

PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth here in.

Operating Permit Number: OP2008-026

Expiration Date: JUN 3 2013

Installation ID: 009-0005

Project Number: 2003-01-004

Installation Name and Address

Hydro Aluminum North America
808 County Road
Monett, MO 65708
Barry County

Parent Company's Name and Address

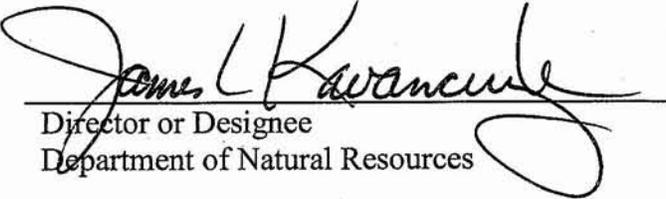
Hydro Aluminum North America
801 International Drive, Suite 200
Linthicum, MD 21090-2254

Installation Description:

Hydro Aluminum Metal Product's operations in Barry County include secondary aluminum production and aluminum extrusion and painting. For purposes of permitting, two operating permits will regulate the installation. This permit includes the extrusion and painting operations referred to as Hydro Aluminum North America.

JUN - 2 2008

Effective Date



Director or Designee
Department of Natural Resources

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I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

Hydro Aluminum Metal Product's operations in Barry County include secondary aluminum production and aluminum extrusion and painting. For purposes of permitting, two operating permits will regulate the installation. This permit includes the extrusion and painting operations referred to as Hydro Aluminum North America. The installation is an existing major source of nitrogen oxides (NO_x), volatile organic compounds (VOCs) and hazardous air pollutants (HAPs).

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM ₁₀)	Sulfur Oxides (SO _x)	Nitrogen Oxides (NO _x)	Volatile Organic Compounds(VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2002	6.57	0.23	62.78	142.57	22.57	--	--
2003	4.26	0.22	46.04	132.99	17.29	--	--
2004	7.69	0.92	19.44	114.42	19.19	--	--
2005	8.41	0.98	10.95	139.80	18.70	--	4.91
2006	6.86	0.83	22.83	108.68	18.37	--	4.02

- These emissions were generated by a combination of the emission units in this installation and the secondary aluminum production installation.

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation, which emit air pollutants and which are identified as having unit-specific emission limitations.

Emission Unit #	Description of Emission Unit
EU0010	Coating Line
EU0020	Paint Booth #1
EU0030	Paint Booth #2
EU0040	Paint Booth #3
EU0050	Paint Line Boiler
EU0060	Paint Bake Oven
EU0070	Paint Hook Burn-Off Oven
EU0080	Age Oven 3

EMISSION UNITS WITHOUT LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

Description of Emission Source

South billet heater, 3.0 MMBtu/hr natural gas/propane burner, 1.5 tph metal capacity, installed 1984 (EP-07)

Middle billet heater, 3.0 MMBtu/ natural gas/propane burner, 1.75 tph metal capacity, installed 1985 (EP-08)

North billet heater, 3.0 MMBtu/hr natural gas/propane burner, 1.5 tph metal capacity, installed 1985 (EP-09)

West age oven, 2.6 MMBtu/hr natural gas/propane burner, 4.0 tph metal capacity, installed 1970 (EP-10)

East age oven, 2.5 MMBtu/hr natural gas/propane burner, 5.0 tph metal capacity, installed in 1985 (EP-11)

Die cleaning burner, 0.3 MMBtu/hr natural gas/propane burner (EP-16)

Miscellaneous saws including one debridging saw, three extrusion saws, one skill saw, one wood saw for spacers and bundlers, one maintenance band saw, one QC lab saw (EP-18)

Nitrex metals nitriding (ammonia tank dehardening) (EP-20)

Maintenance stoddard solvent parts degreaser (EP-21)

1,000-gallon storage tank for used oil

55-gallon drum containing petroleum oil (EP-22)

Acetylene torches (EP-24)

Bridge fill-in with two part epoxