/MMBtu);

E_w = SO₂ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO₂ standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO₂ emissions data in calculating %P_s and E_{h_o} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %P_s or E_{h_o} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3 of appendix A of this part shall be used for gas analysis when applying Method 5, 5B, or 17 of appendix A of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O₂) or carbon dioxide (CO₂) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O₂ or CO₂ measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A of this part (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with EPA Reference Method 5, 5B, or 17 of appendix A of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using EPA Method 5, 5B, or 17 of appendix A of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(13) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (d)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (d)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (d)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O₂(or CO₂) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraph (d)(7)(i) of this section.

(i) For PM, EPA Reference Method 5, 5B, or 17 of appendix A of this part shall be used.

(ii) For O₂(or CO₂), EPA reference Method 3, 3A, or 3B of appendix A of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/hr).

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO₂emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO₂concentrations and either O₂or CO₂concentrations at the outlet of the SO₂control device (or the outlet of the steam generating unit if no SO₂control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO₂concentrations and either O₂or CO₂concentrations at both the inlet and outlet of the SO₂control device.

(b) The 1-hour average SO₂emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO₂emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO₂emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO₂CEMS at the inlet to the SO₂control device shall be 125 percent of the maximum estimated hourly potential SO₂emission rate of the fuel combusted, and the span value of the SO₂CEMS at the outlet from the SO₂control device shall be 50 percent of the maximum estimated hourly potential SO₂emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO₂CEMS at the outlet from the SO₂control device (or outlet of the steam generating unit if no SO₂control device is used) shall be 125 percent of the maximum estimated hourly potential SO₂emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO₂control device (or outlet of the steam generating unit if no SO₂control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO₂control device (or outlet of the steam generating unit if no SO₂control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according to the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO₂input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO₂at the inlet or outlet of the SO₂control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO₂and CO₂measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit

operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system.

(b) All COMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.06 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO₂ or PM emissions are not required to operate a CEMS for measuring opacity if they follow the applicable procedures under §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS monitor instead of monitoring opacity must calibrate, maintain, and operate a CEMS, and record the output of the system, for PM emissions discharged to the atmosphere as specified in §60.45c(d). The CEMS specified in paragraph §60.45c(d) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) An affected facility that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO₂, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS for measuring opacity. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section.

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. At least two data points per hour must be used to calculate each 1-hour average.

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An affected facility that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the appropriate delegated permitting authority is not required to operate a COMS for measuring opacity. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO₂ emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) The owner or operator of each coal-fired, oil-fired, or wood-fired affected facility subject to the opacity limits under §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period.

(d) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO₂ emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO₂ emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and

(iii) The sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

**PART 70 OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY**

**R.R. Donnelley & Sons Company
2801 West Old Road 30
Warsaw, Indiana 46581**

Attachment B

Title 40: Protection of Environment

**PART 60—STANDARDS OF PERFORMANCE FOR NEW
STATIONARY SOURCES**

**Subpart QQ—Standards of Performance for the Graphic Arts
Industry: Publication Rotogravure Printing**

T085-23864-00009

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

[Browse Previous](#) | [Browse Next](#)

Subpart QQ—Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing

Source: 47 FR 50649, Nov. 8, 1982, unless otherwise noted.

§ 60.430 Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which the provisions of this subpart apply is each publication rotogravure printing press.

(b) The provisions of this subpart do not apply to proof presses.

(c) Any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after October 28, 1980 is subject to the requirements of this subpart.

§ 60.431 Definitions and notations.

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

Automatic temperature compensator means a device that continuously senses the temperature of fluid flowing through a metering device and automatically adjusts the registration of the measured volume to the corrected equivalent volume at a base temperature.

Base temperature means an arbitrary reference temperature for determining liquid densities or adjusting the measured volume of a liquid quantity.

Density means the mass of a unit volume of liquid, expressed as grams per cubic centimeter, kilograms per liter, or pounds per gallon, at a specified temperature.

Gravure cylinder means a printing cylinder with an intaglio image consisting of minute cells or indentations specially engraved or etched into the cylinder's surface to hold ink when continuously revolved through a fountain of ink.

Performance averaging period means 30 calendar days, one calendar month, or four consecutive weeks as specified in sections of this subpart.

Proof press means any device used only to check the quality of the image formation of newly engraved or etched gravure cylinders and prints only non-saleable items.

Publication rotogravure printing press means any number of rotogravure printing units capable of printing simultaneously on the same continuous web or substrate and includes any associated device for continuously cutting and folding the printed web, where the following saleable paper products are printed:

Catalogues, including mail order and premium,

Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes,

Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point-of-purchase, and other printed display material,

Magazines,

Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news,

Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections,

Periodicals, and

Telephone and other directories, including business reference services.

Raw ink means all purchased ink.

Related coatings means all non-ink purchased liquids and liquid-solid mixtures containing VOC solvent, usually referred to as extenders or varnishes, that are used at publication rotogravure printing presses.

Rotogravure printing unit means any device designed to print one color ink on one side of a continuous web or substrate using a gravure cylinder.

Solvent-borne ink systems means ink and related coating mixtures whose volatile portion consists essentially of VOC solvent with not more than five weight percent water, as applied to the gravure cylinder.

Solvent recovery system means an air pollution control system by which VOC solvent vapors in air or other gases are captured and directed through a condenser(s) or a vessel(s) containing beds of activated carbon or other adsorbents. For the condensation method, the solvent is recovered directly from the condenser. For the adsorption method, the vapors are adsorbed, then desorbed by steam or other media, and finally condensed and recovered.

VOC means volatile organic compound.

VOC solvent means an organic liquid or liquid mixture consisting of VOC components.

Waterborne ink systems means ink and related coating mixtures whose volatile portion consists of a mixture of VOC solvent and more than five weight percent water, as applied to the gravure cylinder.

(b) Symbols used in this subpart are defined as follows:

D_B =the density at the base temperature of VOC solvent used or recovered during one performance averaging period.

D_{ci} =the density of each color of raw ink and each related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.

D_{di} =the density of each VOC solvent (i) added to the ink for dilution at the subject facility (or facilities), at the solvent temperature when the volume of solvent used is measured.

D_{gi} =the density of each VOC solvent (i) used as a cleaning agent at the subject facility (or facilities), at the solvent temperature when the volume of cleaning solvent used is measured.

D_{hi} =the density of each quantity of water (i) added at the subject facility (or facilities) for dilution of waterborne ink systems at the water temperature when the volume of dilution water used is measured.

D_{mi} =the density of each quantity of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents (i) recovered from the subject facility (or facilities), at the solvent temperature when the volume of solvent recovered is measured.

D_{oi} =the density of the VOC solvent contained in each raw ink and related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.

D_{wi} =the density of the water contained in each waterborne raw ink and related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.

L_{ci} =the measured liquid volume of each color of raw ink and each related coating (i) used at the facility of a corresponding VOC content, V_{oi} or W_{oi} , with a VOC density, D_{oi} , and a coating density, D_{ci} .

L_{di} =the measured liquid volume of each VOC solvent (i) with corresponding density, D_{di} , added to dilute the ink used at the subject facility (or facilities)

M_{ci} =the mass, determined by direct weighing, of each color of raw ink and each related coating (i) used at the subject facility (or facilities).

M_d =the mass, determined by direct weighing, of VOC solvent added to dilute the ink used at the subject facility (or facilities) during one performance averaging period.

M_g =the mass, determined by direct weighing, of VOC solvent used as a cleaning agent at the subject facility (or facilities) during one performance averaging period.

M_h =the mass, determined by direct weighing, of water added for dilution with waterborne ink systems used at the subject facility (or facilities) during one performance averaging period.

M_m =the mass, determined by direct weighing, of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents recovered from the subject facility (or facilities) during one performance averaging period.

M_o =the total mass of VOC solvent contained in the raw inks and related coatings used at the subject facility (or facilities) during one performance averaging period.

M_r =the total mass of VOC solvent recovered from the subject facility (or facilities) during one performance averaging period.

M_t =the total mass of VOC solvent used at the subject facility (or facilities) during one performance averaging period.

M_v =the total mass of water used with waterborne ink systems at the subject facility (or facilities) during one performance averaging period.

M_w =the total mass of water contained in the waterborne raw inks and related coatings used at the subject facility (or facilities) during one performance averaging period.

P =the average VOC emission percentage for the subject facility (or facilities) for one performance averaging period.

V_{oi} =the liquid VOC content, expressed as a volume fraction of VOC volume per total volume of coating, of each color of raw ink and related coating (i) used at the subject facility (or facilities).

V_{wi} =the water content, expressed as a volume fraction of water volume per total volume of coating, of each color of waterborne raw ink and related coating (i) used at the subject facility (or facilities).

W_{oi} =the VOC content, expressed as a weight fraction of mass of VOC per total mass of coating, of each color of raw ink and related coating (i) used at the subject facility (or facilities).

W_{wi} =the water content, expressed as a weight fraction of mass of water per total mass of coating, of each color of waterborne raw ink and related coating (i) used at the subject facility (or facilities).

(c) The following subscripts are used in this subpart with the above symbols to denote the applicable facility:

a=affected facility.

b=both affected and existing facilities controlled in common by the same air pollution control equipment.

e=existing facility.

f=all affected and existing facilities located within the same plant boundary.

[47 FR 50649, Nov. 8, 1982, as amended at 65 FR 61761, Oct. 17, 2000]

§ 60.432 Standard for volatile organic compounds.

During the period of the performance test required to be conducted by §60.8 and after the date required for completion of the test, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility VOC equal to more than 16 percent of the total mass of VOC solvent and water used at that facility during any one performance averaging period. The water used includes only that water contained in the waterborne raw inks and related coatings and the water added for dilution with waterborne ink systems.

§ 60.433 Performance test and compliance provisions.

(a) The owner or operator of any affected facility (or facilities) shall conduct performance tests in accordance with §60.8, under the following conditions:

(1) The performance averaging period for each test is 30 consecutive calendar days and not an average of three separate runs as prescribed under §60.8(f).

(2) Except as provided under paragraphs (f) and (g) of this section, if affected facilities routinely share the same raw ink storage/handling system with existing facilities, then temporary measurement procedures for segregating the raw inks, related coatings, VOC solvent, and water used at the affected facilities must be employed during the test. For this case, an overall emission percentage for the combined facilities as well as for only the affected facilities must be calculated during the test.

(3) For the purpose of measuring bulk storage tank quantities of each color of raw ink and each related coating used, the owner or operator of any affected facility shall install, calibrate, maintain, and continuously operate during the test one or more:

(i) Non-resettable totalizer metering device(s) for indicating the cumulative liquid volumes used at each affected facility; or

(ii) Segregated storage tanks for each affected facility to allow determination of the liquid quantities used by measuring devices other than the press meters required under item (i) of this article; or

(iii) Storage tanks to serve more than one facility with the liquid quantities used determined by measuring devices other than press meters, if facilities are combined as described under paragraph (d), (f), or (g) of this section.

(4) The owner or operator may choose to install an automatic temperature compensator with any liquid metering device used to measure the raw inks, related coatings, water, or VOC solvent used, or VOC solvent recovered.

(5) Records of the measured amounts used at the affected facility and the liquid temperature at which the amounts were measured are maintained for each shipment of all purchased material on at least a weekly basis for:

(i) The raw inks and related coatings used;

(ii) The VOC and water content of each raw ink and related coating used as determined according to §60.435;

(iii) The VOC solvent and water added to the inks used;

(iv) The VOC solvent used as a cleaning agent; and

(v) The VOC solvent recovered.

(6) The density variations with temperature of the raw inks, related coatings, VOC solvents used, and VOC solvent recovered are determined by the methods stipulated in §60.435(d).

(7) The calculated emission percentage may be reported as rounded-off to the nearest whole number.

(8) Printing press startups and shutdowns are not included in the exemption provisions under §60.8(c). Frequent periods of press startups and shutdowns are normal operations and constitute representative conditions for the purpose of a performance test.

(b) If an affected facility uses waterborne ink systems or a combination of waterborne and solvent-borne ink systems with a solvent recovery system, compliance is determined by the following procedures, except as provided in paragraphs (d), (e), (f), and (g) of this section:

(1) The mass of VOC in the solvent-borne and waterborne raw inks and related coatings used is determined by the following equation:

$$(M_{v,i})_k = \sum_{j=1}^k (M_{i,j})_k (W_{v,i,j})_k + \sum_{j=1}^k (I_{i,j})_k (D_{v,i,j})_k (W_{v,i,j})_k + \sum_{j=1}^k (I_{i,j})_k (V_{v,i,j})_k (D_{v,i,j})_k$$

where:

k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of VOC content.

m is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different densities.

n is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different VOC solvent densities.

(2) The total mass of VOC used is determined by the following equation:

$$(M_v)_k = (M_v)_k + \sum_{i=1}^m (U_{v,i})_k (D_{v,i})_k + (M_v)_k + \sum_{j=1}^n (U_{v,j})_k (D_{v,j})_k + (M_v)_k$$

where "m" and "n" are the respective total numbers of VOC dilution and cleaning solvents measured as used by volume with different densities.

(3) The mass of water in the waterborne raw inks and related coatings used is determined by the following equation:

$$(M_w)_k = \sum_{i=1}^k (M_{v,i})_k (W_{v,i})_k + \sum_{j=1}^m (U_{v,j})_k (D_{v,j})_k (W_{v,j})_k + \sum_{n=1}^n (U_{v,n})_k (V_{v,n})_k (D_{v,n})_k$$

where:

k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of water content.

m is the total number of raw inks and related coatings measured as used by volume with different amounts of water content or different densities.

n is the total number of raw inks and related coatings measured as used by volume with different amounts of water content or different water densities.

(4) The total mass of water used is determined by the following equation:

$$(M_w)_k = (M_w)_k + (M_w)_k + \sum_{i=1}^m (U_{v,i})_k (D_{v,i})_k$$

where "m" is the total number of water dilution additions measured as used by volume with different densities.

(5) The total mass of VOC solvent recovered is determined by the following equation:

$$(M_r)_k = (M_r)_k + \sum_{i=1}^k (U_{v,i})_k (D_{v,i})_k$$

where "k" if the total number of VOC solvents, miscellaneous solvent-borne waste inks, and waste VOC solvents measured as recovered by volume with different densities.

(6) The average VOC emission percentage for the affected facility is determined by the following equation:

$$P_e = \left[\frac{(M_{1,k})_e - (M_{1,k})_r}{(M_{1,k})_e + (M_{1,k})_r} \right] \times 100$$

(c) If an affected facility controlled by a solvent recovery system uses only solvent-borne ink systems, the owner or operator may choose to determine compliance on a direct mass or a density-corrected liquid volume basis. Except as provided in paragraphs (d), (e), (f), and (g) of this section, compliance is determined as follows:

(1) On a direct mass basis, compliance is determined according to paragraph (b) of this section, except that the water term, $M_{1,w}$, does not apply.

(2) On a density-corrected liquid volume basis, compliance is determined by the following procedures:

(i) A base temperature corresponding to that for the largest individual amount of VOC solvent used or recovered from the affected facility, or other reference temperature, is chosen by the owner or operator.

(ii) The corrected liquid volume of VOC in the raw inks and related coatings used is determined by the following equation:

$$(L_{1,k})_e = \sum_{i=1}^k \frac{(M_{1,i,k})_e (W_{1,i,k})_e}{D_{1,i,k}} + \sum_{j=1}^m \frac{(L_{1,j,k})_e (D_{1,j,k})_e (W_{1,j,k})_e}{D_{1,j,k}} + \sum_{l=1}^n \frac{(L_{1,l,k})_e (V_{1,l,k})_e (D_{1,l,k})_e}{D_{1,l,k}}$$

where:

k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of VOC content.

m is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different densities.

n is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different VOC solvent densities.

(iii) The total corrected liquid volume of VOC used is determined by the following equation:

$$(L_{1,k})_e = (L_{1,k})_e + \sum_{i=1}^m \frac{(L_{1,i,k})_e (D_{1,i,k})_e}{D_{1,i,k}} + \frac{(M_{1,k})_e}{D_{1,k}} + \sum_{j=1}^n \frac{(L_{1,j,k})_e (D_{1,j,k})_e}{D_{1,j,k}} + \frac{(M_{1,k})_e}{D_{1,k}}$$

where "m" and "n" are the respective total numbers of VOC dilution and cleaning solvents measured as used by volume with different densities.

(iv) The total corrected liquid volume of VOC solvent recovered is determined by the following equation:

$$(L_{1,k})_r = \frac{(M_{1,k})_r}{D_{1,k}} + \sum_{i=1}^k \frac{(L_{1,i,k})_r (D_{1,i,k})_r}{D_{1,i,k}}$$

where "k" is the total number of VOC solvents, miscellaneous solvent-borne waste inks, and waste VOC solvents measured as recovered by volume with different densities.

(v) The average VOC emission percentage for the affected facility is determined by the following equation:

$$P_e = \left[\frac{(L_{1,k})_e - (L_{1,k})_r}{(L_{1,k})_e} \right] \times 100$$

(d) If two or more affected facilities are controlled by the same solvent recovery system, compliance is determined by the procedures specified in paragraph (b) or (c) of this section, whichever applies, except that $(L_t)_a$ and $(L_r)_a$, $(M_t)_a$, $(M_r)_a$, and $(M_v)_a$ are the collective amounts of VOC solvent and water corresponding to all the affected facilities controlled by that solvent recovery system. The average VOC emission percentage for each of the affected facilities controlled by that same solvent recovery system is assumed to be equal.

(e) Except as provided under paragraph (f) of this section, if an existing facility (or facilities) and an affected facility (or facilities) are controlled in common by the same solvent recovery system, the owner or operator shall determine compliance by conducting a separate emission test on the existing facility (or facilities) and then conducting a performance test on the combined facilities as follows:

(1) Before the initial startup of the affected facility (or facilities) and at any other time as requested by the Administrator, the owner or operator shall conduct emission test(s) on the existing facility (or facilities) controlled by the subject solvent recovery system. The solvent recovery system must handle VOC emissions from only the subject existing facility (or facilities), not from affected facilities, during the emission test.

(2) During the emission test, the affected facilities are subject to the standard stated in §60.432.

(3) The emission test is conducted over a 30 consecutive calendar day averaging period according to the conditions stipulated in paragraphs (a)(1) through (a)(5) of this section, except that the conditions pertain to only existing facilities instead of affected facilities.

(4) The owner or operator of the existing facility (or facilities) shall provide the Administrator at least 30 days prior notice of the emission test to afford the Administrator the opportunity to have an observer present.

(5) The emission percentage for the existing facility (or facilities) during the emission test is determined by one of the following procedures:

(i) If the existing facility (or facilities) uses a combination of waterborne and solvent-borne ink systems, the average VOC emission percentage must be determined on a direct mass basis according to paragraph (b) or (d) of this section, whichever applies, with the following equation:

$$P_e = \left[\frac{(M_{t,e}) - (M_{r,e})}{(M_{t,e}) + (M_{r,e})} \right] \times 100$$

where the water and VOC solvent amounts pertain to only existing facilities.

(ii) If the existing facility (or facilities) uses only solvent-borne ink systems, the owner or operator may choose to determine the emission percentage either on a direct mass basis or a density-corrected liquid volume basis according to paragraph (c) or (d) of this section, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in article (i) of this paragraph. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:

$$P_e = \left[\frac{(L_{t,e}) - (L_{r,e})}{(L_{t,e})} \right] \times 100$$

where the VOC solvent amounts pertain to only existing facilities.

(6) The owner or operator of the existing facility (or facilities) shall furnish the Administrator a written report of the results of the emission test.

(7) After completion of the separate emission test on the existing facility (or facilities), the owner or operator shall conduct performance test(s) on the combined facilities with the solvent recovery system handling VOC emissions from both the existing and affected facilities.

(8) During performance test(s), the emission percentage for the existing facility (or facilities), P_e is assumed to be equal to that determined in the latest emission test. The administrator may request additional emission tests if any physical or operational changes occur to any of the subject existing facilities.

(9) The emission percentage for the affected facility (or facilities) during performance test(s) with both existing and affected facilities connected to the solvent recovery system is determined by one of the following procedures:

(i) If any of the combined facilities uses both waterborne and solvent-borne ink systems, the average VOC emission percentage must be determined on a direct mass basis according to paragraph (b) or (d) of this section, whichever applies, with the following equation:

$$P_e = \left[\frac{(M_t)_b - (M_r)_b - \left(\frac{P_r}{100}\right)[(M_t)_b + (M_v)_b]}{(M_t)_b + (M_v)_b} \right] \times 100$$

where $(M_t)_b$ and $(M_r)_b$ are the collective VOC solvent amounts pertaining to all the combined facilities.

(ii) If all of the combined facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance of the affected facility (or facilities) either on a direct mass basis or a density-corrected liquid volume basis according to paragraph (c) or (d) of this section, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in article (i) of this paragraph. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:

$$P_e = \left[\frac{(L_t)_b - (L_r)_b - \left(\frac{P_r}{100}\right)(L_v)_b}{(L_t)_b} \right] \times 100$$

where $(L_t)_b$ and $(L_r)_b$ are the collective VOC solvent amounts pertaining to all the combined facilities.

(f) The owner or operator may choose to show compliance of the combined performance of existing and affected facilities controlled in common by the same solvent recovery system. A separate emission test for existing facilities is not required for this option. The combined performance is determined by one of the following procedures:

(1) If any of the combined facilities uses both waterborne and solvent-borne ink systems, the combined average VOC emission percentage must be determined on a direct mass basis according to paragraph (b) or (d) of this section, whichever applies, with the following equation:

$$P_b = \left[\frac{(M_t)_b - (M_r)_b}{(M_t)_b + (M_v)_b} \right] \times 100$$

(2) If all of the combined facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance either on a direct mass basis or a density-corrected liquid volume basis according to paragraph (c) or (d) of this section, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in article (i) of this paragraph. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:

$$P_e = \left[\frac{(L_t)_b - (L_r)_b}{(L_t)_b} \right] \times 100$$

(g) If all existing and affected facilities located within the same plant boundary use waterborne ink systems or solvent-borne ink systems with solvent recovery systems, the owner or operator may choose to show

compliance on a plantwide basis for all the existing and affected facilities together. No separate emission tests on existing facilities and no temporary segregated liquid measurement procedures for affected facilities are required for this option. The plantwide performance is determined by one of the following procedures:

(1) If any of the facilities use waterborne ink systems, the total plant average VOC emission percentage must be determined on a direct mass basis according to paragraph (b) of this section with the following equation:

$$P_s = \left[\frac{(M_{1s})_k - (M_{1s})_k - \left(\frac{P_r}{100} \right) [(M_{1s})_k + (M_{1s})_k]}{(M_{1s})_k + (M_{1s})_k} \right] \times 100$$

Where $(M_{1s})_k$ and $(M_{1s})_k$ are the collective VOC solvent and water amounts used at all the subject plant facilities during the performance test.

(2) If all of the plant facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance either on a direct mass basis or a density-corrected liquid volume basis according to paragraph (c) of this section. On a direct mass basis, the total plant average VOC emission percentage is determined by the equation presented in article (i) of this paragraph. On a density-corrected liquid volume basis, the total plant average VOC emission percentage is determined by the following equation:

$$P_s = \left[\frac{(L_{1s})_k - (L_{1s})_k - (L_{1s})_k - (L_{1s})_k}{(L_{1s})_k} \right] \times 100$$

Where $(L_{1s})_k$ is the collective VOC solvent amount used at all the subject plant facilities during the performance test.

[47 FR 50649, Nov. 8, 1982, as amended at 65 FR 61761, Oct. 17, 2000]

§ 60.434 Monitoring of operations and recordkeeping.

(a) After completion of the performance test required under §60.8, the owner or operator of any affected facility using waterborne ink systems or solvent-borne ink systems with solvent recovery systems shall record the amount of solvent and water used, solvent recovered, and estimated emission percentage for each performance averaging period and shall maintain these records for 2 years. The emission percentage is estimated as follows:

(1) The performance averaging period for monitoring of proper operation and maintenance is a calendar month or 4 consecutive weeks, at the option of the owner or operator.

(2) If affected facilities share the same raw ink storage/handling system with existing facilities, solvent and water used, solvent recovered, and emission percentages for the combined facilities may be documented. Separate emission percentages for only the affected facilities are not required in this case. The combined emission percentage is compared to the overall average for the existing and affected facilities' emission percentage determined during the most recent performance test.

(3) Except as provided in article (4) of this paragraph, temperatures and liquid densities determined during the most recent performance test are used to calculate corrected volumes and mass quantities.

(4) The owner or operator may choose to measure temperatures for determination of actual liquid densities during each performance averaging period. A different base temperature may be used for each performance averaging period if desired by the owner or operator.

(5) The emission percentage is calculated according to the procedures under §60.433 (b) through (g), whichever applies, or by a comparable calculation which compares the total solvent recovered to the total solvent used at the affected facility.

§ 60.435 Test methods and procedures.

(a) The owner or operator of any affected facility using solvent-borne ink systems shall determine the VOC content of the raw inks and related coatings used at the affected facility by:

(1) Analysis using Method 24A of routine weekly samples of raw ink and related coatings in each respective storage tank; or

(2) Analysis using Method 24A of samples of each shipment of all purchased raw inks and related coatings; or

(3) Determination of the VOC content from the formulation data supplied by the ink manufacturer with each shipment of raw inks and related coatings used.

(b) The owner or operator of any affected facility using solvent-borne ink systems shall use the results of verification analyses by Method 24A to determine compliance when discrepancies with ink manufacturers' formulation data occur.

(c) The owner or operator of any affected facility using waterborne ink systems shall determine the VOC and water content of raw inks and related coatings used at the affected facility by:

(1) Determination of the VOC and water content from the formulation data supplied by the ink manufacturer with each shipment of purchased raw inks and related coatings used; or

(2) Analysis of samples of each shipment of purchased raw inks and related coatings using a test method approved by the Administrator in accordance with §60.8(b).

(d) The owner or operator of any affected facility shall determine the density of raw inks, related coatings, and VOC solvents by:

(1) Making a total of three determinations for each liquid sample at specified temperatures using the procedure outlined in ASTM D1475-60, 80, or 90, which is incorporated by reference. It is available from the American Society of Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. This incorporation by reference was approved by the Director of the Federal Register on November 8, 1982. This material is incorporated as it exists on the date of approval and a notice of any change in these materials will be published in the Federal Register. The temperature and density is recorded as the arithmetic average of the three determinations; or

(2) Using literature values, at specified temperatures, acceptable to the Administrator.

(e) If compliance is determined according to §60.433 (e), (f), or (g), the existing as well as affected facilities are subject to the requirements of paragraphs (a) through (d) of this section.

[47 FR 50649, Nov. 8, 1982, as amended at 65 FR 61761, Oct. 17, 2000; 69 FR 18803, Apr. 9, 2004]

**PART 70 OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY**

**R.R. Donnelley & Sons Company
2801 West Old Road 30
Warsaw, Indiana 46581**

Attachment C

Title 40: Protection of Environment

**PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS
AIR POLLUTANTS FOR SOURCE CATEGORIES**

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

T085-23864-00009

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

[Browse Previous](#) | [Browse Next](#)

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

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

§ 63.820 Applicability.

(a) The provisions of this subpart apply to:

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 63.821 Designation of affected sources.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 63.822 Definitions.

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

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

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

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

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

Certified product data sheet (CPDS) means documentation furnished by suppliers of inks, coatings, varnishes, adhesives, primers, solvents, and other materials or by an independent third party that provides the organic HAP weight fraction of these materials determined in accordance with §63.827(b), or the volatile matter weight fraction or solids weight fraction determined in accordance with §63.827(c). A material safety data sheet (MSDS) may serve as a CPDS provided the MSDS meets the data requirements of §63.827(b) and (c). The purpose of the CPDS is to assist the owner or operator in demonstrating compliance with the emission limitations presented in §§63.824–63.825.

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

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

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

Day means a 24-consecutive-hour period.

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

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

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

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

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

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

Intermittently-controllable work station means a work station associated with a dryer with provisions for the dryer exhaust to be delivered to or diverted from a control device depending on the position of a valve or damper. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Rotogravure press means an unwind or feed section, which may include more than one unwind or feed station (such as on a laminator), a series of individual work stations, one or more of which is a rotogravure print station, any dryers associated with the work stations, and a rewind, stack, or collection section. Inboard

and outboard work stations, including those employing any other technology, such as flexography, are included if they are capable of printing or coating on the same substrate.

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

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

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

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

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

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

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

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

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

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

(6) [Reserved]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(22) [Reserved]

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

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

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

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

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

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

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

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

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

(32) [Reserved]

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

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

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

(36) [Reserved]

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

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

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

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

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

[61 FR 27140, May 30, 1996, as amended at 71 FR 29800, May 24, 2006]

§ 63.823 Standards: General.

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

§ 63.824 Standards: Publication rotogravure printing.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(C) [Reserved]

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

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

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

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

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

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

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

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

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

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

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

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

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

(b) Each product and packaging rotogravure or wide-web flexographic printing affected source shall limit organic HAP emissions to no more than 5 percent of the organic HAP applied for the month; or to no more than 4 percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month; or to no more than 20 percent of the mass of solids applied for the

month; or to a calculated equivalent allowable mass based on the organic HAP and solids contents of the inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month. The owner or operator of each product and packaging rotogravure or wide-web flexographic printing affected source shall demonstrate compliance with this standard by following one of the procedures in paragraphs (b)(1) through (b)(10) of this section:

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

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

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

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

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

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

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

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

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

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

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

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

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

$$H_{\bar{x}} = \frac{C_{aki}}{C_{ax}} \quad Eq 5$$

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

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

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

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

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

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

Where:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(xi) The affected source is in compliance if

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

greater than or less than (as appropriate) the operating parameter value established in accordance with §63.828(a)(5) for each three hour period, and

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(3) The owner or operator of each oxidizer used to control emissions from one or more product and packaging rotogravure or wide-web flexographic presses choosing to demonstrate compliance through performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters, shall

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$H = \left[\sum_{i=1}^p M_{\alpha} C_{\alpha i} + \sum_{j=1}^q M_{\beta} C_{\beta j} \right] \left[1 - \left(\frac{E}{100} \frac{F}{100} \right) \right] + \left[\sum_{i=1}^p M_{\alpha} C_{\alpha i} + \sum_{j=1}^q M_{\beta} C_{\beta j} \right] \quad Eq 19$$

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

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

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

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

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

§ 63.826 Compliance dates.

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

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

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

retrofitting and replacement of equipment that is installed specifically to comply with this subpart are not considered reconstruction costs.

§ 63.827 Performance test methods.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) The owner or operator may test the material in accordance with Method 311 of appendix A of this part. The Method 311 determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The organic HAP content determined by Method 311 must be calculated according to the criteria and procedures in paragraphs (b)(2)(i)(A) through (C) of this section.

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

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

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

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

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

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

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

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

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

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

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

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

Method 24A, the owner or operator shall submit an alternative technique for determining their values for approval by the Administrator.

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

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

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

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

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

(1) An initial performance test to establish the destruction efficiency of an oxidizer and the associated combustion zone temperature for a thermal oxidizer and the associated catalyst bed inlet temperature for a catalytic oxidizer shall be conducted and the data reduced in accordance with the following reference methods and procedures:

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

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

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

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

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

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

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

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

(D) The control device is not an oxidizer.

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

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

$$M_f = Q_{sd} C_c [12.0] [0.0416] [10^{-4}] \quad \text{Eq. 20}$$

Where:

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

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

C_c = Concentration of organic compounds as carbon, ppmv.

12.0 = Molecular weight of carbon.

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

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

$$E = \frac{M_{f,i} - M_{f,o}}{M_{f,i}} \quad \text{Eq. 21}$$

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

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

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

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

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

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

[61 FR 27140, May 30, 1996, as amended at 71 FR 29802, May 24, 2006]

§ 63.828 Monitoring requirements.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(C) Identifies the specific monitoring procedures;

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

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

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

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

§ 63.829 Recordkeeping requirements.

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

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

(1) Records specified in §63.10(b)(2) of this part, of all measurements needed to demonstrate compliance with this standard, such as continuous emission monitor data, control device and capture system operating parameter data, material usage, HAP usage, volatile matter usage, and solids usage that support data that the source is required to report.

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

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

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

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

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

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

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

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

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

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

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

§ 63.830 Reporting requirements.

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

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

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

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

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

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

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

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

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

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

(5) Start-up, shutdown, and malfunction reports specified in §63.10(d)(5) of this part, except that the provisions in subpart A pertaining to start-ups, shutdowns, and malfunctions do not apply unless a control device is used to comply with this subpart.

(i) If actions taken by an owner or operator during a start-up, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not completely consistent with the procedures specified in the source's start-up, shutdown, and malfunction plan specified in §63.6(e)(3) of this part, the owner or operator shall state such information in the report. The start-up, shutdown, or malfunction report shall consist of a letter containing the name, title, and signature of the responsible official who is certifying its accuracy, that shall be submitted to the Administrator.

(ii) Separate start-up, shutdown, or malfunction reports are not required if the information is included in the report specified in paragraph (b)(6) of this section.

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

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

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

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

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

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

§ 63.831 Implementation and enforcement.

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

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

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

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

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

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

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

[68 FR 37354, June 23, 2003]

§§ 63.832-63.839 [Reserved]

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

| General provisions reference | Applicable to subpart KK | Comment |
|-------------------------------------|---------------------------------|-------------------------------------|
| §63.1(a)(1)–(a)(4) | Yes. | |
| §63.1(a)(5) | No | Section reserved. |
| §63.1(a)(6)–(a)(8) | No. | |
| §63.1(a)(9) | No | Section reserved. |
| §63.1(a)(10)–(a)(14) | Yes. | |
| §63.1(b)(1) | No | Subpart KK specifies applicability. |
| §63.1(b)(2)–(b)(3) | Yes. | |

| | | |
|--------------------|------|--|
| §63.1(c)(1) | Yes. | |
| §63.1(c)(2) | No | Area sources are not subject to subpart KK. |
| §63.1(c)(3) | No | Section reserved. |
| §63.1(c)(4) | Yes. | |
| §63.1(c)(5) | No. | |
| §63.1(d) | No | Section reserved. |
| §63.1(e) | Yes. | |
| §63.2 | Yes | Additional definitions in subpart KK. |
| §63.3(a)–(c) | Yes. | |
| §63.4(a)(1)–(a)(3) | Yes. | |
| §63.4(a)(4) | No | Section reserved. |
| §63.4(a)(5) | Yes. | |
| §63.4(b)–(c) | Yes. | |
| §63.5(a)(1)–(a)(2) | Yes. | |
| §63.5(b)(1) | Yes. | |
| §63.5(b)(2) | No | Section reserved. |
| §63.5(b)(3)–(b)(6) | Yes. | |
| §63.5(c) | No | Section reserved. |
| §63.5(d) | Yes. | |
| §63.5(e) | Yes. | |
| §63.5(f) | Yes. | |
| §63.6(a) | Yes. | |
| §63.6(b)(1)–(b)(5) | Yes. | |
| §63.6(b)(6) | No | Section reserved. |
| §63.6(b)(7) | Yes. | |
| §63.6(c)(1)–(c)(2) | Yes. | |
| §63.6(c)(3)–(c)(4) | No | Sections reserved. |
| §63.6(c)(5) | Yes. | |
| §63.6(d) | No | Section reserved. |
| §63.6(e) | Yes | Provisions pertaining to start-ups, shutdowns, malfunctions, and CMS do not apply unless an add-on control system is used. |

| | | |
|---------------------|------|---|
| §63.6(f) | Yes. | |
| §63.6(g) | Yes. | |
| §63.6(h) | No | Subpart KK does not require COMS. |
| §63.6(i)(1)–(i)(14) | Yes. | |
| §63.6(i)(15) | No | Section reserved. |
| §63.6(i)(16) | Yes. | |
| §63.6(j) | Yes. | |
| §63.7 | Yes. | |
| §63.8(a)(1)–(a)(2) | Yes. | |
| §63.8(a)(3) | No | Section reserved. |
| §63.8(a)(4) | No | Subpart KK specifies the use of solvent recovery devices or oxidizers. |
| §63.8(b) | Yes. | |
| §63.8(c)(1)–(3) | Yes. | |
| §63.8(c)(4) | No | Subpart KK specifies CMS sampling requirements. |
| §63.8(c)(5) | No | Subpart KK does not require COMS. |
| §63.8(c)(6)–(c)(8) | Yes | Provisions for COMS are not applicable. |
| §63.8(d)–(f) | Yes. | |
| §63.8(g) | No | Subpart KK specifies CMS data reduction requirements. |
| §63.9(a) | Yes. | |
| §63.9(b)(1) | Yes. | |
| §63.9(b)(2) | Yes | Initial notification submission date extended. |
| §63.9(b)(3)–(b)(5) | Yes. | |
| §63.9(c)–(e) | Yes. | |
| §63.9(f) | No | Subpart KK does not require opacity and visible emissions observations. |
| §63.9(g) | Yes | Provisions for COMS are not applicable. |
| §63.9(h)(1)–(h)(3) | Yes. | |
| §63.9(h)(4) | No | Section reserved. |
| §63.9(h)(5)–(h)(6) | Yes. | |
| §63.9(i) | Yes. | |
| §63.9(j) | Yes. | |

| | | |
|-----------------------|------|---|
| §63.10(a) | Yes. | |
| §63.10(b)(1)–(b)(3) | Yes. | |
| §63.10(c)(1) | Yes. | |
| §63.10(c)(2)–(c)(4) | No | Sections reserved. |
| §63.10(c)(5)–(c)(8) | Yes. | |
| §63.10(c)(9) | No | Section reserved. |
| §63.10(c)(10)–(c)(15) | Yes. | |
| §63.10(d)(1)–(d)(2) | Yes. | |
| §63.10(d)(3) | No | Subpart KK does not require opacity and visible emissions observations. |
| §63.10(d)(4)–(d)(5) | Yes. | |
| §63.10(e) | Yes | Provisions for COMS are not applicable. |
| §63.10(f) | Yes. | |
| §63.11 | No | Subpart KK specifies the use of solvent recovery devices or oxidizers. |
| §63.12 | Yes. | |
| §63.13 | Yes. | |
| §63.14 | Yes. | |
| §63.15 | Yes. | |

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

1. Introduction

1.1 Alternative capture efficiency (CE) protocols and test methods that satisfy the criteria of either the data quality objective (DQO) approach or the lower confidence limit (LCL) approach are acceptable under §63.827(f). The general criteria for alternative CE protocols and test methods to qualify under either the DQO or LCL approach are described in section 2. The DQO approach and criteria specific to the DQO approach are described in section 3. The LCL approach and criteria specific to the LCL approach are described in section 4. The recommended reporting for alternative CE protocols and test methods are presented in section 5. The recommended recordkeeping for alternative CE protocols and test methods are presented in section 6.

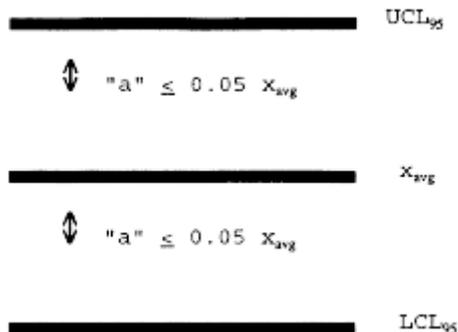
1.2 Although the Procedures L, G.1, G.2, F.1, and F.2 in §52.741 of part 52 were developed for TTE and BE testing, the same procedures can also be used in an alternative CE protocol. For example, a traditional liquid/gas mass balance CE protocol could employ Procedure L to measure liquid VOC input and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

2. General Criteria for DQO and LCL Approaches

- 2.1 The following general criteria must be met for an alternative capture efficiency protocol and test methods to qualify under the DQO or LCL approach.
- 2.2 An alternative CE protocol must consist of at least three valid test runs. Each test run must be at least 20 minutes long. No test run can be longer than 24 hours.
- 2.3 All test runs must be separate and independent. For example, liquid VOC input and output must be determined independently for each run. The final liquid VOC sample from one run cannot be the initial sample for another run. In addition, liquid input for an entire day cannot be apportioned among test runs based on production.
- 2.4 Composite liquid samples cannot be used to obtain an "average composition" for a test run. For example, separate initial and final coating samples must be taken and analyzed for each run; initial and final samples cannot be combined prior to analysis to derive an "average composition" for the test run.
- 2.5 All individual test runs that result in a CE of greater than 105 percent are invalid and must be discarded.
- 2.6 If the source can demonstrate to the regulatory agency that a test run should not be considered due to an identified testing or analysis error such as spillage of part of the sample during shipping or an upset or improper operating conditions that is not considered part of normal operation then the test result for that individual test run may be discarded. This limited exception allows sources to discard as "outliers" certain individual test runs without replacing them with a valid test run as long as the facility has at least three valid test runs to use when calculating its DQO or LCL. This exception is limited solely to test runs involving the types of errors identified above.
- 2.7 All valid test runs that are conducted must be included in the average CE determination. The individual test run CE results and average CE results cannot be truncated (i.e., 105 percent cannot be reported as 100+ percent) for purposes of meeting general or specific criteria for either the DQO or the LCL. If the DQO is satisfied and the average CE is greater than 100, then 100 percent CE must be considered the result of the test.
- 2.8 Alternative test methods for measuring VOC concentration must include a three-point calibration of the gas analysis instrument in the expected concentration range.

3. Data Quality Objective Approach

3.1 The purpose of the DQO is to allow sources to use alternative CE protocols and test methods while ensuring reasonable precision consistent with pertinent requirements of the Clean Air Act. In addition to the general criteria described in section 2, the specific DQO criterion is that the width of the two-sided 95 percent confidence interval of the mean measured value must be less than or equal to 10 percent of the mean measured value (see Figure 1). This ensures that 95 percent of the time, when the DQO is met, the actual CE value will be ± 5 percent of the mean measured value (assuming that the test protocol is unbiased).



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

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

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

Where:

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

n = Number of valid test runs.

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

s = Sample standard deviation.

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

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

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

Table A-1—t-Values

| Number of valid test runs, n | $t_{0.975}$ | $t_{0.90}$ |
|------------------------------|-------------|------------|
| 1 or 2 | N/A | N/A |
| 3 | 4.303 | 1.886 |
| 4 | 3.182 | 1.638 |
| 5 | 2.776 | 1.533 |
| 6 | 2.571 | 1.476 |
| 7 | 2.447 | 1.440 |
| 8 | 2.365 | 1.415 |
| 9 | 2.306 | 1.397 |
| 10 | 2.262 | 1.383 |
| 11 | 2.228 | 1.372 |
| 12 | 2.201 | 1.363 |
| 13 | 2.179 | 1.356 |
| 14 | 2.160 | 1.350 |

| | | |
|----|-------|-------|
| 15 | 2.145 | 1.345 |
| 16 | 2.131 | 1.341 |
| 17 | 2.120 | 1.337 |
| 18 | 2.110 | 1.333 |
| 19 | 2.101 | 1.330 |
| 20 | 2.093 | 1.328 |
| 21 | 2.086 | 1.325 |

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

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

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

3.4 The DQO criteria are achieved when all of the general criteria in section 2 are achieved and P ≤ 5 percent (i.e., the specific DQO criterion is achieved). In order to meet this objective, facilities may have to conduct more than three test runs. Examples of calculating P, given a finite number of test runs, are shown below. (For purposes of this example it is assumed that all of the general criteria are met.)

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

| Run | CE |
|-----|-------|
| 1 | 96.1 |
| 2 | 105.0 |
| 3 | 101.2 |

Therefore:

$$n=3$$

$$t_{0.975}=4.30$$

$$x_{avg}=100.8$$

$$s=4.51$$

$$\alpha = \frac{(4.30)(4.51)}{\sqrt{3}} = 11.20 \quad Eq\ 5 \quad P = \frac{11.2}{100.8} 100 = 11.11 \quad Eq\ 6$$

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

| Run | CE |
|-----|------|
| 4 | 93.2 |
| 5 | 96.2 |
| 6 | 87.6 |

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

$$n=6$$

$$t_{0.975}=2.57$$

$$x_{avg}=96.6$$

$$s=6.11$$

$$\alpha = \frac{(2.57)(6.11)}{\sqrt{6}} = 6.41 \quad Eq 7 \quad P = \frac{6.41}{96.6} 100 = 6.64 \quad Eq 8$$

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

| Run | CE |
|-----|------|
| 7 | 92.9 |
| 8 | 98.3 |
| 9 | 91.0 |

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

$$n=9$$

$$t_{0.975}=2.31$$

$$x_{avg}=95.7$$

$$s=5.33$$

$$\alpha = \frac{(2.31)(5.33)}{\sqrt{9}} = 4.10 \quad Eq 9 \quad P = \frac{4.10}{95.7} 100 = 4.28 \quad Eq 10$$

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

4. Lower Confidence Limit Approach

4.1 The purpose of the LCL approach is to provide sources, that may be performing much better than their applicable regulatory requirement, a screening option by which they can demonstrate compliance. The

approach uses less precise methods and avoids additional test runs which might otherwise be needed to meet the specific DQO criterion while still being assured of correctly demonstrating compliance. It is designed to reduce “false positive” or so called “Type II errors” which may erroneously indicate compliance where more variable test methods are employed. Because it encourages CE performance greater than that required in exchange for reduced compliance demonstration burden, the sources that successfully use the LCL approach could produce emission reductions beyond allowable emissions. Thus, it could provide additional benefits to the environment as well.

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

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

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

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

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

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

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

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

Where:

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

n = Number of valid test runs.

s = Sample standard deviation.

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

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

4.9 The resulting LC_1 is compared to the applicable CE regulatory requirement. If LC_1 exceeds (i.e., is higher than) the applicable regulatory requirement, then a facility is in initial compliance. However, if the LC_1 is below the CE requirement, then the facility must conduct additional test runs. After this point the test results

will be evaluated not only looking at the LCL, but also the DQO of ±5 percent of the mean at a 95 percent confidence level. If the test results with the additional test runs meet the DQO before the LCL exceeds the applicable CE regulatory requirement, then the average CE value will be compared to the applicable CE regulatory requirement for determination of compliance.

4.10 If there is no specific CE requirement in the applicable regulation, then the applicable CE regulatory requirement is determined based on the applicable regulation and an acceptable destruction efficiency test. If the applicable regulation requires daily compliance and the latest CE compliance demonstration was made using the LCL approach, then the calculated LC₁ will be the highest CE value which a facility is allowed to claim until another CE demonstration test is conducted. This last requirement is necessary to assure both sufficiently reliable test results in all circumstances and the potential environmental benefits referenced above.

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

| Run | CE |
|-----|------|
| 1 | 94.2 |
| 2 | 97.6 |
| 3 | 90.5 |

Therefore:

$$n=3$$

$$t_{0.90}=1.886$$

$$x_{avg}=94.1$$

$$s=3.55$$

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

4.12 Since the LC₁ of 90.23 percent is above the applicable regulatory requirement of 85 percent then the facility is in compliance. The facility must continue to accept the LC₁ of 90.23 percent as its CE value until a new series of valid tests is conducted. (The data generated by Facility B do not meet the specific DQO criterion.)

5. Recommended Reporting for Alternative CE Protocols

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

1. A copy of all alternative test methods, including any changes to the EPA reference methods, QA/QC procedures and calibration procedures.
2. A table with information on each liquid sample, including the sample identification, where and when the sample was taken, and the VOC content of the sample;

3. The coating usage for each test run (for protocols in which the liquid VOC input is to be determined);
4. The quantity of captured VOC measured for each test run;
5. The CE calculations and results for each test run;
6. The DQO or LCL calculations and results; and
7. The QA/QC results, including information on calibrations (e.g., how often the instruments were calibrated, the calibration results, and information on calibration gases, if applicable).

6. Recommended Recordkeeping for Alternative CE Protocols.

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

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

**PART 70 OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY**

**R.R. Donnelley & Sons Company
2801 West Old Road 30
Warsaw, Indiana 46581**

Attachment D

Title 40: Protection of Environment

**PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS
AIR POLLUTANTS FOR SOURCE CATEGORIES**

**Subpart N—National Emission Standards for Chromium
Emissions from Hard and Decorative Chromium Electroplating
and Chromium Anodizing Tanks**

T085-23864-00009

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

[Browse Previous](#) | [Browse Next](#)

Subpart N—National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks

Source: 60 FR 4963, Jan. 25, 1995, unless otherwise noted.

§ 63.340 Applicability and designation of sources.

(a) The affected source to which the provisions of this subpart apply is each chromium electroplating or chromium anodizing tank at facilities performing hard chromium electroplating, decorative chromium electroplating, or chromium anodizing.

(b) Owners or operators of affected sources subject to the provisions of this subpart must also comply with the requirements of subpart A of this part, according to the applicability of subpart A of this part to such sources, as identified in Table 1 of this subpart.

(c) Process tanks associated with a chromium electroplating or chromium anodizing process, but in which neither chromium electroplating nor chromium anodizing is taking place, are not subject to the provisions of this subpart. Examples of such tanks include, but are not limited to, rinse tanks, etching tanks, and cleaning tanks. Likewise, tanks that contain a chromium solution, but in which no electrolytic process occurs, are not subject to this subpart. An example of such a tank is a chrome conversion coating tank where no electrical current is applied.

(d) Affected sources in which research and laboratory operations are performed are exempt from the provisions of this subpart when such operations are taking place.

(e) 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.

[60 FR 4963, Jan. 25, 1995, as amended at 61 FR 27787, June 3, 1996; 64 FR 69643, Dec. 14, 1999; 70 FR 75345, Dec. 19, 2005]

§ 63.341 Definitions and nomenclature.

(a) *Definitions.* Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section. For the purposes of subpart N of this part, if the same term is defined in subpart A of this part and in this section, it shall have the meaning given in this section.

Add-on air pollution control device means equipment installed in the ventilation system of chromium electroplating and anodizing tanks for the purposes of collecting and containing chromium emissions from the tank(s).

Air pollution control technique means any method, such as an add-on air pollution control device or a chemical fume suppressant, that is used to reduce chromium emissions from chromium electroplating and chromium anodizing tanks.

Base metal means the metal or metal alloy that comprises the workpiece.

Bath component means the trade or brand name of each component(s) in trivalent chromium plating baths. For trivalent chromium baths, the bath composition is proprietary in most cases. Therefore, the trade or brand name for each component(s) can be used; however, the chemical name of the wetting agent contained in that component must be identified.

Chemical fume suppressant means any chemical agent that reduces or suppresses fumes or mists at the surface of an electroplating or anodizing bath; another term for fume suppressant is mist suppressant.

Chromic acid means the common name for chromium anhydride (CrO_3).

Chromium anodizing means the electrolytic process by which an oxide layer is produced on the surface of a base metal for functional purposes (e.g., corrosion resistance or electrical insulation) using a chromic acid solution. In chromium anodizing, the part to be anodized acts as the anode in the electrical circuit, and the chromic acid solution, with a concentration typically ranging from 50 to 100 grams per liter (g/L), serves as the electrolyte.

Chromium anodizing tank means the receptacle or container along with the following accompanying internal and external components needed for chromium anodizing: rectifiers fitted with controls to allow for voltage adjustments, heat exchanger equipment, circulation pumps, and air agitation systems.

Chromium electroplating tank means the receptacle or container along with the following internal and external components needed for chromium electroplating: Rectifiers, anodes, heat exchanger equipment, circulation pumps, and air agitation systems.

Composite mesh-pad system means an add-on air pollution control device typically consisting of several mesh-pad stages. The purpose of the first stage is to remove large particles. Smaller particles are removed in the second stage, which consists of the composite mesh pad. A final stage may remove any reentrained particles not collected by the composite mesh pad.

Decorative chromium electroplating means the process by which a thin layer of chromium (typically 0.003 to 2.5 microns) is electrodeposited on a base metal, plastic, or undercoating to provide a bright surface with wear and tarnish resistance. In this process, the part(s) serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Typical current density applied during this process ranges from 540 to 2,400 Amperes per square meter (A/m^2) for total plating times ranging between 0.5 to 5 minutes.

Electroplating or anodizing bath means the electrolytic solution used as the conducting medium in which the flow of current is accompanied by movement of metal ions for the purposes of electroplating metal out of the solution onto a workpiece or for oxidizing the base material.

Emission limitation means, for the purposes of this subpart, the concentration of total chromium allowed to be emitted expressed in milligrams per dry standard cubic meter (mg/dscm), or the allowable surface tension expressed in dynes per centimeter (dynes/cm).

Enclosed hard chromium electroplating tank means a chromium electroplating tank that is equipped with an enclosing hood and ventilated at half the rate or less that of an open surface tank of the same surface area.

Facility means the major or area source at which chromium electroplating or chromium anodizing is performed.

Fiber-bed mist eliminator means an add-on air pollution control device that removes contaminants from a gas stream through the mechanisms of inertial impaction and Brownian diffusion. These devices are typically installed downstream of another control device, which serves to prevent plugging, and consist of one or more fiber beds. Each bed consists of a hollow cylinder formed from two concentric screens; the fiber between the screens may be fabricated from glass, ceramic plastic, or metal.

Foam blanket means the type of chemical fume suppressant that generates a layer of foam across the surface of a solution when current is applied to that solution.

Fresh water means water, such as tap water, that has not been previously used in a process operation or, if the water has been recycled from a process operation, it has been treated and meets the effluent guidelines for chromium wastewater.

Hard chromium electroplating or industrial chromium electroplating means a process by which a thick layer of chromium (typically 1.3 to 760 microns) is electrodeposited on a base material to provide a surface with functional properties such as wear resistance, a low coefficient of friction, hardness, and corrosion resistance. In this process, the part serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Hard chromium electroplating process is performed at current densities typically ranging from 1,600 to 6,500 A/m² for total plating times ranging from 20 minutes to 36 hours depending upon the desired plate thickness.

Hexavalent chromium means the form of chromium in a valence state of +6.

Large, hard chromium electroplating facility means a facility that performs hard chromium electroplating and has a maximum cumulative potential rectifier capacity greater than or equal to 60 million ampere-hours per year (amp-hr/yr).

Maximum cumulative potential rectifier capacity means the summation of the total installed rectifier capacity associated with the hard chromium electroplating tanks at a facility, expressed in amperes, multiplied by the maximum potential operating schedule of 8,400 hours per year and 0.7, which assumes that electrodes are energized 70 percent of the total operating time. The maximum potential operating schedule is based on operating 24 hours per day, 7 days per week, 50 weeks per year.

Open surface hard chromium electroplating tank means a chromium electroplating tank that is ventilated at a rate consistent with good ventilation practices for open tanks.

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 is in continual compliance with the applicable emission limitation or standard.

Packed-bed scrubber means an add-on air pollution control device consisting of a single or double packed bed that contains packing media on which the chromic acid droplets impinge. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

Research or laboratory operation 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 that is not involved in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

Small, hard chromium electroplating facility means a facility that performs hard chromium electroplating and has a maximum cumulative potential rectifier capacity less than 60 million amp-hr/yr.

Stalagmometer means an instrument used to measure the surface tension of a solution by determining the mass of a drop of liquid by weighing a known number of drops or by counting the number of drops obtained from a given volume of liquid.

Surface tension means the property, due to molecular forces, that exists in the surface film of all liquids and tends to prevent liquid from spreading.

Tank operation means the time in which current and/or voltage is being applied to a chromium electroplating tank or a chromium anodizing tank.

Tensiometer means an instrument used to measure the surface tension of a solution by determining the amount of force needed to pull a ring from the liquid surface. The amount of force is proportional to the surface tension.

Trivalent chromium means the form of chromium in a valence state of +3.

Trivalent chromium process means the process used for electrodeposition of a thin layer of chromium onto a base material using a trivalent chromium solution instead of a chromic acid solution.

Wetting agent means the type of chemical fume suppressant that reduces the surface tension of a liquid.

(b) *Nomenclature*. The nomenclature used in this subpart has the following meaning:

(1) AMR=the allowable mass emission rate from each type of affected source subject to the same emission limitation in milligrams per hour (mg/hr).

(2) AMR_{sys} =the allowable mass emission rate from affected sources controlled by an add-on air pollution control device controlling emissions from multiple sources in mg/hr.

(3) EL=the applicable emission limitation from §63.342 in milligrams per dry standard cubic meter (mg/dscm).

(4) IA_{total} =the sum of all inlet duct areas from both affected and nonaffected sources in meters squared.

(5) IDA_i =the total inlet area for all ducts associated with affected sources in meters squared.

(6) $IDA_{i,a}$ =the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation in meters squared.

(7) VR=the total of ventilation rates for each type of affected source subject to the same emission limitation in dry standard cubic meters per minute (dscm/min).

(8) VR_{inlet} =the total ventilation rate from all inlet ducts associated with affected sources in dscm/min.

(9) $VR_{inlet,a}$ =the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation in dscm/min.

(10) VR_{tot} =the average total ventilation rate for the three test runs as determined at the outlet by means of the Method 306 in appendix A of this part testing in dscm/min.

[60 FR 4963, Jan. 25, 1995, as amended at 69 FR 42894, July 19, 2004]

§ 63.342 Standards.

(a) Each owner or operator of an affected source subject to the provisions of this subpart shall comply with these requirements on and after the compliance dates specified in §63.343(a). All affected sources are regulated by applying maximum achievable control technology.

(b) *Applicability of emission limitations*. (1) The emission limitations in this section apply during tank operation as defined in §63.341, and during periods of startup and shutdown as these are routine occurrences for affected sources subject to this subpart. The emission limitations do not apply during periods of malfunction, but the work practice standards that address operation and maintenance and that are required by paragraph (f) of this section must be followed during malfunctions.

(2) If an owner or operator is controlling a group of tanks with a common add-on air pollution control device, the emission limitations of paragraphs (c), (d), and (e) of this section apply whenever any one affected source is operated. The emission limitation that applies to the group of affected sources is:

(i) The emission limitation identified in paragraphs (c), (d), and (e) of this section if the affected sources are performing the same type of operation (e.g., hard chromium electroplating), are subject to the same emission limitation, and are not controlled by an add-on air pollution control device also controlling nonaffected sources;

(ii) The emission limitation calculated according to §63.344(e)(3) if affected sources are performing the same type of operation, are subject to the same emission limitation, and are controlled with an add-on air pollution control device that is also controlling nonaffected sources; and

(iii) The emission limitation calculated according to §63.344(e)(4) if affected sources are performing different types of operations, or affected sources are performing the same operations but subject to different emission limitations, and are controlled with an add-on air pollution control device that may also be controlling emissions from nonaffected sources.

(c)(1) *Standards for open surface hard chromium electroplating tanks.* During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by either:

(i) Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.015 milligrams of total chromium per dry standard cubic meter (mg/dscm) of ventilation air (6.6×10^{-6} grains per dry standard cubic foot (gr/dscf)) for all open surface hard chromium electroplating tanks that are affected sources other than those that are existing affected sources located at small hard chromium electroplating facilities; or

(ii) Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.03 mg/dscm (1.3×10^{-5} gr/dscf) if the open surface hard chromium electroplating tank is an existing affected source and is located at a small, hard chromium electroplating facility; or

(iii) If a chemical fume suppressant containing a wetting agent is used, by not allowing the surface tension of the electroplating or anodizing bath contained within the affected tank to exceed 45 dynes per centimeter (dynes/cm) (3.1×10^{-3} pound-force per foot (lb_f/ft)) as measured by a stalagmometer or 35 dynes/cm (2.4×10^{-3} lb_f/ft) as measured by a tensiometer at any time during tank operation.

(2) *Standards for enclosed hard chromium electroplating tanks.* During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by either:

(i) Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.015 mg/dscm (6.6×10^{-6} gr/dscf) for all enclosed hard chromium electroplating tanks that are affected sources other than those that are existing affected sources located at small, hard chromium electroplating facilities; or

(ii) Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.03 mg/dscm (1.3×10^{-5} gr/dscf) if the enclosed hard chromium electroplating tank is an existing affected source and is located at a small, hard chromium electroplating facility; or

(iii) If a chemical fume suppressant containing a wetting agent is used, by not allowing the surface tension of the electroplating or anodizing bath contained within the affected tank to exceed 45 dynes/cm (3.1×10^{-3} lb_f/ft) as measured by a stalagmometer or 35 dynes/cm (2.4×10^{-3} lb_f/ft) as measured by a tensiometer at any time during tank operation; or

(iv) Not allowing the mass rate of total chromium in the exhaust gas stream discharged to the atmosphere to exceed the maximum allowable mass emission rate determined by using the calculation procedure in §63.344(f)(1)(i) for all enclosed hard chromium electroplating tanks that are affected sources other than those that are existing affected sources located at small, hard chromium electroplating facilities; or

(v) Not allowing the mass rate of total chromium in the exhaust gas stream discharged to the atmosphere to exceed the maximum allowable mass emission rate determined by using the calculation procedure in

§63.344(f)(1)(ii) if the enclosed hard chromium electroplating tank is an existing affected source and is located at a small, hard chromium electroplating facility.

(3)(i) An owner or operator may demonstrate the size of a hard chromium electroplating facility through the definitions in §63.341(a). Alternatively, an owner or operator of a facility with a maximum cumulative potential rectifier capacity of 60 million amp-hr/yr or more may be considered small if the actual cumulative rectifier capacity is less than 60 million amp-hr/yr as demonstrated using the following procedures:

(A) If records show that the facility's previous annual actual rectifier capacity was less than 60 million amp-hr/yr, by using nonresettable ampere-hr meters and keeping monthly records of actual ampere-hr usage for each 12-month rolling period following the compliance date in accordance with §63.346(b)(12). The actual cumulative rectifier capacity for the previous 12-month rolling period shall be tabulated monthly by adding the capacity for the current month to the capacities for the previous 11 months; or

(B) By accepting a federally-enforceable limit on the maximum cumulative potential rectifier capacity of a hard chromium electroplating facility and by maintaining monthly records in accordance with §63.346(b)(12) to demonstrate that the limit has not been exceeded. The actual cumulative rectifier capacity for the previous 12-month rolling period shall be tabulated monthly by adding the capacity for the current month to the capacities for the previous 11 months.

(ii) Once the monthly records required to be kept by §63.346(b)(12) and by this paragraph (c)(3)(ii) show that the actual cumulative rectifier capacity over the previous 12-month rolling period corresponds to the large designation, the owner or operator is subject to the emission limitation identified in paragraph (c)(1)(i), (iii), (c)(2)(i), (iii), or (iv) of this section, in accordance with the compliance schedule of §63.343(a)(5).

(d) *Standards for decorative chromium electroplating tanks using a chromic acid bath and chromium anodizing tanks.* During tank operation, each owner or operator of an existing, new, or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by either:

(1) Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.01 mg/dscm (4.4×10^{-6} gr/dscf); or

(2) If a chemical fume suppressant containing a wetting agent is used, by not allowing the surface tension of the electroplating or anodizing bath contained within the affected source to exceed 45 dynes/cm (3.1×10^{-3} lb_f/ft) as measured by a stalagmometer or 35 dynes/cm (2.4×10^{-3} lb_f/ft) as measured by a tensiometer at any time during operation of the tank.

(e) *Standards for decorative chromium electroplating tanks using a trivalent chromium bath.* (1) Each owner or operator of an existing, new, or reconstructed decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent as a bath ingredient is subject to the recordkeeping and reporting requirements of §§63.346(b)(14) and 63.347(i), but are not subject to the work practice requirements of paragraph (f) of this section, or the continuous compliance monitoring requirements in §63.343(c). The wetting agent must be an ingredient in the trivalent chromium bath components purchased from vendors.

(2) Each owner or operator of an existing, new, or reconstructed decorative chromium electroplating tank that uses a trivalent chromium bath that does not incorporate a wetting agent as a bath ingredient is subject to the standards of paragraph (d) of this section.

(3) Each owner or operator of existing, new, or reconstructed decorative chromium electroplating tank that had been using a trivalent chromium bath that incorporates a wetting agent and ceases using this type of bath must fulfill the reporting requirements of §63.347(i)(3) and comply with the applicable emission limitation within the timeframe specified in §63.343(a)(7).

(f) *Operation and maintenance practices.* All owners or operators subject to the standards in paragraphs (c) and (d) of this section are subject to these operation and maintenance practices.

(1)(i) At all times, including periods of startup, shutdown, and malfunction, owners or operators shall operate and maintain any affected source, including associated air pollution control devices and monitoring equipment, in a manner consistent with good air pollution control practices.

(ii) Malfunctions shall be corrected as soon as practicable after their occurrence.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2)(i) Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the source.

(ii) Based on the results of a determination made under paragraph (f)(2)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the operation and maintenance plan required by paragraph (f)(3) of this section for that source. Revisions may be required if the Administrator finds that the plan:

(A) Does not address a malfunction that has occurred;

(B) Fails to provide for the proper operation of the affected source, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with good air pollution control practices; or

(C) Does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as practicable.

(3) *Operation and maintenance plan.* (i) The owner or operator of an affected source subject to paragraph (f) of this section shall prepare an operation and maintenance plan no later than the compliance date, except for hard chromium electroplaters and the chromium anodizing operations in California which have until January 25, 1998. The plan shall be incorporated by reference into the source's title V permit, if and when a title V permit is required. The plan shall include the following elements:

(A) The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device (if such a device is used to comply with the emission limits), and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of this equipment;

(B) For sources using an add-on control device or monitoring equipment to comply with this subpart, the plan shall incorporate the operation and maintenance practices for that device or monitoring equipment, as identified in Table 1 of this section, if the specific equipment used is identified in Table 1 of this section;

(C) If the specific equipment used is not identified in Table 1 of this section, the plan shall incorporate proposed operation and maintenance practices. These proposed operation and maintenance practices shall be submitted for approval as part of the submittal required under §63.343(d);

(D) 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; and

(E) The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control devices, and process and control system monitoring equipment and for implementing corrective actions to address such malfunctions.

(ii) If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall

include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for such events.

(iii) Recordkeeping associated with the operation and maintenance plan is identified in §63.346(b). Reporting associated with the operation and maintenance plan is identified in §63.347 (g) and (h) and paragraph (f)(3)(iv) of this section.

(iv) If actions taken by the owner or operator during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan required by paragraph (f)(3)(i) of this section, the owner or operator shall record the actions taken for that event and shall report by phone such actions within 2 working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within 7 working days after the end of the event, unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator.

(v) The owner or operator shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Administrator for the life of the affected source or until the source is no longer subject to the provisions of this subpart. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the operation and maintenance plan on record to be made available for inspection, upon request, by the Administrator for a period of 5 years after each revision to the plan.

(vi) To satisfy the requirements of paragraph (f)(3) of this section, the owner or operator may use applicable standard operating procedure (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans, provided the alternative plans meet the requirements of this section.

(g) The standards in this section that apply to chromic acid baths shall not be met by using a reducing agent to change the form of chromium from hexavalent to trivalent.

Table 1 to §63.342—Summary of Operation and Maintenance Practices

| Control technique | Operation and maintenance practices | Frequency |
|---------------------------------|---|----------------------|
| Composite mesh-pad (CMP) system | 1. Visually inspect device to ensure there is proper drainage, no chromic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device | 1. 1/quarter. |
| | 2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist | 2. 1/quarter. |
| | 3. Visually inspect ductwork from tank to the control device to ensure there are no leaks | 3. 1/quarter. |
| | 4. Perform washdown of the composite mesh-pads in accordance with manufacturers recommendations | 4. Per manufacturer. |
| Packed-bed scrubber (PSB) | 1. Visually inspect device to ensure there is proper drainage, no chromic acid buildup on the packed beds, and no evidence of chemical attack on the structural integrity of the device | 1. 1/quarter. |
| | 2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist | 2. 1/quarter. |
| | 3. Same as number 3 above | 3. 1/quarter. |

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| | 4. Add fresh makeup water to the top of the packed bed ^{a,b} | 4. Whenever makeup is added. |
| PBS/CMP system | 1. Same as for CMP system | 1. 1/quarter. |
| | 2. Same as for CMP system | 2. 1/quarter. |
| | 3. Same as for CMP system | 3. 1/quarter. |
| | 4. Same as for CMP system | 4. Per manufacturer. |
| Fiber-bed mist eliminator ^c | 1. Visually inspect fiber-bed unit and prefiltering device to ensure there is proper drainage, no chromic acid buildup in the units, and no evidence of chemical attack on the structural integrity of the devices | 1. 1/quarter. |
| | 2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks | 2. 1/quarter. |
| | 3. Perform washdown of fiber elements in accordance with manufacturers recommendations | 3. Per manufacturer. |
| Air pollution control device (APCD) not listed in rule | To be proposed by the source for approval by the Administrator | To be proposed by the source for approval by the Administrator. |
| Monitoring Equipment | | |
| Pitot tube | Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check pitot tube ends for damage. Replace pitot tube if cracked or fatigued | 1/quarter. |
| Stalagmometer | Follow manufacturers recommendations | |

^aIf greater than 50 percent of the scrubber water is drained (e.g., for maintenance purposes), makeup water may be added to the scrubber basin.

^bFor horizontal-flow scrubbers, top is defined as the section of the unit directly above the packing media such that the makeup water would flow perpendicular to the air flow through the packing. For vertical-flow units, the top is defined as the area downstream of the packing material such that the makeup water would flow countercurrent to the air flow through the unit.

^cWork practice standards for the control device installed upstream of the fiber-bed mist eliminator to prevent plugging do not apply as long as the work practice standards for the fiber-bed unit are followed.

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§ 63.343 Compliance provisions.

(a) *Compliance dates.* (1) The owner or operator of an existing affected source shall comply with the emission limitations in §63.342 as follows:

(i) No later than 1 year after January 25, 1995, if the affected source is a decorative chromium electroplating tank; and

(ii) No later than 2 years after January 25, 1995, if the affected source is a hard chromium electroplating tank or a chromium anodizing tank.

(2) The owner or operator of a new or reconstructed affected source that has an initial startup after January 25, 1995, shall comply immediately upon startup of the source. The owner or operator of a new or reconstructed affected source that has an initial startup after December 16, 1993 but before January 25, 1995, shall follow the compliance schedule of §63.6(b)(1).

(3) The owner or operator of an existing area source that increases actual or potential emissions of hazardous air pollutants such that the area source becomes a major source must comply with the provisions for existing major sources, including the reporting provisions of §63.347(g), immediately upon becoming a major source.

(4) The owner or operator of a new area source (i.e., an area source for which construction or reconstruction was commenced after December 16, 1993) that increases actual or potential emissions of hazardous air pollutants such that the area source becomes a major source must comply with the provisions for new major sources, immediately upon becoming a major source.

(5) An owner or operator of an existing hard chromium electroplating tank or tanks located at a small, hard chromium electroplating facility that increases its maximum cumulative potential rectifier capacity, or its actual cumulative rectifier capacity, such that the facility becomes a large, hard chromium electroplating facility must comply with the requirements of §63.342(c)(1)(i) for all hard chromium electroplating tanks at the facility no later than 1 year after the month in which monthly records required by §§63.342(c)(2) and 63.346(b)(12) show that the large designation is met, or by the compliance date specified in paragraph (a)(1)(ii) of this section, whichever is later.

(6) *Request for an extension of compliance.* An owner or operator of an affected source or sources that requests an extension of compliance shall do so in accordance with this paragraph and the applicable paragraphs of §63.6(i). When the owner or operator is requesting the extension for more than one affected source located at the facility, then only one request may be submitted for all affected sources at the facility.

(i) The owner or operator of an existing affected source who is unable to comply with a relevant standard under this subpart may request that the Administrator (or a State, when the State has an approved part 70 permit program and the source is required to obtain a part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the owner or operator up to 1 additional year to comply with the standard for the affected source. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and is otherwise required to obtain a title V permit for the source shall apply for such permit or apply to have the title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the owner or operator's title V permit for the affected source(s) according to the provisions of 40 CFR part 70 or 40 CFR part 71, whichever is applicable.

(ii) Any request under this paragraph for an extension of compliance with a relevant standard shall be submitted in writing to the appropriate authority not later than 6 months before the affected source's compliance date as specified in this section.

(7) An owner or operator of a decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent, and that ceases using the trivalent chromium process, must comply with the emission limitation now applicable to the tank within 1 year of switching bath operation.

(b) *Methods to demonstrate initial compliance.* (1) Except as provided in paragraphs (b)(2) and (b)(3) of this section, an owner or operator of an affected source subject to the requirements of this subpart is required to conduct an initial performance test as required under §63.7, except for hard chromium electroplaters and

chromium anodizing operations in California which have until January 25, 1998, using the procedures and test methods listed in §§63.7 and 63.344.

(2) If the owner or operator of an affected source meets all of the following criteria, an initial performance test is not required to be conducted under this subpart:

(i) The affected source is a hard chromium electroplating tank, a decorative chromium electroplating tank or a chromium anodizing tank; and

(ii) A wetting agent is used in the plating or anodizing bath to inhibit chromium emissions from the affected source; and

(iii) The owner or operator complies with the applicable surface tension limit of §63.342(c)(1)(iii), (c)(2)(iii), or (d)(2) as demonstrated through the continuous compliance monitoring required by paragraph (c)(5)(ii) of this section.

(3) If the affected source is a decorative chromium electroplating tank using a trivalent chromium bath, and the owner or operator is subject to the provisions of §63.342(e), an initial performance test is not required to be conducted under this subpart.

(c) *Monitoring to demonstrate continuous compliance.* The owner or operator of an affected source subject to the emission limitations of this subpart shall conduct monitoring according to the type of air pollution control technique that is used to comply with the emission limitation. The monitoring required to demonstrate continuous compliance with the emission limitations is identified in this section for the air pollution control techniques expected to be used by the owners or operators of affected sources.

(1) *Composite mesh-pad systems.* (i) During the initial performance test, the owner or operator of an affected source, or a group of affected sources under common control, complying with the emission limitations in §63.342 through the use of a composite mesh-pad system shall determine the outlet chromium concentration using the test methods and procedures in §63.344(c), and shall establish as a site-specific operating parameter the pressure drop across the system, setting the value that corresponds to compliance with the applicable emission limitation, using the procedures in §63.344(d)(5). An owner or operator may conduct multiple performance tests to establish a range of compliant pressure drop values, or may set as the compliant value the average pressure drop measured over the three test runs of one performance test and accept ± 2 inches of water column from this value as the compliant range.

(ii) On and after the date on which the initial performance test is required to be completed under §63.7, except for hard chromium electroplaters and chromium anodizing operations in California, which have until January 25, 1998, the owner or operator of an affected source, or group of affected sources under common control, shall monitor and record the pressure drop across the composite mesh-pad system once each day that any affected source is operating. To be in compliance with the standards, the composite mesh-pad system shall be operated within ± 2 inches of water column of the pressure drop value established during the initial performance test, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.

(iii) The owner or operator of an affected source complying with the emission limitations in §63.343 through the use of a composite mesh-pad system may repeat the performance test and establish as a new site-specific operating parameter the pressure drop across the composite mesh-pad system according to the requirements in paragraphs (c)(1)(i) or (ii) of this section. To establish a new site-specific operating parameter for pressure drop, the owner or operator shall satisfy the requirements specified in paragraphs (c)(1)(iii)(A) through (D) of this section.

(A) Determine the outlet chromium concentration using the test methods and procedures in §63.344(c);

(B) Establish the site-specific operating parameter value using the procedures §63.344(d)(5);

(C) Satisfy the recordkeeping requirements in §63.346(b)(6) through (8); and

(D) Satisfy the reporting requirements in §63.347(d) and (f).

(iv) The requirement to operate a composite mesh-pad system within the range of pressure drop values established under paragraphs (c)(1)(i) through (iii) of this section does not apply during automatic washdown cycles of the composite mesh-pad system.

(2) *Packed-bed scrubber systems.* (i) During the initial performance test, the owner or operator of an affected source, or group of affected sources under common control, complying with the emission limitations in §63.342 through the use of a packed-bed scrubber system shall determine the outlet chromium concentration using the procedures in §63.344(c), and shall establish as site-specific operating parameters the pressure drop across the system and the velocity pressure at the common inlet of the control device, setting the value that corresponds to compliance with the applicable emission limitation using the procedures in §63.344(d) (4) and (5). An owner or operator may conduct multiple performance tests to establish a range of compliant operating parameter values. Alternatively, the owner or operator may set as the compliant value the average pressure drop and inlet velocity pressure measured over the three test runs of one performance test, and accept ± 1 inch of water column from the pressure drop value and ± 10 percent from the velocity pressure value as the compliant range.

(ii) On and after the date on which the initial performance test is required to be completed under §63.7, except for hard chromium electroplaters and chromium anodizing operations in California which have until January 25, 1998, the owner or operator of an affected source, or group of affected sources under common control, shall monitor and record the velocity pressure at the inlet to the packed-bed system and the pressure drop across the scrubber system once each day that any affected source is operating. To be in compliance with the standards, the scrubber system shall be operated within ± 10 percent of the velocity pressure value established during the initial performance test, and within ± 1 inch of water column of the pressure drop value established during the initial performance test, or within the range of compliant operating parameter values established during multiple performance tests.

(3) *Packed-bed scrubber/composite mesh-pad system.* The owner or operator of an affected source, or group of affected sources under common control, that uses a packed-bed scrubber in conjunction with a composite mesh-pad system to meet the emission limitations of §63.342 shall comply with the monitoring requirements for composite mesh-pad systems as identified in paragraph (c)(1) of this section.

(4) *Fiber-bed mist eliminator.* (i) During the initial performance test, the owner or operator of an affected source, or group of affected sources under common control, complying with the emission limitations in §63.342 through the use of a fiber-bed mist eliminator shall determine the outlet chromium concentration using the procedures in §63.344(c), and shall establish as a site-specific operating parameter the pressure drop across the fiber-bed mist eliminator and the pressure drop across the control device installed upstream of the fiber bed to prevent plugging, setting the value that corresponds to compliance with the applicable emission limitation using the procedures in §63.344(d)(5). An owner or operator may conduct multiple performance tests to establish a range of compliant pressure drop values, or may set as the compliant value the average pressure drop measured over the three test runs of one performance test and accept ± 1 inch of water column from this value as the compliant range.

(ii) On and after the date on which the initial performance test is required to be completed under §63.7, except for hard chromium electroplaters and chromium anodizing operations in California which have until January 25, 1998, the owner or operator of an affected source, or group of affected sources under common control, shall monitor and record the pressure drop across the fiber-bed mist eliminator, and the control device installed upstream of the fiber bed to prevent plugging, once each day that any affected source is operating. To be in compliance with the standards, the fiber-bed mist eliminator and the upstream control device shall be operated within ± 1 inch of water column of the pressure drop value established during the initial performance test, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.

(5) *Wetting agent-type or combination wetting agent-type/foam blanket fume suppressants.* (i) During the initial performance test, the owner or operator of an affected source complying with the emission limitations in §63.342 through the use of a wetting agent in the electroplating or anodizing bath shall determine the outlet chromium concentration using the procedures in §63.344(c). The owner or operator shall establish as the site-specific operating parameter the surface tension of the bath using Method 306B, appendix A of this

part, setting the maximum value that corresponds to compliance with the applicable emission limitation. In lieu of establishing the maximum surface tension during the performance test, the owner or operator may accept 45 dynes/cm as measured by a stalagmometer or 35 dynes/cm as measured by a tensiometer as the maximum surface tension value that corresponds to compliance with the applicable emission limitation. However, the owner or operator is exempt from conducting a performance test only if the criteria of paragraph (b)(2) of this section are met.

(ii) On and after the date on which the initial performance test is required to be completed under §63.7, except for hard chromium electroplaters and chromium anodizing operations in California, which have until January 25, 1998, the owner or operator of an affected source shall monitor the surface tension of the electroplating or anodizing bath. Operation of the affected source at a surface tension greater than the value established during the performance test, or greater than 45 dynes/cm as measured by a stalagmometer or 35 dynes/cm as measured by a tensiometer if the owner or operator is using this value in accordance with paragraph (c)(5)(i) of this section, shall constitute noncompliance with the standards. The surface tension shall be monitored according to the following schedule:

(A) The surface tension shall be measured once every 4 hours during operation of the tank with a stalagmometer or a tensiometer as specified in Method 306B, appendix A of this part.

(B) The time between monitoring can be increased if there have been no exceedances. The surface tension shall be measured once every 4 hours of tank operation for the first 40 hours of tank operation after the compliance date. Once there are no exceedances during 40 hours of tank operation, surface tension measurement may be conducted once every 8 hours of tank operation. Once there are no exceedances during 40 hours of tank operation, surface tension measurement may be conducted once every 40 hours of tank operation on an ongoing basis, until an exceedance occurs. The minimum frequency of monitoring allowed by this subpart is once every 40 hours of tank operation.

(C) Once an exceedance occurs as indicated through surface tension monitoring, the original monitoring schedule of once every 4 hours must be resumed. A subsequent decrease in frequency shall follow the schedule laid out in paragraph (c)(5)(ii)(B) of this section. For example, if an owner or operator had been monitoring an affected source once every 40 hours and an exceedance occurs, subsequent monitoring would take place once every 4 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation, monitoring can occur once every 8 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation on this schedule, monitoring can occur once every 40 hours of tank operation.

(iii) Once a bath solution is drained from the affected tank and a new solution added, the original monitoring schedule of once every 4 hours must be resumed, with a decrease in monitoring frequency allowed following the procedures of paragraphs (c)(5)(ii) (B) and (C) of this section.

(6) *Foam blanket-type fume suppressants.* (i) During the initial performance test, the owner or operator of an affected source complying with the emission limitations in §63.342 through the use of a foam blanket in the electroplating or anodizing bath shall determine the outlet chromium concentration using the procedures in §63.344(c), and shall establish as the site-specific operating parameter the thickness of the foam blanket, setting the minimum thickness that corresponds to compliance with the applicable emission limitation. In lieu of establishing the minimum foam blanket thickness during the performance test, the owner or operator may accept 2.54 centimeters (1 inch) as the minimum foam blanket thickness that corresponds to compliance with the applicable emission limitation. All foam blanket measurements must be taken in close proximity to the workpiece or cathode area in the plating tank(s).

(ii) On and after the date on which the initial performance test is required to be completed under §63.7, except for hard chromium electroplaters and chromium anodizing operations in California which have until January 25, 1998, the owner or operator of an affected source shall monitor the foam blanket thickness of the electroplating or anodizing bath. Operation of the affected source at a foam blanket thickness less than the value established during the performance test, or less than 2.54 cm (1 inch) if the owner or operator is using this value in accordance with paragraph (c)(6)(i) of this section, shall constitute noncompliance with the standards. The foam blanket thickness shall be measured according to the following schedule:

(A) The foam blanket thickness shall be measured once every 1 hour of tank operation.

(B) The time between monitoring can be increased if there have been no exceedances. The foam blanket thickness shall be measured once every hour of tank operation for the first 40 hours of tank operation after the compliance date. Once there are no exceedances for 40 hours of tank operation, foam blanket thickness measurement may be conducted once every 4 hours of tank operation. Once there are no exceedances during 40 hours of tank operation, foam blanket thickness measurement may be conducted once every 8 hours of tank operation on an ongoing basis, until an exceedance occurs. The minimum frequency of monitoring allowed by this subpart is once per 8 hours of tank operation.

(C) Once an exceedance occurs as indicated through foam blanket thickness monitoring, the original monitoring schedule of once every hour must be resumed. A subsequent decrease in frequency shall follow the schedule laid out in paragraph (c)(6)(ii)(B) of this section. For example, if an owner or operator had been monitoring an affected source once every 8 hours and an exceedance occurs, subsequent monitoring would take place once every hour of tank operation. Once an exceedance does not occur for 40 hours of tank operation, monitoring can occur once every 4 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation on this schedule, monitoring can occur once every 8 hours of tank operation.

(iii) Once a bath solution is drained from the affected tank and a new solution added, the original monitoring schedule of once every hour must be resumed, with a decrease in monitoring frequency allowed following the procedures of paragraphs (c)(6)(ii) (B) and (C) of this section.

(7) *Fume suppressant/add-on control device.* (i) If the owner or operator of an affected source uses both a fume suppressant and add-on control device and both are needed to comply with the applicable emission limit, monitoring requirements as identified in paragraphs (c) (1) through (6) of this section, and the work practice standards of Table 1 of §63.342, apply for each of the control techniques used.

(ii) If the owner or operator of an affected source uses both a fume suppressant and add-on control device, but only one of these techniques is needed to comply with the applicable emission limit, monitoring requirements as identified in paragraphs (c) (1) through (6) of this section, and work practice standards of Table 1 of §63.342, apply only for the control technique used to achieve compliance.

(8) *Use of an alternative monitoring method.* (i) Requests and approvals of alternative monitoring methods shall be considered in accordance with §63.8(f)(1), (f)(3), (f)(4), and (f)(5).

(ii) After receipt and consideration of an application for an alternative monitoring method, the Administrator may approve alternatives to any monitoring methods or procedures of this subpart including, but not limited to, the following:

(A) Alternative monitoring requirements when installation or use of monitoring devices specified in this subpart would not provide accurate measurements due to interferences caused by substances within the effluent gases; or

(B) Alternative locations for installing monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.

(d) An owner or operator who uses an air pollution control device not listed in this section shall submit a description of the device, test results collected in accordance with §63.344(c) verifying the performance of the device for reducing chromium emissions to the atmosphere to the level required by this subpart, a copy of the operation and maintenance plan referenced in §63.342(f) including operation and maintenance practices, and appropriate operating parameters that will be monitored to establish continuous compliance with the standards. The monitoring plan submitted identifying the continuous compliance monitoring is subject to the Administrator's approval.

[60 FR 4963, Jan. 25, 1995; 60 FR 33122, June 27, 1995, as amended at 62 FR 42920, Aug. 11, 1997; 68 FR 37347, June 23, 2003; 69 FR 42895, July 19, 2004]

§ 63.344 Performance test requirements and test methods.

(a) *Performance test requirements.* Performance tests shall be conducted using the test methods and procedures in this section and §63.7. Performance test results shall be documented in complete test reports that contain the information required by paragraphs (a)(1) through (a)(9) of this section. The test plan to be followed shall be made available to the Administrator prior to the testing, if requested.

- (1) A brief process description;
- (2) Sampling location description(s);
- (3) A description of sampling and analytical procedures and any modifications to standard procedures;
- (4) Test results;
- (5) Quality assurance procedures and results;
- (6) Records of operating conditions during the test, preparation of standards, and calibration procedures;
- (7) Raw data sheets for field sampling and field and laboratory analyses;
- (8) Documentation of calculations; and
- (9) Any other information required by the test method.

(b)(1) If the owner or operator of an affected source conducts performance testing at startup to obtain an operating permit in the State in which the affected source is located, the results of such testing may be used to demonstrate compliance with this subpart if:

- (i) The test methods and procedures identified in paragraph (c) of this section were used during the performance test;
- (ii) The performance test was conducted under representative operating conditions for the source;
- (iii) The performance test report contains the elements required by paragraph (a) of this section; and
- (iv) The owner or operator of the affected source for which the performance test was conducted has sufficient data to establish the operating parameter value(s) that correspond to compliance with the standards, as required for continuous compliance monitoring under §63.343(c).

(2) The results of tests conducted prior to December 1991 in which Method 306A, appendix A of this part, was used to demonstrate the performance of a control technique are not acceptable.

(c) *Test methods.* Each owner or operator subject to the provisions of this subpart and required by §63.343(b) to conduct an initial performance test shall use the test methods identified in this section to demonstrate compliance with the standards in §63.342.

(1) Method 306 or Method 306A, "Determination of Chromium Emissions From Decorative and Hard Chromium Electroplating and Anodizing Operations," appendix A of this part shall be used to determine the chromium concentration from hard or decorative chromium electroplating tanks or chromium anodizing tanks. The sampling time and sample volume for each run of Methods 306 and 306A, appendix A of this part shall be at least 120 minutes and 1.70 dscm (60 dscf), respectively. Methods 306 and 306A, appendix A of this part allow the measurement of either total chromium or hexavalent chromium emissions. For the purposes of this standard, sources using chromic acid baths can demonstrate compliance with the emission limits of §63.342 by measuring either total chromium or hexavalent chromium. Hence, the hexavalent chromium concentration measured by these methods is equal to the total chromium concentration for the affected operations.

(2) The California Air Resources Board (CARB) Method 425 (which is available by contacting the California Air Resources Board, 1102 Q Street, Sacramento, California 95814) may be used to determine the chromium concentration from hard and decorative chromium electroplating tanks and chromium anodizing tanks if the following conditions are met:

(i) If a colorimetric analysis method is used, the sampling time and volume shall be sufficient to result in 33 to 66 micrograms of catch in the sampling train.

(ii) If Atomic Absorption Graphite Furnace (AAGF) or Ion Chromatography with a Post-column Reactor (ICPCR) analyses were used, the sampling time and volume should be sufficient to result in a sample catch that is 5 to 10 times the minimum detection limit of the analytical method (i.e., 1.0 microgram per liter of sample for AAGF and 0.5 microgram per liter of sample for ICPCR).

(iii) In the case of either paragraph (c)(2) (i) or (ii) of this section, a minimum of 3 separate runs must be conducted. The other requirements of §63.7 that apply to affected sources, as indicated in Table 1 of this subpart, must also be met.

(3) Method 306B, "Surface Tension Measurement and Recordkeeping for Tanks Used at Decorative Chromium Electroplating and Anodizing Facilities," appendix A of this part shall be used to measure the surface tension of electroplating and anodizing baths.

(4) Alternate test methods may also be used if the method has been validated using Method 301, appendix A of this part and if approved by the Administrator. Procedures for requesting and obtaining approval are contained in §63.7(f).

(d) *Establishing site-specific operating parameter values.* (1) Each owner or operator required to establish site-specific operating parameters shall follow the procedures in this section.

(2) All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the affected source are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include execution of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(i) Specifications for differential pressure measurement devices used to measure velocity pressure shall be in accordance with section 2.2 of Method 2 (40 CFR part 60, appendix A).

(ii) Specification for differential pressure measurement devices used to measure pressure drop across a control system shall be in accordance with manufacturer's accuracy specifications.

(3) The surface tension of electroplating and anodizing baths shall be measured using Method 306B, "Surface Tension Measurement and Recordkeeping for Tanks used at Decorative Chromium Electroplating and Anodizing Facilities," appendix A of this part. This method should also be followed when wetting agent type or combination wetting agent/foam blanket type fume suppressants are used to control chromium emissions from a hard chromium electroplating tank and surface tension measurement is conducted to demonstrate continuous compliance.

(4) The owner or operator of a source required to measure the velocity pressure at the inlet to an add-on air pollution control device in accordance with §63.343(c)(2), shall establish the site-specific velocity pressure as follows:

(i) Locate a velocity traverse port in a section of straight duct that connects the hooding on the plating tank or tanks with the control device. The port shall be located as close to the control system as possible, and shall be placed a minimum of 2 duct diameters downstream and 0.5 diameter upstream of any flow disturbance such as a bend, expansion, or contraction (see Method 1, 40 CFR part 60, appendix A). If 2.5 diameters of straight duct work does not exist, locate the port 0.8 of the duct diameter downstream and 0.2 of the duct diameter upstream from any flow disturbance.

(ii) A 12-point velocity traverse of the duct to the control device shall be conducted along a single axis according to Method 2 (40 CFR part 60, appendix A) using an S-type pitot tube; measurement of the barometric pressure and duct temperature at each traverse point is not required, but is suggested. Mark the S-type pitot tube as specified in Method 1 (40 CFR part 60, appendix A) with 12 points. Measure the velocity pressure (Δp) values for the velocity points and record. Determine the square root of the individual velocity point Δp values and average. The point with the square root value that comes closest to the average square root value is the point of average velocity. The Δp value measured for this point during the performance test will be used as the reference for future monitoring.

(5) The owner or operator of a source required to measure the pressure drop across the add-on air pollution control device in accordance with §63.343(c) (1) through (4) may establish the pressure drop in accordance with the following guidelines:

(i) Pressure taps shall be installed at any of the following locations:

(A) At the inlet and outlet of the control system. The inlet tap should be installed in the ductwork just prior to the control device and the corresponding outlet pressure tap should be installed on the outlet side of the control device prior to the blower or on the downstream side of the blower;

(B) On each side of the packed bed within the control system or on each side of each mesh pad within the control system; or

(C) On the front side of the first mesh pad and back side of the last mesh pad within the control system.

(ii) Pressure taps shall be sited at locations that are:

(A) Free from pluggage as possible and away from any flow disturbances such as cyclonic demisters.

(B) Situated such that no air infiltration at measurement site will occur that could bias the measurement.

(iii) Pressure taps shall be constructed of either polyethylene, polybutylene, or other nonreactive materials.

(iv) Nonreactive plastic tubing shall be used to connect the pressure taps to the device used to measure pressure drop.

(v) Any of the following pressure gauges can be used to monitor pressure drop: a magnehelic gauge, an inclined manometer, or a "U" tube manometer.

(vi) Prior to connecting any pressure lines to the pressure gauge(s), each gauge should be zeroed. No calibration of the pressure gauges is required.

(e) *Special compliance provisions for multiple sources controlled by a common add-on air pollution control device.* (1) This section identifies procedures for measuring the outlet chromium concentration from an add-on air pollution control device that is used to control multiple sources that may or may not include sources not affected by this subpart.

(2) When multiple affected sources performing the same type of operation (e.g., all are performing hard chromium electroplating), and subject to the same emission limitation, are controlled with an add-on air pollution control device that is not controlling emissions from any other type of affected operation or from any nonaffected sources, the applicable emission limitation identified in §63.342 must be met at the outlet of the add-on air pollution control device.

(3) When multiple affected sources performing the same type of operation and subject to the same emission limitation are controlled with a common add-on air pollution control device that is also controlling emissions from sources not affected by these standards, the following procedures should be followed to determine compliance with the applicable emission limitation in §63.342:

(i) Calculate the cross-sectional area of each inlet duct (i.e., uptakes from each hood) including those not affected by the standard.

(ii) Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected sources, and then multiply this number by 2 hours. The calculated time is the minimum sample time required per test run.

(iii) Perform Method 306 testing and calculate an outlet mass emission rate.

(iv) Determine the total ventilation rate from the affected sources by using equation 1:

$$VR_{out} \times \frac{IDA_i}{\sum IA_{total}} = VR_{inlet} \quad (1)$$

where VR_{out} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by means of the Method 306 testing; IDA_i is the total inlet area for all ducts associated with affected sources; IA_{total} is the sum of all inlet duct areas from both affected and nonaffected sources; and VR_{inlet} is the total ventilation rate from all inlet ducts associated with affected sources.

(v) Establish the allowable mass emission rate of the system (AMR_{sys}) in milligrams of total chromium per hour (mg/hr) using equation 2:

$$\sum VR_{inlet} \times EL \times 60 \text{ minutes/hours} = AMR_{sys} \quad (2)$$

where $\sum VR_{inlet}$ is the total ventilation rate in dscm/min from the affected sources, and EL is the applicable emission limitation from §63.342 in mg/dscm. The allowable mass emission rate (AMR_{sys}) calculated from equation 2 should be equal to or more than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standard.

(4) When multiple affected sources performing different types of operations (e.g., hard chromium electroplating, decorative chromium electroplating, or chromium anodizing) are controlled by a common add-on air pollution control device that may or may not also be controlling emissions from sources not affected by these standards, or if the affected sources controlled by the common add-on air pollution control device perform the same operation but are subject to different emission limitations (e.g., because one is a new hard chromium plating tank and one is an existing small, hard chromium plating tank), the following procedures should be followed to determine compliance with the applicable emission limitation in §63.342:

(i) Follow the steps outlined in paragraphs (e)(3)(i) through (e)(3)(iii) of this section.

(ii) Determine the total ventilation rate for each type of affected source using equation 3:

$$VR_{out} \times \frac{IDA_{i,a}}{\sum IA_{total}} = VR_{inlet,a} \quad (3)$$

where VR_{out} is the average total ventilation rate in dscm/min for the three test runs as determined at the outlet by means of the Method 306 testing; $IDA_{i,a}$ is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation; IA_{total} is the sum of all duct areas from both affected and nonaffected sources; and $VR_{inlet,a}$ is the total ventilation rate from all

inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation.

(iii) Establish the allowable mass emission rate in mg/hr for each type of affected source that is controlled by the add-on air pollution control device using equation 4, 5, 6, or 7 as appropriate:

$$VR_{hc1} \times EL_{hc1} \times 60 \text{ minutes/hour} = AMR_{hc1} \quad (4)$$

$$VR_{hc2} \times EL_{hc2} \times 60 \text{ minutes/hour} = AMR_{hc2} \quad (5)$$

$$VR_{dc} \times EL_{dc} \times 60 \text{ minutes/hour} = AMR_{dc} \quad (6)$$

$$VR_{ca} \times EL_{ca} \times 60 \text{ minutes/hour} = AMR_{ca} \quad (7)$$

where “hc” applies to the total of ventilation rates for all hard chromium electroplating tanks subject to the same emission limitation, “dc” applies to the total of ventilation rates for the decorative chromium electroplating tanks, “ca” applies to the total of ventilation rates for the chromium anodizing tanks, and EL is the applicable emission limitation from §63.342 in mg/dscm. There are two equations for hard chromium electroplating tanks because different emission limitations may apply (e.g., a new tank versus an existing, small tank).

(iv) Establish the allowable mass emission rate (AMR) in mg/hr for the system using equation 8, including each type of affected source as appropriate:

$$AMR_{hc1} + AMR_{hc2} + AMR_{dc} + AMR_{ca} = AMR_{sys} \quad (8)$$

The allowable mass emission rate calculated from equation 8 should be equal to or more than the outlet three-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standards.

(5) Each owner or operator that uses the special compliance provisions of this paragraph to demonstrate compliance with the emission limitations of §63.342 shall submit the measurements and calculations to support these compliance methods with the notification of compliance status required by §63.347(e).

(6) Each owner or operator that uses the special compliance provisions of this section to demonstrate compliance with the emission limitations of §63.342 shall repeat these procedures if a tank is added or removed from the control system regardless of whether that tank is a nonaffected source. If the new nonaffected tank replaces an existing nonaffected tank of the same size and is connected to the control system through the same size inlet duct then this procedure does not have to be repeated.

(f) *Compliance provisions for the mass rate emission standard for enclosed hard chromium electroplating tanks.* (1) This section identifies procedures for calculating the maximum allowable mass emission rate for owners or operators of affected sources who choose to meet the mass emission rate standard in §63.342(c)(2)(iv) or (v).

(i)(A) The owner or operator of an enclosed hard chromium electroplating tank that is an affected source other than an existing affected source located at a small hard chromium electroplating facility who chooses to meet the mass emission rate standard in §63.342(c)(2)(iv) shall determine compliance by not allowing the mass rate of total chromium in the exhaust gas stream discharged to the atmosphere to exceed the maximum allowable mass emission rate calculated using equation 9:

$$MAMER = ETSA \times K \times 0.015 \text{ mg/dscm} \quad (9)$$

Where:

MAMER = the alternative emission rate for enclosed hard chromium electroplating tanks in mg/hr.

ETSA = the hard chromium electroplating tank surface area in square feet(ft^2).

K = a conversion factor, $425 \text{ dscm}/(\text{ft}^2 \times \text{hr})$.

(B) Compliance with the alternative mass emission limit is demonstrated if the three-run average mass emission rate determined from Method 306 testing is less than or equal to the maximum allowable mass emission rate calculated from equation 9.

(ii)(A) The owner or operator of an enclosed hard chromium electroplating tank that is an existing affected source located at a small hard chromium electroplating facility who chooses to meet the mass emission rate standard in §63.342(c)(2)(v) shall determine compliance by not allowing the mass rate of total chromium in the exhaust gas stream discharged to the atmosphere to exceed the maximum allowable mass emission rate calculated using equation 10:

$$\text{MAMER} = \text{ETSA} \times K \times 0.03 \text{ mg/dscm. (10)}$$

(B) Compliance with the alternative mass emission limit is demonstrated if the three-run average mass emission rate determined from testing using Method 306 of appendix A to part 63 is less than or equal to the maximum allowable mass emission rate calculated from equation 10.

[60 FR 4963, Jan. 25, 1995, as amended at 61 FR 27787, June 3, 1996; 69 FR 42896, July 19, 2004]

§ 63.345 Provisions for new and reconstructed sources.

(a) This section identifies the preconstruction review requirements for new and reconstructed affected sources that are subject to, or become subject to, this subpart.

(b) *New or reconstructed affected sources.* The owner or operator of a new or reconstructed affected source is subject to §63.5(a), (b)(1), (b)(5), (b)(6), and (f)(1), as well as the provisions of this paragraph.

(1) After January 25, 1995, whether or not an approved permit program is effective in the State in which an affected source is (or would be) located, no person may construct a new affected source or reconstruct an affected source subject to this subpart, or reconstruct a source such that it becomes an affected source subject to this subpart, without submitting a notification of construction or reconstruction to the Administrator. The notification shall contain the information identified in paragraphs (b) (2) and (3) of this section, as appropriate.

(2) The notification of construction or reconstruction required under paragraph (b)(1) of this section shall include:

(i) The owner or operator's name, title, and address;

(ii) The address (i.e., physical location) or proposed address of the affected source if different from the owner's or operator's;

(iii) A notification of intention to construct a new affected source or make any physical or operational changes to an affected source that may meet or has been determined to meet the criteria for a reconstruction as defined in §63.2;

(iv) An identification of subpart N of this part as the basis for the notification;

(v) The expected commencement and completion dates of the construction or reconstruction;

(vi) The anticipated date of (initial) startup of the affected source;

(vii) The type of process operation to be performed (hard or decorative chromium electroplating, or chromium anodizing);

(viii) A description of the air pollution control technique to be used to control emissions from the affected source, such as preliminary design drawings and design capacity if an add-on air pollution control device is used; and

(ix) An estimate of emissions from the source based on engineering calculations and vendor information on control device efficiency, expressed in units consistent with the emission limits of this subpart. Calculations of emission estimates should be in sufficient detail to permit assessment of the validity of the calculations.

(3) If a reconstruction is to occur, the notification required under paragraph (b)(1) of this section shall include the following in addition to the information required in paragraph (b)(2) of this section:

(i) A brief description of the affected source and the components to be replaced;

(ii) A brief description of the present and proposed emission control technique, including the information required by paragraphs (b)(2) (viii) and (ix) of this section;

(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;

(iv) The estimated life of the affected source after the replacements; and

(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

(vi) If in the notification of reconstruction, the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or requirements, the owner or operator need not submit the information required in paragraphs (b)(3) (iii) through (v) of this section.

(4) The owner or operator of a new or reconstructed affected source that submits a notification in accordance with paragraphs (b) (1) through (3) of this section is not subject to approval by the Administrator. Construction or reconstruction is subject only to notification and can begin upon submission of a complete notification.

(5) *Submittal timeframes.* After January 25, 1995, whether or not an approved permit program is effective in the State in which an affected source is (or would be) located, an owner or operator of a new or reconstructed affected source shall submit the notification of construction or reconstruction required by paragraph (b)(1) of this section according to the following schedule:

(i) If construction or reconstruction commences after January 25, 1995, the notification shall be submitted as soon as practicable before the construction or reconstruction is planned to commence.

(ii) If the construction or reconstruction had commenced and initial startup had not occurred before January 25, 1995, the notification shall be submitted as soon as practicable before startup but no later than 60 days after January 25, 1995.

§ 63.346 Recordkeeping requirements.

(a) The owner or operator of each affected source subject to these standards shall fulfill all recordkeeping requirements outlined in this section and in the General Provisions to 40 CFR part 63, according to the applicability of subpart A of this part as identified in Table 1 of this subpart.

(b) The owner or operator of an affected source subject to the provisions of this subpart shall maintain the following records for such source:

(1) Inspection records for the add-on air pollution control device, if such a device is used, and monitoring equipment, to document that the inspection and maintenance required by the work practice standards of §63.342(f) and Table 1 of §63.342 have taken place. The record can take the form of a checklist and should identify the device inspected, the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection.

(2) Records of all maintenance performed on the affected source, the add-on air pollution control device, and monitoring equipment;

(3) Records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control, and monitoring equipment;

(4) Records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;

(5) Other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan required by §63.342(f)(3);

(6) Test reports documenting results of all performance tests;

(7) All measurements as may be necessary to determine the conditions of performance tests, including measurements necessary to determine compliance with the special compliance procedures of §63.344(e);

(8) Records of monitoring data required by §63.343(c) that are used to demonstrate compliance with the standard including the date and time the data are collected;

(9) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control, or monitoring equipment;

(10) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control, or monitoring equipment;

(11) The total process operating time of the affected source during the reporting period;

(12) Records of the actual cumulative rectifier capacity of hard chromium electroplating tanks at a facility expended during each month of the reporting period, and the total capacity expended to date for a reporting period, if the owner or operator is using the actual cumulative rectifier capacity to determine facility size in accordance with §63.342(c)(2);

(13) For sources using fume suppressants to comply with the standards, records of the date and time that fume suppressants are added to the electroplating or anodizing bath;

(14) For sources complying with §63.342(e), records of the bath components purchased, with the wetting agent clearly identified as a bath constituent contained in one of the components;

(15) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements, if the source has been granted a waiver under §63.10(f); and

(16) All documentation supporting the notifications and reports required by §63.9, §63.10, and §63.347.

(c) All records shall be maintained for a period of 5 years in accordance with §63.10(b)(1).

§ 63.347 Reporting requirements.

(a) The owner or operator of each affected source subject to these standards shall fulfill all reporting requirements outlined in this section and in the General Provisions to 40 CFR part 63, according to the applicability of subpart A as identified in Table 1 of this subpart. These reports shall be made to the Administrator at the appropriate address as identified in §63.13 or to the delegated State authority.

(1) Reports required by subpart A of this part and this section may be sent by U.S. mail, fax, or by another courier.

(i) Submittals sent by U.S. mail shall be postmarked on or before the specified date.

(ii) Submittals sent by other methods shall be received by the Administrator on or before the specified date.

(2) If acceptable to both the Administrator and the owner or operator of an affected source, reports may be submitted on electronic media.

(b) The reporting requirements of this section apply to the owner or operator of an affected source when such source becomes subject to the provisions of this subpart.

(c) *Initial notifications.* (1) The owner or operator of an affected source that has an initial startup before January 25, 1995, shall notify the Administrator in writing that the source is subject to this subpart. The notification shall be submitted no later than 180 calendar days after January 25, 1995, and shall contain the following information:

(i) The name, title, and address of the owner or operator;

(ii) The address (i.e., physical location) of each affected source;

(iii) A statement that subpart N of this part is the basis for this notification;

(iv) Identification of the applicable emission limitation and compliance date for each affected source;

(v) A brief description of each affected source, including the type of process operation performed;

(vi) For sources performing hard chromium electroplating, the maximum potential cumulative potential rectifier capacity;

(vii) For sources performing hard chromium electroplating, a statement of whether the affected source(s) is located at a small or a large, hard chromium electroplating facility and whether this will be demonstrated through actual or maximum potential cumulative rectifier capacity;

(viii) For sources performing hard chromium electroplating, a statement of whether the owner or operator of an affected source(s) will limit the maximum potential cumulative rectifier capacity in accordance with §63.342(c)(2) such that the hard chromium electroplating facility is considered small; and

(ix) A statement of whether the affected source is located at a major source or an area source as defined in §63.2.

(2) The owner or operator of a new or reconstructed affected source that has an initial startup after January 25, 1995 shall submit an initial notification (in addition to the notification of construction or reconstruction required by §63.345(b) as follows:

(i) A notification of the date when construction or reconstruction was commenced, shall be submitted simultaneously with the notification of construction or reconstruction, if construction or reconstruction was commenced before January 25, 1995;

(ii) A notification of the date when construction or reconstruction was commenced, shall be submitted no later than 30 calendar days after such date, if construction or reconstruction was commenced after January 25, 1995; and

(iii) A notification of the actual date of startup of the source shall be submitted within 30 calendar days after such date.

(d) *Notification of performance test.* (1) The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the test is scheduled to begin to allow the Administrator to have an observer present during the test. Observation of the performance test by the Administrator is optional.

(2) In the event the owner or operator is unable to conduct the performance test as scheduled, the provisions of §63.7(b)(2) apply.

(e) *Notification of compliance status.* (1) A notification of compliance status is required each time that an affected source becomes subject to the requirements of this subpart.

(2) If the State in which the source is located has not been delegated the authority to implement the rule, each time a notification of compliance status is required under this part, the owner or operator of an affected source shall submit to the Administrator a notification of compliance status, signed by the responsible official (as defined in §63.2) who shall certify its accuracy, attesting to whether the affected source has complied with this subpart. If the State has been delegated the authority, the notification of compliance status shall be submitted to the appropriate authority. The notification shall list for each affected source:

(i) The applicable emission limitation and the methods that were used to determine compliance with this limitation;

(ii) If a performance test is required by this subpart, the test report documenting the results of the performance test, which contains the elements required by §63.344(a), including measurements and calculations to support the special compliance provisions of §63.344(e) if these are being followed;

(iii) The type and quantity of hazardous air pollutants emitted by the source reported in mg/dscm or mg/hr if the source is using the special provisions of §63.344(e) to comply with the standards. (If the owner or operator is subject to the construction and reconstruction provisions of §63.345 and had previously submitted emission estimates, the owner or operator shall state that this report corrects or verifies the previous estimate.) For sources not required to conduct a performance test in accordance with §63.343(b), the surface tension measurement may fulfill this requirement;

(iv) For each monitored parameter for which a compliant value is to be established under §63.343(c), the specific operating parameter value, or range of values, that corresponds to compliance with the applicable emission limit;

(v) The methods that will be used to determine continuous compliance, including a description of monitoring and reporting requirements, if methods differ from those identified in this subpart;

(vi) A description of the air pollution control technique for each emission point;

(vii) A statement that the owner or operator has completed and has on file the operation and maintenance plan as required by the work practice standards in §63.342(f);

(viii) If the owner or operator is determining facility size based on actual cumulative rectifier capacity in accordance with §63.342(c)(2), records to support that the facility is small. For existing sources, records from any 12-month period preceding the compliance date shall be used or a description of how operations will change to meet a small designation shall be provided. For new sources, records of projected rectifier capacity for the first 12-month period of tank operation shall be used;

(ix) A statement by the owner or operator of the affected source as to whether the source has complied with the provisions of this subpart.

(3) For sources required to conduct a performance test by §63.343(b), the notification of compliance status shall be submitted to the Administrator no later than 90 calendar days following completion of the compliance demonstration required by §63.7 and §63.343(b).

(4) For sources that are not required to complete a performance test in accordance with §63.343(b), the notification of compliance status shall be submitted to the Administrator no later than 30 days after the compliance date specified in §63.343(a), except the date on which sources in California shall monitor the surface tension of the anodizing bath is extended to January 25, 1998.

(f) *Reports of performance test results.* (1) If the State in which the source is located has not been delegated the authority to implement the rule, the owner or operator of an affected source shall report to the Administrator the results of any performance test conducted as required by §63.7 or §63.343(b). If the State has been delegated the authority, the owner or operator of an affected source should report performance test results to the appropriate authority.

(2) Reports of performance test results shall be submitted no later than 90 days following the completion of the performance test, and shall be submitted as part of the notification of compliance status required by paragraph (e) of this section.

(g) *Ongoing compliance status reports for major sources.* (1) The owner or operator of an affected source that is located at a major source site shall submit a summary report to the Administrator to document the ongoing compliance status of the affected source. The report shall contain the information identified in paragraph (g)(3) of this section, and shall be submitted semiannually except when:

(i) 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

(ii) The monitoring data collected by the owner or operator of the affected source in accordance with §63.343(c) show that the emission limit has been exceeded, in which case quarterly reports shall be submitted. Once an owner or operator of an affected source reports an exceedance, ongoing compliance status reports shall be submitted quarterly until a request to reduce reporting frequency under paragraph (g)(2) of this section is approved.

(2) *Request to reduce frequency of ongoing compliance status reports.* (i) An owner or operator who is required to submit ongoing compliance status reports on a quarterly (or more frequent basis) may reduce the frequency of reporting to semiannual if all of the following conditions are met:

(A) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods), the ongoing compliance status reports demonstrate that the affected source is in compliance with the relevant emission limit;

(B) The owner or operator continues to comply with all applicable recordkeeping and monitoring requirements of subpart A of this part and this subpart; and

(C) The Administrator does not object to a reduced reporting frequency for the affected source, as provided in paragraphs (g)(2) (ii) and (iii) of this section.

(ii) The frequency of submitting ongoing compliance status reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change, and the Administrator does not object to the intended change. In deciding whether to approve a reduced reporting frequency, the Administrator may review information concerning the source's entire previous performance history during the 5-year recordkeeping period prior to the intended change, or the recordkeeping period since the source's compliance date, whichever is shorter. Records subject to review may include performance test results, monitoring data, and evaluations of an owner or operator's conformance with emission limitations and work practice standards. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce reporting frequency, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iii) As soon as the monitoring data required by §63.343(c) show that the source is not in compliance with the relevant emission limit, the frequency of reporting shall revert to quarterly, and the owner shall state this exceedance in the ongoing compliance status report for the next reporting period. After demonstrating ongoing compliance with the relevant emission limit for another full year, the owner or operator may again request approval from the Administrator to reduce the reporting frequency as allowed by paragraph (g)(2) of this section.

(3) *Contents of ongoing compliance status reports.* The owner or operator of an affected source for which compliance monitoring is required in accordance with §63.343(c) shall prepare a summary report to document the ongoing compliance status of the source. The report must contain the following information:

(i) The company name and address of the affected source;

(ii) An identification of the operating parameter that is monitored for compliance determination, as required by §63.343(c);

(iii) The relevant emission limitation for the affected source, and the operating parameter value, or range of values, that correspond to compliance with this emission limitation as specified in the notification of compliance status required by paragraph (e) of this section;

(iv) The beginning and ending dates of the reporting period;

(v) A description of the type of process performed in the affected source;

(vi) The total operating time of the affected source during the reporting period;

(vii) If the affected source is a hard chromium electroplating tank and the owner or operator is limiting the maximum cumulative rectifier capacity in accordance with §63.342(c)(2), the actual cumulative rectifier capacity expended during the reporting period, on a month-by-month basis;

(viii) A summary of operating parameter values, including the total duration of excess emissions during the reporting period as indicated by those values, the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to process upsets, control equipment malfunctions, other known causes, and unknown causes;

(ix) A certification by a responsible official, as defined in §63.2, that the work practice standards in §63.342(f) were followed in accordance with the operation and maintenance plan for the source;

(x) If the operation and maintenance plan required by §63.342(f)(3) was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any excess emission and/or parameter monitoring exceedances are believed to have occurred, and a copy of the report(s) required by §63.342(f)(3)(iv) documenting that the operation and maintenance plan was not followed;

- (xi) A description of any changes in monitoring, processes, or controls since the last reporting period;
- (xii) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and
- (xiii) The date of the report.

(4) When more than one monitoring device is used to comply with the continuous compliance monitoring required by §63.343(c), the owner or operator shall report the results as required for each monitoring device. However, when one monitoring device is used as a backup for the primary monitoring device, the owner or operator shall only report the results from the monitoring device used to meet the monitoring requirements of this subpart. If both devices are used to meet these requirements, then the owner or operator shall report the results from each monitoring device for the relevant compliance period.

(h) *Ongoing compliance status reports for area sources.* The requirements of this paragraph do not alleviate affected area sources from complying with the requirements of State or Federal operating permit programs under 40 CFR part 71.

(1) The owner or operator of an affected source that is located at an area source site shall prepare a summary report to document the ongoing compliance status of the affected source. The report shall contain the information identified in paragraph (g)(3) of this section, shall be completed annually and retained on site, and made available to the Administrator upon request. The report shall be completed annually except as provided in paragraph (h)(2) of this section.

(2) *Reports of exceedances.* (i) If both of the following conditions are met, semiannual reports shall be prepared and submitted to the Administrator:

(A) The total duration of excess emissions (as indicated by the monitoring data collected by the owner or operator of the affected source in accordance with §63.343(c)) is 1 percent or greater of the total operating time for the reporting period; and

(B) The total duration of malfunctions of the add-on air pollution control device and monitoring equipment is 5 percent or greater of the total operating time.

(ii) Once an owner or operator of an affected source reports an exceedance as defined in paragraph (h)(2)(i) of this section, ongoing compliance status reports shall be submitted semiannually until a request to reduce reporting frequency under paragraph (h)(3) of this section is approved.

(iii) The Administrator may determine on a case-by-case basis that the summary report shall be completed more frequently and submitted, or that the annual report shall be submitted instead of being retained on site, if these measures are necessary to accurately assess the compliance status of the source.

(3) *Request to reduce frequency of ongoing compliance status reports.* (i) An owner or operator who is required to submit ongoing compliance status reports on a semiannual (or more frequent) basis, or is required to submit its annual report instead of retaining it on site, may reduce the frequency of reporting to annual and/or be allowed to maintain the annual report onsite if all of the following conditions are met:

(A) For 1 full year (e.g., 2 semiannual or 4 quarterly reporting periods), the ongoing compliance status reports demonstrate that the affected source is in compliance with the relevant emission limit;

(B) The owner or operator continues to comply with all applicable recordkeeping and monitoring requirements of subpart A of this part and this subpart; and

(C) The Administrator does not object to a reduced reporting frequency for the affected source, as provided in paragraphs (h)(3) (ii) and (iii) of this section.

(ii) The frequency of submitting ongoing compliance status reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change, and the

Administrator does not object to the intended change. In deciding whether to approve a reduced reporting frequency, the Administrator may review information concerning the source's previous performance history during the 5-year recordkeeping period prior to the intended change, or the recordkeeping period since the source's compliance date, whichever is shorter. Records subject to review may include performance test results, monitoring data, and evaluations of an owner or operator's conformance with emission limitations and work practice standards. Such information may be used by the Administrator to make a judgement about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce reporting frequency, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iii) As soon as the monitoring data required by §63.343(c) show that the source is not in compliance with the relevant emission limit, the frequency of reporting shall revert to semiannual, and the owner shall state this exceedance in the ongoing compliance status report for the next reporting period. After demonstrating ongoing compliance with the relevant emission limit for another full year, the owner or operator may again request approval from the Administrator to reduce the reporting frequency as allowed by paragraph (h)(3) of this section.

(i) *Reports associated with trivalent chromium baths.* The requirements of this paragraph do not alleviate affected sources from complying with the requirements of State or Federal operating permit programs under title V. Owners or operators complying with the provisions of §63.342(e) are not subject to paragraphs (a) through (h) of this section, but must instead submit the following reports:

(1) Within 180 days after January 25, 1995, submit an initial notification that includes:

(i) The same information as is required by paragraphs (c)(1) (i) through (v) of this section; and

(ii) A statement that a trivalent chromium process that incorporates a wetting agent will be used to comply with §63.342(e); and

(iii) The list of bath components that comprise the trivalent chromium bath, with the wetting agent clearly identified; and

(2) Within 30 days of the compliance date specified in §63.343(a), a notification of compliance status that contains an update of the information submitted in accordance with paragraph (i)(1) of this section or a statement that the information is still accurate; and

(3) Within 30 days of a change to the trivalent chromium electroplating process, a report that includes:

(i) A description of the manner in which the process has been changed and the emission limitation, if any, now applicable to the affected source;

(ii) If a different emission limitation applies, the applicable information required by paragraph (c)(1) of this section; and

(iii) The notification and reporting requirements of paragraphs (d), (e), (f), (g), and (h) of this section, which shall be submitted in accordance with the schedules identified in those paragraphs.

[60 FR 4963, Jan. 25, 1995, as amended at 61 FR 27787, June 3, 1996; 62 FR 4465, Jan. 30, 1997, 62 FR 42921, Aug. 11, 1997; 69 FR 42897, July 19, 2004]

§ 63.348 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 §§63.340, 63.342(a) through (e) and (g), and 63.343(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 37347, June 23, 2003]

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

| General provisions reference | Applies to subpart N | Comment |
|-------------------------------------|-----------------------------|--|
| 63.1(a)(1) | Yes | Additional terms defined in §63.341; when overlap between subparts A and N occurs, subpart N takes precedence. |
| 63.1(a)(2) | Yes | |
| 63.1(a)(3) | Yes | |
| 63.1(a)(4) | Yes | Subpart N clarifies the applicability of each paragraph in subpart A to sources subject to subpart N. |
| 63.1(a)(6) | Yes | |
| 63.1(a)(7) | Yes | |
| 63.1(a)(8) | Yes | |
| 63.1(a)(10) | Yes | |
| 63.1(a)(11) | Yes | §63.347(a) of subpart N also allows report submissions via fax and on electronic media. |
| 63.1(a)(12)–(14) | Yes | |
| 63.1(b)(1) | No | §63.340 of subpart N specifies applicability. |
| 63.1(b)(2) | Yes | |

| | | |
|-----------------|-----|---|
| 63.1(b)(3) | No | This provision in subpart A is being deleted. Also, all affected area and major sources are subject to subpart N; there are no exemptions. |
| 63.1(c)(1) | Yes | Subpart N clarifies the applicability of each paragraph in subpart A to sources subject to subpart N. |
| 63.1(c)(2) | Yes | §63.340(e) of Subpart N exempts area sources from the obligation to obtain Title V operating permits. |
| 63.1(c)(4) | Yes | |
| 63.1(c)(5) | No | Subpart N clarifies that an area source that becomes a major source is subject to the requirements for major sources. |
| 63.1(e) | Yes | |
| 63.2 | Yes | Additional terms defined in §63.341; when overlap between subparts A and N occurs, subpart N takes precedence. |
| 63.3 | Yes | Other units used in subpart N are defined in that subpart. |
| 63.4 | Yes | |
| 63.5(a) | Yes | Except replace the term “source” and “stationary source” in §63.5(a)(1) and (2) of subpart A with “affected sources.” |
| 63.5(b)(1) | Yes | |
| 63.5(b)(3) | Yes | Applies only to major affected sources. |
| 63.5(b)(4) | No | Subpart N (§63.345) specifies requirements for the notification of construction or reconstruction for affected sources that are not major. |
| 63.5(b)(5) | Yes | |
| 63.5(b)(6) | Yes | |
| 63.5(d)(1)(i) | No | §63.345(c)(5) of subpart N specifies when the application or notification shall be submitted. |
| 63.5(d)(1)(ii) | Yes | Applies to major affected sources that are new or reconstructed. |
| 63.5(d)(1)(iii) | Yes | Except information should be submitted with the Notification of Compliance Status required by §63.347(e) of subpart N. |
| 63.5(d)(2) | Yes | Applies to major affected sources that are new or reconstructed except: (1) replace “source” in §63.5(d)(2) of subpart A with “affected source”; and (2) actual control efficiencies are submitted with the Notification of Compliance Status required by §63.347(e). |
| 63.5(d)(3)–(4) | Yes | Applies to major affected sources that are new or reconstructed. |
| 63.5(e) | Yes | Applies to major affected sources that are new or reconstructed. |
| 63.5(f)(1) | Yes | Except replace “source” in §63.5(f)(1) of subpart A with “affected source.” |

| | | |
|--------------------|-----|--|
| 63.5(f)(2) | No | New or reconstructed affected sources shall submit the request for approval of construction or reconstruction under §63.5(f) of subpart A by the deadline specified in §63.345(c)(5) of subpart N. |
| 63.6(a) | Yes | |
| 63.6(b)(1)–(2) | Yes | Except replace “source” in §63.6(b)(1)–(2) of part A with “affected source.” |
| 63.6(b)(3)–(4) | Yes | |
| 63.6(b)(5) | Yes | Except replace “source” in §63.6(b)(5) of subpart A with “affected source.” |
| 63.6(b)(7) | No | Provisions for new area sources that become major sources are contained in §63.343(a)(4) of subpart N. |
| 63.6(c)(1)–(2) | Yes | Except replace “source” in §63.6(c)(1)–(2) of subpart A with “affected source.” |
| 63.6(c)(5) | No | Compliance provisions for existing area sources that become major sources are contained in §63.343(a)(3) of subpart N. |
| 63.6(e) | No | §63.342(f) of subpart N contains work practice standards (operation and maintenance requirements) that override these provisions. |
| 63.6(f)(1) | No | §63.342(b) of subpart N specifies when the standards apply. |
| 63.6(f)(2)(i)–(ii) | Yes | |
| 63.6(f)(2)(iii) | No | §63.344(b) of subpart N specifies instances in which previous performance test results for existing sources are acceptable. |
| 63.6(f)(2)(iv) | Yes | |
| 63.6(f)(2)(v) | Yes | |
| 63.6(f)(3) | Yes | |
| 63.6(g) | Yes | |
| 63.6(h) | No | Subpart N does not contain any opacity or visible emission standards. |
| 63.6(i)(1) | Yes | |
| 63.6(i)(2) | Yes | Except replace “source” in §63.6(i)(2)(i) and (ii) of subpart A with “affected source.” |
| 63.6(i)(3) | Yes | |
| 63.6(i)(4)(i) | No | §63.343(a)(6) of subpart N specifies the procedures for obtaining an extension of compliance and the date by which such requests must be submitted. |
| 63.6(i)(4)(ii) | Yes | |

| | | |
|-----------------------|-----|---|
| 63.6(i)(5) | Yes | |
| 63.6(i)(6)(i) | Yes | This paragraph only references “paragraph (i)(4) of this section” for compliance extension provisions. But, §63.343(a)(6) of subpart N also contains provisions for requesting a compliance extension. |
| 63.6(i)(6)(ii) | Yes | |
| 63.6(i)(7) | Yes | |
| 63.6(i)(8) | Yes | This paragraph only references “paragraphs (i)(4) through (i)(6) of this section” for compliance extension provisions. But, §63.343(a)(6) of subpart N also contains provisions for requesting a compliance extension. |
| 63.6(i)(9) | Yes | This paragraph only references “paragraphs (i)(4) through (i)(6) of this section” and “paragraphs (i)(4) and (i)(5) of this section” for compliance extension provisions. But, §63.343(a)(6) of subpart N also contains provisions for requesting a compliance extension. |
| 63.6(i)(10)(i)–(iv) | Yes | |
| 63.6(i)(10)(v)(A) | Yes | This paragraph only references “paragraph (i)(4)” for compliance extension provisions. But, §63.343(a)(6) of subpart N also contains provisions for requesting a compliance extension. |
| 63.6(i)(10)(v)(B) | Yes | |
| 63.6(i)(11) | Yes | |
| 63.6(i)(12)(i) | Yes | This paragraph only references “paragraph (i)(4)(i) or (i)(5) of this section” for compliance extension provisions. But, §63.343(a)(6) of subpart N also contains provisions for requesting a compliance extension. |
| 63.6(i)(12)(ii)–(iii) | Yes | |
| 63.6(i)(13) | Yes | |
| 63.6(i)(14) | Yes | |
| 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)(ix) | Yes | |
| 63.7(a)(3) | Yes | |
| 63.7(b)(1) | No | §63.347(d) of subpart N requires notification prior to the performance test. §63.344(a) of subpart N requires submission of a |

| | | |
|----------------------|-----|--|
| | | site-specific test plan upon request. |
| 63.7(b)(2) | Yes | |
| 63.7(c) | No | §63.344(a) of subpart N specifies what the test plan should contain, but does not require test plan approval or performance audit samples. |
| 63.7(d) | Yes | Except replace “source” in the first sentence of §63.7(d) of subpart A with “affected source.” |
| 63.7(e) | Yes | Subpart N also contains test methods specific to affected sources covered by that subpart. |
| 63.7(f) | Yes | §63.344(c)(2) of subpart N identifies CARB Method 425 as acceptable under certain conditions. |
| 63.7(g)(1) | No | Subpart N identifies the items to be reported in the compliance test [§63.344(a)] and the timeframe for submitting the results [§63.347(f)]. |
| 63.7(g)(3) | Yes | |
| 63.7(h)(1)–(2) | Yes | |
| 63.7(h)(3)(i) | Yes | This paragraph only references “§63.6(i)” for compliance extension provisions. But, §63.343(a)(6) of subpart N also contains provisions for requesting a compliance extension. |
| 63.7(h)(3)(ii)–(iii) | Yes | |
| 63.7(h)(4)–(5) | Yes | |
| 63.8(a)(1) | Yes | |
| 63.8(a)(2) | No | Work practice standards are contained in §63.342(f) of subpart N. |
| 63.8(a)(4) | No | |
| 63.8(b)(1) | Yes | |
| 63.8(b)(2) | No | §63.344(d) of subpart N specifies the monitoring location when there are multiple sources. |
| 63.8(b)(3) | No | §63.347(g)(4) of subpart N identifies reporting requirements when multiple monitors are used. |
| 63.8(c)(1)(i) | No | Subpart N requires proper maintenance of monitoring devices expected to be used by sources subject to subpart N. |
| 63.8(c)(1)(ii) | No | §63.342(f)(3)(iv) of subpart N specifies reporting when the O&M plan is not followed. |
| 63.8(c)(1)(iii) | No | §63.343(f)(2) identifies the criteria for whether O&M procedures are acceptable. |
| 63.8(c)(2)–(3) | No | §63.344(d)(2) requires appropriate use of monitoring devices. |

| | | |
|--------------------|-----|---|
| 63.8(c)(4)–(7) | No | |
| 63.8(d) | No | Maintenance of monitoring devices is required by §§63.342(f) and 63.344(d)(2) of subpart N. |
| 63.8(e) | No | There are no performance evaluation procedures for the monitoring devices expected to be used to comply with subpart N. |
| 63.8(f)(1) | Yes | |
| 63.8(f)(2) | No | Instances in which the Administrator may approve alternatives to the monitoring methods and procedures of subpart N are contained in §63.343(c)(8) of subpart N. |
| 63.8(f)(3) | Yes | |
| 63.8(f)(4) | Yes | |
| 63.8(f)(5) | Yes | |
| 63.8(f)(6) | No | Subpart N does not require the use of CEM's. |
| 63.8(g) | No | Monitoring data does not need to be reduced for reporting purposes because subpart N requires measurement once/day. |
| 63.9(a) | Yes | |
| 63.9(b)(1)(i)–(ii) | No | §63.343(a)(3) of subpart N requires area sources to comply with major source provisions if an increase in HAP emissions causes them to become major sources. |
| 63.9(b)(1)(iii) | No | §63.347(c)(2) of subpart N specifies initial notification requirements for new or reconstructed affected sources. |
| 63.9(b)(2) | No | §63.347(c)(1) of subpart N specifies the information to be contained in the initial notification. |
| 63.9(b)(3) | No | §63.347(c)(2) of subpart N specifies notification requirements for new or reconstructed sources that are not major affected sources. |
| 63.9(b)(4) | No | |
| 63.9(b)(5) | No | |
| 63.9(c) | Yes | This paragraph only references “§63.6(i)(4) through §63.6(i)(6)” for compliance extension provisions. But, §63.343(a)(6) of subpart N also contains provisions for requesting a compliance extension. Subpart N provides a different timeframe for submitting the request than §63.6(i)(4). |
| 63.9(d) | Yes | This paragraph only references “the notification dates established in paragraph (g) of this section.” But, §63.347 of subpart N also contains notification dates. |
| 63.9(e) | No | Notification of performance test is required by §63.347(d) of subpart N. |

| | | |
|----------------|-----|---|
| 63.9(f) | No | |
| 63.9(g) | No | Subpart N does not require a performance evaluation or relative accuracy test for monitoring devices. |
| 63.9(h)(1)–(3) | No | §63.347(e) of subpart N specifies information to be contained in the notification of compliance status and the timeframe for submitting this information. |
| 63.9(h)(5) | No | Similar language has been incorporated into §63.347(e)(2)(iii) of subpart N. |
| 63.9(h)(6) | Yes | |
| 63.9(i) | Yes | |
| 63.9(j) | Yes | |
| 63.10(a) | Yes | |
| 63.10(b)(1) | Yes | |
| 63.10(b)(2) | No | §63.346(b) of subpart N specifies the records that must be maintained. |
| 63.10(b)(3) | No | Subpart N applies to major and area sources. |
| 63.10(c) | No | Applicable requirements of §63.10(c) have been incorporated into §63.346(b) of subpart N. |
| 63.10(d)(1) | Yes | |
| 63.10(d)(2) | No | §63.347(f) of subpart N specifies the timeframe for reporting performance test results. |
| 63.10(d)(3) | No | Subpart N does not contain opacity or visible emissions standards. |
| 63.10(d)(4) | Yes | |
| 63.10(d)(5) | No | §63.342(f)(3)(iv) and §63.347(g)(3) of subpart N specify reporting associated with malfunctions. |
| 63.10(e) | No | §63.347(g) and (h) of subpart N specify the frequency of periodic reports of monitoring data used to establish compliance. Applicable requirements of §63.10(e) have been incorporated into §63.347(g) and (h). |
| 63.10(f) | Yes | |
| 63.11 | No | Flares will not be used to comply with the emission limits. |
| 63.12–63.15 | Yes | |

[60 FR 4963, Jan. 25, 1995, as amended at 61 FR 27787, June 3, 1996; 70 FR 75345, Dec. 19, 2005]

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Background and Description

| | |
|---------------------|---|
| Source Name: | R.R. Donnelley & Sons Company |
| Source Location: | 2801 West Old Road 30, Warsaw, Indiana 46581-0837 |
| County: | Kosciusko |
| SIC Code: | 2754 |
| Permit Renewal No.: | T085-23864-00009 |
| Permit Reviewer: | Michael S. Brooks |

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from R.R. Donnelley & Sons Company relating to the publication rotogravure printing operation.

History

On November 6, 2006, R.R. Donnelley & Sons Company submitted an application to the OAQ requesting to renew its operating permit.

Permitted Emission Units and Pollution Control Equipment

- (a) Four (4) natural gas or No. 2 fuel oil fired boilers described as follows:
- (1) B1 and B2 installed in October of 1979, each with a maximum rated capacity of 85 MMBtu/hr,
 - (2) B3, installed in July of 1971 with a maximum rated capacity of 78 MMBtu/hr,
 - (3) B4, installed in June of 1994, with a maximum rated capacity of 98.4 MMBtu/hr. Under 40 CFR 60.40c, Subpart Dc, this is considered an existing small industrial-commercial-institutional steam generating unit.
- (b) Twelve (12) publication rotogravure printing presses, each using a carbon adsorption solvent recovery system with seventeen (17) adsorbers as control, Under 40 CFR 63.820, Subpart KK, these are considered an existing printing and publishing industry operation, described as follows:
- (1) WR-429, a tandem press with a maximum printing width of 70 inches and a maximum line speed of 2460 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
 - (2) WRO-487, with a maximum printing width of 69 inches and a maximum line speed of 2000 feet per minute,
 - (3) WRO-488 and WRO-489, installed in February 1978, with each press having a maximum printing width of 70 inches and a maximum line speed of 2460 feet per minute,
 - (4) WRO-490, installed in August 1989, a tandem press with a maximum printing width of 70 inches and a maximum line speed of 2756 feet per minute. Under 40

- CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
- (5) WRO-491, WRO-492, and WRO-493, installed in August 1994, February 1995 and October 2002, respectively, with each press having a maximum printing width of 125 inches and a maximum line speed of 3000 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, these are considered an existing graphic arts industry: publication rotogravure printing operation.
 - (6) WR-444, installed in December of 1996, with a maximum printing width of 78 3/4 inches and a maximum line speed of 2450 feet per minute, and, although not required by rule, enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, this is considered an existing graphic arts industry: publication rotogravure printing operation.
 - (7) WR-441, WR-442, WR-443, installed in December of 1996, with each press having a maximum printing width of 78 3/4 inches and a maximum line speed of 2450 feet per minute, and enclosed by permanent total enclosure (PTE). Under 40 CFR 60.430, Subpart QQ, these are considered an existing graphic arts industry: publication rotogravure printing operation.
- (c) One (1) gravure cylinder wash machine, identified as GCW, installed in April of 1995, located in the east plant. Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
 - (d) One (1) gravure parts press parts washer, identified as GPW, installed in 1991, located in the east plant. Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
 - (e) One (1) gravure cylinder wash machine, identified as WCWM, installed in May of 2000, located in the west plant, using the carbon adsorption solvent recovery system and enclosed by permanent total enclosure (PTE). Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
 - (f) One (1) gravure press parts washer, identified as WGPW, installed in May of 2000, located in the west plant, enclosed by permanent total enclosure (PTE). Under 40 CFR 63.820, Subpart KK, this is considered an existing printing and publishing industry operation.
 - (g) Two (2) chromium plating lines, CR1 and CR2, installed in February and March of 2007, using a composite mesh pad system with a hepafilter as control, each having two (2) rectifiers with a maximum combined capacity of 18,000 amps for each tank. Under 40 CFR 63.340, Subpart N, this is considered existing chromium emissions from hard and decorative chromium electroplating and chromium anodizing tanks.
 - (h) One (1) pneumatic dust and paper trim collection system located in the east plant and consisting of the following:
 - (1) One (1) cyclone, identified as EPC-3, installed in May of 1994, exhausting to one (1) baghouse, identified as EPBH-C, installed in June of 1994,
 - (2) One (1) cyclone, identified as EPC-1, installed in October of 2003.
 - (3) One (1) cyclone, identified as EPC-2, installed in 1978,

- (4) One (1) cyclone concentrator, identified as EPCON-5, installed in June of 1995, exhausting to one (1) baghouse, EPBH-G, installed in September of 2003, EPCON-5 concentrated paper sent to EPC-3,
 - (5) Three (3) baghouses, identified as EPBH-C, EPBH-D, installed in June of 1994, and EPBH-E, with collected dust sent to one (1) dust auger, silo, and baghouse (EPBH-F) system,
 - (6) One (1) Baghouse EPBH-G, installed in September of 2003.
 - (7) One (1) cyclone, identified as EPC-4, with air exhausting to one (1) baghouse, EPBH-D with concentrated dust sent to one (1) dust auger, silo, and baghouse (EPBH-F) system.
- (i) One (1) pneumatic paper trim collection system located in the west plant and consisting of the following:
- (1) One (1) cyclone, identified as WPC-1, installed in June of 1969,
 - (2) One (1) cyclone, identified as WPC-2, installed in June of 1969,
 - (3) One (1) cyclone concentrator, identified as WPCON-3, installed in August of 1993, modified in June 2002, with concentrated paper sent primarily to a cyclone, WPC-1 or secondarily to WPC-2, exhausting to the atmosphere.
 - (4) One (1) cyclone concentrator, identified as WPCON-4, installed in August of 1993, modified June 2002, which has a maximum capacity of 10,500 pounds per hour, with concentrated paper sent primarily to cyclone WPC-1, or secondarily to WPC-2,
 - (5) One (1) cyclone concentrator, identified as WPCON-5, installed in June 2002, which has a maximum capacity of 10,500 pounds per hour, with concentrated paper sent primarily to cyclone WPC-1, or secondarily to WPC-2.
- (j) Five (5) cylinder making finishing sinks located in the east plant, identified as EPFS-1 through EPFS-5, installed in September of 1994,
- (k) One (1) wastewater treatment system located in the east plant and consisting of:
- (1) One (1) 800-gallon solvent/water separator, identified as WWT-4, installed in 2003,
 - (2) One (1) 1000-gallon solvent/water separator, identified as WWT-2, installed in 1985,
 - (3) One (1) 17,800-gallon air sparging tank, identified as WWT-3, installed in 1985.
- (l) Two (2) cylinder making finishing sink stations located in the west plant, identified as WPFS-1, installed in April of 1990, and WPFS-2, originally installed in the east plant in September 1994 and relocated to the west plant in March 2007.
- (m) Thirty-seven (37) storage tanks, installed in dates ranging from 1960 through 1989.
- (n) Eight (8) portable ink jet printers located in the east and west plants, identified as Ink Jet #1 through Ink Jet #8, each with a nominal throughput of 0.93 pounds of black ink and replenisher per hour, and one of which is an alternate ink jet printer with a maximum

throughput of 0.064 pounds of ink, makeup and cleaner solvent per hour, with multiple exhaust stacks and associated ventilation ductwork, identified as IJP.

- (o) One (1) Heidelberg-Harris heatset web offset lithographic printing press with eight (8) units and two (2) webs identified as Press WM-401 with a maximum line speed of 1800 feet per minute and a maximum printing width of 38 inches, with associated in-line equipment and VOC emissions controlled by a regenerative thermal oxidizer, identified as RTO-1; and
- (p) One (1) Goss heatset web offset lithographic printing press with eight (8) units and two (2) webs identified as Press WM-402 with a maximum speed of 2500 feet per minute and a maximum printing width of 38 inches, with associated in-line equipment and VOC emissions controlled by a regenerative thermal oxidizer, identified as RTO-1.

Insignificant Activities

This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1 (21).

Existing Approvals

Since the issuance of the Part 70 Operating Permit 085-6040-00009 on August 5, 2002, the source has constructed or has been operating under the following approvals as well:

- (a) Administrative Amendment No. 085-16533-00009 issued on October 4, 2002;
- (b) Administrative Amendment No. 085-17386-00009 issued on June 30, 2003;
- (c) Administrative Amendment No. 085-18023-00009 issued on September 8, 2003;
- (d) Significant Source Modification No. 085-17834-00009 issued on December 3, 2003;
- (e) Significant Permit Modification No. 085-18151-00009 issued on December 5, 2003;
- (f) Significant Permit Modification No. 085-18435-00009 issued on February 16, 2004;
- (g) Significant Source Modification No. 085-18172-00009 issued on March 22, 2004;
- (h) Administrative Amendment No. 085-18825-00009 issued on April 14, 2004;
- (i) Administrative Amendment No. 085-18925-00009 issued on September 8, 2004;
- (j) Significant Source Modification No. 085-20370-00009 issued on March 31, 2005;
- (k) Significant Permit Modification No. 085-20472-00009 issued on April 18, 2005;
- (l) Significant Permit Modification No. 085-21923-00009 issued on March 2, 2006;
- (m) Significant Permit Modification No. 085-23758-00009 issued on February 21, 2007; and
- (n) Administrative Amendment No. 085-24838-00009 issued on July 31, 2007.

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

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A of this document.

County Attainment Status

The source is located in Kosciusko County.

| Pollutant | Designation |
|------------------|---|
| SO ₂ | Better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| O ₃ | Unclassifiable or attainment as of June 15, 2004, 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 | Not designated. |

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective 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 (NOx) 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 NOx emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) Kosciusko County has been classified as attainment for PM2.5. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules is July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

- (c) **Other Criteria Pollutants**
Kosciusko County has been classified as attainment or unclassifiable in Indiana for the remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) **Fugitive Emissions**
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive emissions are not counted toward the determination of PSD applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

| Pollutant | tons/year |
|------------------|------------------|
| PM | >250 |
| PM ₁₀ | >250 |
| SO ₂ | 76.90 |
| VOC | >250 |
| CO | 127.40 |
| NO _x | 216.70 |

| HAPs | tons/year |
|--------------|------------------|
| Chromium | <10 |
| xylene | >10 |
| toluene | >10 |
| Total | >25 |

The Permittee has agreed that this source is major for Part 70 Permits 326 IAC 2-7 and Prevention of Significant Deterioration (PSD) 326 IAC 2-2 for VOC, and Hazardous Air Pollutants 326 IAC 20.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀, VOC, CO, and NO_x is 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 SO₂ pollutant is less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (d) Since 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.

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 | 4 |
| PM ₁₀ | 4 |
| SO ₂ | 0 |
| VOC | 351 |
| CO | 19 |
| NO _x | 23 |
| HAP (specify) | Not Reported |

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

- (a) This existing stationary source is major for PSD because the emissions of VOC are greater than two hundred fifty (>250) tons per year, and it is not one of the twenty-eight (28) listed source categories.
- (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.

Federal Rule Applicability

CAM:

Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to existing emission units that involve a pollutant-specific emission unit and meet the following criteria:

- (1) have a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
- (2) are subject to an emission limitation or standard for that pollutant; and
- (3) use a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

| 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) |
|---------------------------|---------------------|---------------------------|------------------------------|----------------------------|------------------------------------|----------------------|------------------|
| WM-401 (VOC) | RTO | Y | 437.08 | 33.35 | 100 | Y | N |
| WM-402 (VOC) | RTO | Y | 1858.97 | 92.23 | 100 | Y | N |
| WR-429 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WRO-487 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WRO-488 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WRO-489 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WRO-490 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WRO-491 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WRO-492 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WRO-493 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WR-444 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WR-441 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WR-442 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |
| WR-443 (VOC) | adsorber | Y | >100 | <100 | 100 | Y | N |

The two (2) heatset web offset lithographic printing presses have uncontrolled PTE at greater than 100 percent of the applicable major Part 70 threshold, each uses a control device (RTO) as defined in 40 CFR 64.1 to comply with the VOC emission limitation. The presses meet the criteria for Compliance Assurance Monitoring applicability. 40 CFR Part 64, Compliance Assurance Monitoring, is applicable to the two (2) heatset web offset lithographic printing presses.

The Permittee submitted a CAM plan on November 12, 2004. The monitoring requirements for two (2) heatset web offset lithographic printing presses will satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring.

Based on this evaluation the requirements of 40 CFR Part 64 CAM is applicable to WR-429, WRO-487 - 493, and WR-441 - 443 for VOCs upon issuance of the Title V Renewal. The existing Compliance Monitoring Requirements satisfy the CAM requirements. See the Compliance Monitoring section of this TSD for the detailed CAM requirements.

NSPS:

- (a) R.R. Donnelley & Sons Company is subject to the New Source Performance Standard for Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60.40c, Subpart Dc), which is incorporated by reference as 326 IAC 12. The following unit is subject to this rule:

Boiler (B4) which has a capacity greater than 10 MMBtu per hour and was constructed after the NSPS applicability date of June 9, 1989.

R.R. Donnelley & Sons Company is subject to the following portions of Subpart Dc:

- (1) 40 CFR 60.40c

- (2) 40 CFR 60.41c
- (3) 40 CFR 60.42c(d)(g)(h)(i)
- (4) 40 CFR 60.43c(c)(d)
- (5) 40 CFR 60.44c
- (6) 40 CFR 60.45c
- (7) 40 CFR 60.46c
- (8) 40 CFR 60.47c
- (9) 40 CFR 60.48c

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart Dc.

- (b) R.R. Donnelley & Sons Company is subject to the New Source Performance Standard for Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing (40 CFR 60.430, Subpart QQ), which is incorporated by reference as 326 IAC 12. The units subject to this rule include the following:
- (1) Rotogravure presses WR-429, WR-441, WR-442, WR-443, WR-444, WRO-490, WRO-491, WRO-492 and WRO-493 were constructed after the NSPS applicability date of October 28, 1980.
 - (2) Rotogravure presses WRO-487, WRO-488, and WRO-489 are not subject to the requirements of the New Source Performance Standard (40 CFR 60.430, Subpart QQ), because they were constructed before the applicability date of October 28, 1980.

R.R. Donnelley & Sons Company is subject to the following portions of Subpart QQ:

- (1) 40 CFR 60.430
- (2) 40 CFR 60.431
- (3) 40 CFR 60.432
- (4) 40 CFR 60.433
- (5) 40 CFR 60.434
- (6) 40 CFR 60.435

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart QQ.

NESHAP:

- (a) R.R. Donnelley & Sons Company is subject to the National Emission Standards for Hazardous Air Pollutants for the Printing and Publishing Industry (40 CFR 63.820,

Subpart KK), which is incorporated by reference as 326 IAC 20-18. The units subject to this rule, each new and existing facility that is a major source of hazardous air pollutants (HAP), as defined in 40 CFR 63.2, at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated, include the following:

- (1) Twelve (12) publication rotogravure printing presses, each using a carbon adsorption solvent recovery system with seventeen (17) adsorbers as control, described as follows:
 - (A) WR-429, a tandem press with a maximum printing width of 70 inches and a maximum line speed of 2460 feet per minute, and enclosed by a permanent total enclosure (PTE);
 - (B) WRO-487, with a maximum printing width of 69 inches and a maximum line speed of 2000 feet per minute;
 - (C) WRO-488 and WRO-489, with each press having a maximum printing width of 70 inches and a maximum line speed of 2460 feet per minute;
 - (D) WRO-490, a tandem press with a maximum printing width of 70 inches and a maximum line speed of 2756 feet per minute;
 - (E) WRO-491, WRO-492, and WRO-493, installed in August 1994, February 1995 and October 2002, respectively, with each press having a maximum printing width of 125 inches and a maximum line speed of 3000 feet per minute, and enclosed by a permanent total enclosure;
 - (F) WR-444, installed in December of 1996, with a maximum printing width of 78 3/4 inches and a maximum line speed of 2450 feet per minute, and, although not required by rule, enclosed by a permanent total enclosure; and
 - (G) WR-441, WR-442, WR-443, installed in December of 1996, with each press having a maximum printing width of 78 3/4 inches and a maximum line speed of 2450 feet per minute, and enclosed by a permanent total enclosure.
- (2) One (1) gravure cylinder wash machine, identified as GCW, installed in April of 1995, located in the east plant.
- (3) One (1) gravure parts press parts washer, identified as GPW, installed in 1991, located in the east plant.
- (4) One (1) gravure cylinder wash machine, identified as WCWM, installed in May of 2000, located in the west plant, using the carbon adsorption solvent recovery system and enclosed by a permanent total enclosure.
- (5) One (1) gravure press parts washer, identified as WGPW, installed in May of 2000, located in the west plant, enclosed by a permanent total enclosure.

R.R. Donnelley & Sons Company is subject to the following portions of Subpart KK:

- (1) 40 CFR 63.820
- (2) 40 CFR 63.821

- (3) 40 CFR 63.822
- (4) 40 CFR 63.823
- (5) 40 CFR 63.824
- (6) 40 CFR 63.825
- (7) 40 CFR 63.826
- (8) 40 CFR 63.827
- (9) 40 CFR 63.828
- (10) 40 CFR 63.829
- (11) 40 CFR 63.830
- (12) 40 CFR 63.831

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart KK.

- (b) R.R. Donnelley & Sons Company is subject to the National Emission Standards for Hazardous Air Pollutants for National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks (40 CFR 63.340, Subpart N), which is incorporated by reference as 326 IAC 20-8. The units subject to this rule include the following:

Two (2) chromium plating lines, CR1 and CR2, installed in February and March of 2007, using a composite mesh pad system with a hepafilter as control, each having two (2) rectifiers with a maximum combined capacity of 18,000 amps for each existing hard and decorative chromium electroplating and chromium anodizing tank.

R.R. Donnelley & Sons Company is subject to the following portions of Subpart N:

- (1) 40 CFR 63.340
- (2) 40 CFR 63.341
- (3) 40 CFR 63.342
- (4) 40 CFR 63.343
- (5) 40 CFR 63.344
- (6) 40 CFR 63.346
- (7) 40 CFR 63.347
- (8) 40 CFR 63.348

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart N.

State Rule Applicability - Entire Source

326 IAC 2-2 (PSD BACT Limitations)

The specific facilities have the following limitations:

- (a) Pursuant to CP 085-3117-00009, issued December 10, 1993 and CP 085-4396-00009, issued on November 27, 1995, BACT is as follows for presses WRO-491, WRO-492 and WRO-493:
 - (1) Daily adsorber efficiency of no less than 95%;
 - (2) Rolling 12 month average of no less than 98% adsorber efficiency; and
 - (3) Permanent total enclosure (PTE) which is equivalent to 100% capture efficiency.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)

Rotogravure presses WRO-487, WRO-488, WRO-489 were constructed prior to the applicability date June 19, 1978. Pursuant to the Construction Permit for Press WR-429, some of the emissions reductions obtained by adding controls to these presses were used to net out of later PSD requirements. Therefore, rotogravure press WRO-487 shall have a ducted capture system to the solvent recovery system with total control efficiency of no less than 75% on a monthly basis.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)

This source is a major PSD source and the following presses have VOC limits such that PSD rules shall not apply:

- (a) for rotogravure press WR-429;
 - (1) shall not exceed 34,550 tons, per twelve (12) consecutive month period, of VOC input (691 ton/yr VOC emissions).
- (b) for rotogravure press WRO-490;
 - (1) shall not exceed 4,910 tons, per twelve (12) consecutive month period of VOC input with compliance determined at the end of each month, and
 - (2) solvent recovery overall efficiency of no less than 87%.
- (c) for rotogravure presses WR-441, WR-442, and WR-443;
 - (1) shall not exceed 9,468 tons, per twelve (12) consecutive month period of VOC input, and
 - (2) no less than 98% adsorber efficiency, and
 - (3) Permanent total enclosure (PTE) (100% capture).
- (d) for rotogravure press WR-444;
 - (1) shall not exceed 3,120 tons, per twelve (12) consecutive month period of VOC input.
- (e) for the parts and cylinder washers, WGPW and WCWM:
 - (1) The VOC input shall be less than 500 tons, per twelve (12) consecutive month period, with compliance determined at the end of each month. When operating the carbon adsorption system to achieve this limit, the carbon adsorption system

shall maintain an overall control efficiency of 98% per twelve (12) consecutive month period, and

- (2) In the event that the carbon adsorption system is not operating, the amount of VOC input to the parts and cylinder washers shall be limited such that the VOC input with the carbon adsorption system operating times 0.02 added to the VOC input with the carbon adsorption system not operating shall not exceed VOC emissions of ten (10) tons per twelve (12) consecutive month period.

Pursuant to T085-6040-00009 issued on August 5, 2002, boilers B1, B2, and B4 shall have the following SO₂ limits such that PSD rules shall not apply:

- (a) for boilers B1 and B2;

- (1) 0.5 lb of SO₂ per MMBtu for distillate oil combustion.
- (2) combined SO₂ emissions from B1 and B2 shall not exceed 245 tons per twelve (12) consecutive month period.

$((B1 \text{ No. 2 fuel oil usage per month} + B2 \text{ No. 2 fuel oil usage per month}) * (\text{SO}_2 \text{ EF for No. 2 fuel})) \leq \text{an average of 245 tons per 12 consecutive month period.}$

Where the EF for No.2 fuel shall be based on the sulfur content of the fuel burned and the AP-42 emission factors for boilers of less than 100 MMBtu/hr from Table 1.3-1 of AP-42 updated September 1998.

- (b) for boiler B4;

- (1) No. 2 fuel oil consumption not to exceed 3950 kgal per twelve (12) consecutive month period with a sulfur content not to exceed 0.05%.
- (2) For every 1 MMCF of Natural Gas used the No. 2 fuel oil consumption shall be reduced by 5 kgal.

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. Since this source has the potential to emit emissions greater than 250 tons per year of volatile organic compounds it falls under 326 IAC 2-6-3(a)(1)(B) and must comply with the compliance schedule specified in 326 IAC 2-6-3(a)(1). Therefore an emission statement, covering the previous year, must be submitted annually 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 (Boilers)

326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating)

Boilers B3, B2, and B1 are subject to this rule. Particulate matter emissions from these boilers shall be limited to 0.8, 0.34, and 0.34 lb/MMBtu by the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

- where Pt = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input;
- C = maximum ground level concentration with respect to distance from the point source at the “critical” wind speed for level terrain. This shall equal 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for a period not to exceed a sixty (60) minute time period;
- Q = total source maximum operating capacity rating in million Btu per hour (MMBTU/hr) heat input;
- N = number of stacks in fuel burning operation;
- a = plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBTU/hr heat input. The value 0.8 shall be used for Q greater than 1,000 MMBTU/hr heat input; and
- h = stack height in feet. If a number of stacks of different heights exist, the average stack height to represent “N” stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^N H_i \times pa_i \times Q}{\sum_{i=1}^N pa_i \times Q}$$

- where:
- pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to CP 085-3117-00009, issued on December 10, 1993, Boiler B4 is subject to this rule because it was constructed after the applicability date of September 21, 1983. Particulate matter emissions from this boiler shall be limited to 0.24 lb/MM Btu by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

- where Pt = pounds of particulate matter emitted per million Btu (lb/MMBTU) heat input; and
- Q = total source maximum operating capacity rating in million Btu per hour (MMBTU/hr) heat input.

326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)

The boilers B1 through B4 utilize No. 2 Fuel Oil and have a potential to emit sulfur dioxide emissions, therefore, they are subject to this rule. Sulfur dioxide emissions from these boilers shall be limited to five-tenths (0.5) pound per million Btu for distillate oil combustion.

State Rule Applicability – Individual Facilities (Graphics Arts Operations)

326 IAC 8-5-5 (Graphic Arts Operations)

The publication rotogravure presses are subject to this rule because every press has potential emissions of volatile organic compounds which are greater than one hundred (100) tons per year. No owner or operator of a facility subject to this section and employing solvent-containing ink may cause, allow, or permit the operation of the facility unless:

- (a) the volatile fraction of the ink, as it is applied to the substrate, contains twenty-five percent (25%) by volume or less of volatile organic compound and seventy-five percent (75%) by volume or more of water;
- (b) the ink as it is applied to the substrate, less water, contains sixty percent (60%) by volume or more nonvolatile material;
- (c) the owner or operator installs and operates a carbon adsorption system that reduces the volatile organic emissions from the capture system by at least ninety percent (90%) by weight;

A capture system must be used in conjunction with the emission control systems and shall attain an efficiency sufficient to achieve an overall control efficiency, in conjunction with the emission control system of seventy-five percent (75%) for publication rotogravure processes.

State Rule Applicability – Individual Facilities (Pneumatic Collection Systems)

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

The allowable PM emission rate from the pneumatic paper dust and trim collection in the east plant system shall not exceed allowable PM emission rate of 20.3 pounds per hour based on a process weight rate of 10.19 tons of paper per hour using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

The allowable PM emission rate from the three (3) waste paper concentrators in the west plant system, WPCON- 3, WPCON-4, and WPCON-5, and the two (2) cyclones, WPC-1 and WPC-2, shall not exceed allowable PM emission rate of 26.00 pounds per hour based on a process weight rate of 31,500 pounds of paper per hour using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emissions from the Cyclone EPC-1 and Dust Auger and Silo shall be limited as follows:

| Facility | Process Weight Rate | Particulate Emissions Limit (lb/hr) |
|---------------------|---------------------|-------------------------------------|
| Cyclone EPC-1 | 4.0 | 10.4 |
| Dust Auger and Silo | 2.25 | 7.1 |

These limits shall be determined using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

State Rule Applicability – Individual Facilities (Heatset Web Offset Lithographic Printing Presses)

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

Facilities constructed after January 1, 1980, with potential VOC emissions greater than 25 tons per year are subject to 326 IAC 8-1-6. The two (2) heatset web offset lithographic presses have potential VOC emissions greater than 25 tons per year. Therefore, they are subject to the requirements of 326 IAC 8-1-6.

Pursuant to 085-20472-00009, issued December 10, 1993, the BACT for the two (2) heatset web offset lithographic presses has been determined as follows:

- (a) The exhaust shall be vented to the Regenerative Thermal Oxidizer (RTO-1) with a minimum of 97% destruction efficiency for VOC;
- (b) The VOC content of the Fountain solution shall be no greater than 3% VOC as applied;
- (c) The Blanket and Roller washes shall have a vapor pressure no greater than 10 mm Hg at 20 °C or the VOC content shall be limited to 2.5 lb/gal as applied; and
- (d) The capture efficiencies used for reporting compliance shall be as follows and are based on USEPA's "Alternative Control Techniques Document: Offset Lithographic Printing" (EPA 453/R-94-054, June 1994)
 - (1) 100 percent capture, by weight, of the VOC in press ready inks;
 - (2) 70 percent capture, by weight, of the VOC in press ready fountain solutions; and
 - (3) 40 percent capture, by weight, of the VOC in press ready automatic cleaning solvents.
 - (4) 20 percent retention, by weight, of VOC in inks in the paper substrate; and
 - (5) 50 percent retention, by weight, of manual cleaning solvents in the cleaning wipers. Cleaning wipers shall always be placed in closed containers after use.

State Rule Applicability – Individual Facilities (Gravure Washers)

326 IAC 8-3 (Organic Solvent Degreasing Operations)

The gravure cylinder wash machines, GCW and WCWM, and the gravure press parts washers, GPW and WGPW, are subject to this rule because they are cold cleaners and were constructed after the July 1, 1990 applicability date. However GCW, WCWM, and GPW are not subject to 326 IAC 8-3-5 because they do not have remote solvent reservoirs. Pursuant to 326 IAC 8-3-2, the owner or operator of these cold cleaning facilities shall:

- (a) equip each cleaner with a cover,
- (b) equip each 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 operating requirements, and
- (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.

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.

The compliance monitoring requirements applicable to this source are as follows:

- (a) The boilers have applicable compliance monitoring conditions as specified below:
 - (1) The Permittee will conduct one visible emission notation during normal operations at least once per week for each week during which the respective boiler is operated. A trained employee or other trained observer 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 or observer is someone who has been trained in the appearance and characteristics of normal visible emissions for that specific process.
 - (5) 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

These monitoring conditions are necessary because the boilers must operate properly to ensure compliance with 326 IAC 6-2-3, 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating) and 326 IAC 2-7 (Part 70).

- (b) The carbon adsorption solvent recovery system and the ducted solvent capture system for the parts and cylinder washers have applicable compliance determination conditions as specified below:
- (1) Continuous compliance of the carbon adsorption control system shall be demonstrated by:
 - (A) Performing a liquid-liquid material balance of the affected facility for each month as detailed in §63.824(b)(1)(i); or
 - (B) Using continuous emission monitors, conducting an initial performance test of capture efficiency, and continuously monitoring a site specific operating parameter to assure the capture efficiency as specified in §63.824(b)(1)(ii).
 - (2) A performance test demonstrating initial compliance for the solvent recovery system is not required if the Permittee chooses to comply by means of the monthly liquid-liquid material balance. Otherwise, initial performance testing shall be conducted in accordance with the methods specified in §63.827.
 - (3) At all time that the carbon adsorption control system for the parts and cylinder washers is in operation and being utilized to demonstrate compliance with the VOC emission limitations, the control system shall be monitored using the inlet and outlet analyzers on the solvent recovery system and monitoring the pressure differential in the enclosure to meet permanent total enclosure requirements.
 - (4) The solvent recovery system shall be in operation at all times that any of the rotogravure printing presses, WR-441, WR-442, WR-443, WR-444, WRO-491, WRO-492 and WRO- 493, singly or in combination, is in operation, or is being cleaned using organic solvents.

The source can comply with this condition by keeping the record of the malfunction reports of the solvent recovery system; and other malfunction reports of the presses, when the solvent recovery system is operating but the presses are not venting to the solvent recovery system.
 - (5) The systems conveying the exhaust gases from the publication rotogravure production printing presses WR-429, WR-441, WR-442, and WR-443; WRO-491, WRO-492 and WRO-493, enclosures to the solvent recovery system shall operate at all times any of the presses in the respective enclosures are in operation, or are being cleaned using organic solvents. These enclosures shall have natural draft opening areas totaling not in excess of 5% of the total area of the walls, floor, and the ceiling of the enclosure. The enclosures shall be equipped with adequate negative pressure ventilation to provide a minimum face air velocity of 200 feet per minute, when all natural draft openings are simultaneously open. A pressure drop of greater than or equal to 0.013 mmHg (0.007 in H₂O) will demonstrate the 200 feet per minute face air velocity. All cylinder access doors (on the gear side) shall remain closed during the press operations except for the emergency escape. All personnel access doors (on the button side) shall remain closed, except for the momentary opening to allow access of personnel and materials. If these criteria are met, the VOC capture of

the enclosure shall be considered to be 100%. The source can comply with this condition by keeping the record of the malfunction reports of the systems conveying the exhaust gases from the enclosure; and other malfunction reports of the presses, when the systems conveying the exhaust gases from the enclosure to the adsorber, are not operating but the presses in the respective enclosures are in operation.

- (6) An inspection shall be performed each calendar quarter of the carbon adsorption unit controlling the parts and cylinder washers. All defective beds shall be repaired or replaced. The Permittee is not required to shut down the system in order to conduct the quarterly inspection. The Permittee shall monitor and inspect the carbon adsorption solvent recovery system and the ducted solvent capture system to ensure proper operation and maintenance.
- (7) In the event that a failure of the carbon adsorber has been observed, the affected compartments will be shut down immediately until the failed units have been repaired or replaced.

These monitoring conditions are necessary because the carbon adsorption solvent recovery system and the ducted solvent capture system must operate properly to ensure compliance with 326 IAC 8-5-5 (Graphic Arts Operations), 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-7 (Part 70), and 40 CFR 64.2, Compliance Assurance Monitoring (CAM).

- (c) The pneumatic collection systems have applicable compliance determination conditions as specified below:
 - (1) Weekly visible emission notations of the Cyclone EPC-1 (when venting to a baghouse) and EPBH-F, pneumatic paper dust and trim collection systems, WPC-1, WPC-2, WPCON-4, EPC-3 & EPBH-C stack exhausts, shall be performed once per week during normal daylight operations when exhausting to the atmosphere. A trained employee or other trained observer 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 been trained in the appearance and characteristics of normal visible emissions for that specific process.
 - (5) 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.
 - (6) Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Response to

Excursions or Exceedances - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

These monitoring conditions are necessary because the pneumatic collection systems must operate properly to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations) and 326 IAC 2-7 (Part 70).

- (d) The heatset web offset lithographic printing presses have applicable compliance monitoring conditions as specified below:

Pursuant to the requirements of 326 IAC 8-1-6, the BACT includes the following compliance monitoring requirements:

Thermal Oxidizer Temperature

- (1) The Permittee has determined the 3-hr average temperature of 1395 °F from the most recent valid stack test, performed on October 2006, which demonstrates compliance with limits in condition D.6.1, as approved by IDEM. The Permittee shall operate the thermal oxidizer at or above the 3-hr average temperature as observed during the compliant stack test.
- (2) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature. For the purpose of this condition, continuous shall mean no less often than once per minute. The output of this system shall be recorded continuously except when there is a fluctuation in the temperature of the thermal oxidizer such that the temperature falls below 1395 °F. At any time the temperature falls below 1395 °F, the Permittee shall record the output of the system as a 3-hr average for that period. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hr average temperature of 1395 °F.

Parametric Monitoring

- (1) The Permittee shall determine the appropriate duct pressure or fan amperage from the most recent valid stack test that demonstrates compliance with limits pursuant to BACT (326 IAC 8-1-6), as approved by IDEM.
- (2) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizer is in operation. On and after the date the approved stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in most recent compliant stack test.

These monitoring conditions are necessary because the heatset web offset lithographic printing presses must operate properly to ensure compliance with 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), 326 IAC 2-7 (Part 70) and 40 CFR 64.2, Compliance Assurance Monitoring (CAM).

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 6, 2006.

Conclusion

The operation of this publication rotogravure printing operation shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. 085-23864-00009.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)

#1 and #2 Fuel Oil

B1: 85 MMBtu/hr, B2: 85 MMBtu/hr, B3: 78 MMBtu/hr, B4: 98.4 MMBtu/hr

Company Name: R.R. Donnelley & Sons Company

Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837

Permit Number: T085-23864-00009

Plt ID: 085-00009

Reviewer: Michael S. Brooks

Date: 7/16/2008

Heat Input Capacity
MMBtu/hr

Potential Throughput
kgals/year

S = Weight % Sulfur
0.05

346.4

21674.74286

| Emission Factor in lb/kgal | Pollutant | | | | |
|-------------------------------|-----------|-----------------|-------|------|------|
| | PM* | SO2 | NOx | VOC | CO |
| | 2.0 | 7.1 (142.0S) | 20.0 | 0.34 | 5.0 |
| Potential Emission in tons/yr | 21.7 | 76.9 | 216.7 | 3.7 | 54.2 |

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (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

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

See page 2 for HAPs emission calculations.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)

#1 and #2 Fuel Oil

HAPs Emissions

B1: 85 MMBtu/hr, B2: 85 MMBtu/hr, B3: 78 MMBtu/hr, B4: 98.4 MMBtu/hr

Company Name: R.R. Donnelley & Sons Company

Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837

Permit Number: T085-23864-00009

Plt ID: 085-00009

Reviewer: Michael S. Brooks

Date: 7/16/2008

| HAPs - Metals | | | | | |
|-------------------------------|--------------------|----------------------|--------------------|---------------------|-----------------|
| Emission Factor in lb/mmBtu | Arsenic 4.0E-06 | Beryllium 3.0E-06 | Cadmium 3.0E-06 | Chromium 3.0E-06 | Lead 9.0E-06 |
| Potential Emission in tons/yr | 6.07E-03 | 4.55E-03 | 4.55E-03 | 4.55E-03 | 1.37E-02 |

| HAPs - Metals (continued) | | | | |
|-------------------------------|--------------------|----------------------|-------------------|---------------------|
| Emission Factor in lb/mmBtu | Mercury 3.0E-06 | Manganese 6.0E-06 | Nickel 3.0E-06 | Selenium 1.5E-05 |
| Potential Emission in tons/yr | 4.55E-03 | 9.10E-03 | 4.55E-03 | 2.28E-02 |

Methodology

No data was available in AP-42 for organic HAPs.

Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

B1: 85 MMBtu/hr, B2: 85 MMBtu/hr, B3: 78 MMBtu/hr, B4: 98.4 MMBtu/hr
Company Name: R.R. Donnelley & Sons Company
Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837
Permit Number: T085-23864-00009
Plt ID: 085-00009
Reviewer: Michael S. Brooks
Date: 7/16/2008

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

346.4

3034.5

| Emission Factor in lb/MMCF | Pollutant | | | | | |
|-------------------------------|-----------|-------|-----|-------------|-----|-------|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 0.6 | 100 | 5.5 | 84 |
| | | | | **see below | | |
| Potential Emission in tons/yr | 2.9 | 11.5 | 0.9 | 151.7 | 8.3 | 127.4 |

*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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 4 for HAPs emissions calculations.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

HAPs Emissions

B1: 85 MMBtu/hr, B2: 85 MMBtu/hr, B3: 78 MMBtu/hr, B4: 98.4 MMBtu/hr

Company Name: R.R. Donnelley & Sons Company

Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837

Permit Number: T085-23864-00009

Plt ID: 085-00009

Reviewer: Michael S. Brooks

Date: 7/16/2008

| HAPs - Organics | | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 3.186E-03 | 1.821E-03 | 1.138E-01 | 2.731E+00 | 5.159E-03 |

| HAPs - Metals | | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 7.586E-04 | 1.669E-03 | 2.124E-03 | 5.765E-04 | 3.186E-03 |

Methodology is the same as page 3.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations

Company Name: R.R. Donnelley & Sons Company
Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837
Permit Number: T085-23864-00009
Plt ID: 085-00009
Reviewer: Michael S. Brooks
Date: 7/16/2008

The design criteria for waste paper handling is that for every 3 pounds of air moved, one pound of waste paper can be processed. Each of the new cyclones (WPC-1 and WPC-2) has a rated capacity of 40,000 cfm. Pounds of air moved calculated as follows:

Pounds of Air Moved

40,000 cubic feet per minute x 60 minutes/hour x 0.075 pounds of air/cubic foot = 180000 pound of air/hour

Pounds of Material Processed

180,000 pounds of Air / 3 = 60000 pounds of paper per hour

Emissions are based on historic tests showing 1 lb of particulate emitted per ton of paper processed through a concentrator or cyclone:

60,000 lbs/hr x 1 lb. dust/2,000 lb. paper = 30 lb PM/hr * 2 cyclones = 60 lb PM/hr

60 lb PM/hr x 8760 hr/yr = 525600 lb PM/2000 lb per ton
PTE = 262.80 tons PM/PM10 per yr

The maximum throughput is 48,400 tons/year

Emission factor of 1.0 pound of PM emitted per ton of paper processed. Using a worst case scenario of each ton being processed twice in the system an emission factor of 2.0 pounds of PM per ton of paper processed is used.

48,400 tons waste paper processed/yr x 2 lb. PM/ton waste paper processed/2,000 lb/ton = 48.40 tons/yr

Limited Emissions = 48.40 tons PM/PM10 per yr

Appendix A: Emissions Calculations

VOC Emission from Ink Jet Printers

Company Name: R.R. Donnelley & Sons Company
Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837
Permit Number: T085-23864-00009
Plt ID: 085-00009
Reviewer: Michael S. Brooks
Date: 7/16/2008

| THROUGHPUT | | |
|-------------|----------------------------------|----------------------------------|
| Material | Maximum Usage (Litres per hour) | Maximum Usage (pounds per hour) |
| Replenisher | 0.225 | 0.392 |
| Ink | 0.320 | 0.557 |

| VOCs | | | | |
|--|-----------------------|---------------------|-------------------------------|-----------------------|
| Material | Maximum Usage (lb/hr) | Weight % Volatiles* | Potential VOC pounds per hour | Emissions (tons/year) |
| Replenisher | 0.392 | 100% | 0.392 | 1.717 |
| Ink | 0.557 | 93% | 0.518 | 2.271 |
| Total PTE of VOC Emissions for eight (8) ink jet printers = | | | | 31.90 |

METHODOLOGY

Potential to Emit of VOC = maximum usage (lb/hr) * 8760 hours * (1 ton / 2000 pounds)

**Appendix A: Emissions Calculations
VOC and HAPs**

Heatset web offset lithographic printer WM-401

**Company Name: R.R. Donnelley & Sons Company
Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837
Permit Number: T085-23864-00009
Plt ID: 085-00009
Reviewer: Michael S. Brooks
Date: 7/16/2008**

Before Controls

| Material | Density (Lb/Gal) | Weight % Volatile (H2O & Organics) | Weight % Water | Weight % Organics | Volume % Water | Volume % Non-Volatiles (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 | Wt % (Ethylene Glycol) | Wt % (Naphthalene) | Ethylene Glycol ** (tons /year) | Napthalene ** (tons /year) |
|------------------------|------------------|------------------------------------|----------------|-------------------|----------------|---------------------------------|------------------------|---------------------|--|-------------------------------------|----------------------------------|---------------------------------|-----------------------------|------------------------|--------------------|---------------------------------|----------------------------|
| Ink | 8.25 | 0.38 | 0.00 | 0.38 | 0.00 | 0.00 | 0.12 | 246.24 | 3.14 | 3.14 | 2.20 | 52.91 | 402.36 | 0.00% | 0.00% | 0.00 | 0.00 |
| Fountain Solution | 8.55 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.11 | 3.90 | 1.71 | 1.71 | 0.75 | 18.05 | 3.29 | 33.30% | 0.00% | 1.10 | 0.00 |
| Automatic Blanket wash | 6.90 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.15 | 4.95 | 6.90 | 6.90 | 5.17 | 124.19 | 22.66 | 0.00% | 5.30% | 0.00 | 1.20 |
| Manual Wash | 7.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.15 | 3.76 | 7.00 | 7.00 | 4.00 | 96.02 | 8.76 | 0.00% | 5.30% | 0.00 | 0.46 |

Potential Emissions Add worst case coating to all solvents 12.13 291.17 437.08 1.10 1.67

After Controls

| Material | Density (Lb/Gal) | Weight % Volatile (H2O & Organics) | Weight % Water | Weight % Organics | Volume % Water | Volume % Non-Volatiles (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 | Wt % (Ethylene Glycol) | Wt % (Naphthalene) | Ethylene Glycol ** (tons /year) | Napthalene ** (tons /year) |
|------------------------|------------------|------------------------------------|----------------|-------------------|----------------|---------------------------------|------------------------|---------------------|--|-------------------------------------|----------------------------------|---------------------------------|-----------------------------|------------------------|--------------------|---------------------------------|----------------------------|
| Ink | 8.25 | 0.38 | 0.00 | 0.38 | 0.00 | 0.00 | 0.12 | 246.24 | 3.14 | 3.14 | 2.20 | 52.91 | 9.66 | 0.00% | 0.00% | 0.00 | 0.00 |
| Fountain Solution | 8.55 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.11 | 3.90 | 1.71 | 1.71 | 0.75 | 18.05 | 1.06 | 33.30% | 0.00% | 0.35 | 0.00 |
| Automatic Blanket wash | 6.90 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.15 | 4.95 | 6.90 | 6.90 | 5.17 | 124.19 | 13.87 | 0.00% | 5.30% | 0.00 | 0.74 |
| Manual Wash | 7.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.15 | 3.76 | 7.00 | 7.00 | 4.00 | 96.02 | 8.76 | 0.00% | 5.30% | 0.00 | 0.46 |

Potential Emissions Add worst case coating to all solvents 12.13 291.17 33.35 0.35 1.20

**** Note : The calculations include the following efficiencies**

- a) Control Efficiency of 97 % for thermal oxidizer
- b) 20 % (by weight) ink VOC retention in the substrate for heatset printing;
- c) According to USEPA's "Alternative Control Techniques Document :Offset Lithographic Printing" (EPA 453/R-94-054) June 94:
 - 1) 50 % manual cleaning solvent VOC retention in the cleaning cloths;
 - 2) 100 % Capture efficiency by weight for VOC in press ready inks;
 - 3) 70 % Capture efficiency by weight of VOC in fountain solution;
 - 4) 40 % Capture efficiency by weight of the VOC in press ready automatic cleaning solvent.

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:
VOC and HAPs
Heatset web offset lithographic printer WM-402**

Company Name: R.R. Donnelley & Sons Company
Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837
Permit Number: T085-23864-00009
Pit ID: 085-00009
Reviewer: Michael S. Brooks
Date: 7/16/2008

Before Controls

| Material | Density (Lb/Gal) | Weight % Volatile (H2O & Organics) | Weight % Water | Weight % Organics | Volume % Water | Volume % Non-Volatiles (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 | Wt % (Ethylene Glycol) | Wt % (Naphthalene) | Ethylene Glycol ** (tons /year) | Napthalene ** (tons /year) |
|------------------------|------------------|------------------------------------|----------------|-------------------|----------------|---------------------------------|------------------------|---------------------|--|-------------------------------------|----------------------------------|---------------------------------|-----------------------------|------------------------|--------------------|---------------------------------|----------------------------|
| Ink | 8.25 | 0.38 | 0.00 | 0.38 | 0.00 | 0.00 | 0.12 | 1088.64 | 3.14 | 3.14 | 9.75 | 233.93 | 1778.86 | 0.00% | 0.00% | 0.00 | 0.00 |
| Fountain Solution | 8.55 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.11 | 32.85 | 1.71 | 1.71 | 6.34 | 152.07 | 27.75 | 33.30% | 0.00% | 9.24 | 0.00 |
| Automatic Blanket wash | 6.90 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.15 | 6.60 | 6.90 | 6.90 | 6.90 | 165.58 | 30.22 | 0.00% | 5.30% | 0.00 | 1.60 |
| Manual Wash | 7.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.15 | 9.50 | 7.00 | 7.00 | 10.11 | 242.59 | 22.14 | 0.00% | 5.30% | 0.00 | 1.17 |

Potential Emissions Add worst case coating to all solvents 33.09 794.18 1858.97 9.24 2.77

After Controls

| Material | Density (Lb/Gal) | Weight % Volatile (H2O & Organics) | Weight % Water | Weight % Organics | Volume % Water | Volume % Non-Volatiles (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 | Wt % (Ethylene Glycol) | Wt % (Naphthalene) | Ethylene Glycol ** (tons /year) | Napthalene ** (tons /year) |
|------------------------|------------------|------------------------------------|----------------|-------------------|----------------|---------------------------------|------------------------|---------------------|--|-------------------------------------|----------------------------------|---------------------------------|-----------------------------|------------------------|--------------------|---------------------------------|----------------------------|
| Ink | 8.25 | 0.38 | 0.00 | 0.38 | 0.00 | 0.00 | 0.12 | 1088.64 | 3.14 | 3.14 | 9.75 | 233.93 | 42.69 | 0.00% | 0.00% | 0.00 | 0.00 |
| Fountain Solution | 8.55 | 0.20 | 0.00 | 0.20 | 0.00 | 0.00 | 0.11 | 32.85 | 1.71 | 1.71 | 6.34 | 152.07 | 8.91 | 33.30% | 0.00% | 2.97 | 0.00 |
| Automatic Blanket wash | 6.90 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.15 | 6.60 | 6.90 | 6.90 | 6.90 | 165.58 | 18.49 | 0.00% | 5.30% | 0.00 | 0.98 |
| Manual Wash | 7.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.15 | 9.50 | 7.00 | 7.00 | 10.11 | 242.59 | 22.14 | 0.00% | 5.30% | 0.00 | 1.17 |

Potential Emissions Add worst case coating to all solvents 33.09 794.18 92.23 2.97 2.15

**** Note : The calculations include the following efficiencies:**

- a) Control Efficiency of 97 % for thermal oxidizer
- b) 20 % (by weight) ink VOC retention in the substrate for heatset printing
- c) According to USEPA's "Alternative Control Techniques Document :Offset Lithographic Printing" (EPA 453/R-94-054) June 94:
 - 1) 50 % manual cleaning solvent VOC retention in the cleaning cloths;
 - 2) 100 % Capture efficiency by weight for VOC in press ready inks;
 - 3) 70 % Capture efficiency by weight for VOC in fountain solution;
 - 4) 40 % Capture efficiency by weight of the VOC in press ready automatic cleaning solvent.

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

Emissions Summary

Company Name: R.R. Donnelley & Sons Company
Address, City IN Zip: 2801 West Old Road 30, Warsaw, Indiana 46581-0837
Permit Number: T085-23864-00009
Plt ID: 085-00009
Reviewer: Michael S. Brooks
Date: 7/16/2008

Uncontrolled

| | PM | PM10 | SO2 | VOC | CO | NOx | HAPs |
|-------------------------------------|---------------|---------------|--------------|----------------|---------------|---------------|------------------|
| Boilers B1 - B4 | 21.7 | 21.7 | 76.9 | 8.3 | 127.4 | 216.7 | -- |
| | -- | -- | -- | -- | -- | -- | -- |
| <u>Paper Trim Collection System</u> | -- | -- | -- | -- | -- | -- | -- |
| WPC-1 & WPC-2 | 262.8 | 262.8 | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- |
| (8) Ink Jet Printers | -- | -- | -- | 31.9 | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- |
| <u>Heatset Printers</u> | -- | -- | -- | -- | -- | -- | -- |
| WM-401 | -- | -- | -- | 437.08 | -- | -- | <10/25 |
| WM-402 | -- | -- | -- | 1858.97 | -- | -- | <10/25 |
| | -- | -- | -- | -- | -- | -- | -- |
| (12) Rotogravure Printing Presses | -- | -- | -- | >1400 | -- | -- | >10/25 |
| Totals Uncontrolled | 284.50 | 284.50 | 76.90 | >250 | 127.40 | 216.70 | >10/25 |

Controlled/Limited

| | PM | PM10 | SO2 | VOC | CO | NOx | HAPs |
|-------------------------------------|--------------|--------------|--------------|----------------|---------------|---------------|------------------|
| Boilers B1 - B4 | 21.7 | 21.7 | 76.9 | 8.3 | 127.4 | 216.7 | -- |
| | -- | -- | -- | -- | -- | -- | -- |
| <u>Paper Trim Collection System</u> | -- | -- | -- | -- | -- | -- | -- |
| WPC-1 & WPC-2 | 48.4 | 48.4 | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- |
| (8) Ink Jet Printers | -- | -- | -- | 31.9 | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- |
| <u>Heatset Printers</u> | -- | -- | -- | -- | -- | -- | -- |
| WM-401 | -- | -- | -- | 33.35 | -- | -- | <10/25 |
| WM-402 | -- | -- | -- | 92.23 | -- | -- | <10/25 |
| | -- | -- | -- | -- | -- | -- | -- |
| (12) Rotogravure Printing Presses | -- | -- | -- | >1000 | -- | -- | >10/25 |
| Totals Controlled | 70.10 | 70.10 | 76.90 | >250 | 127.40 | 216.70 | >10/25 |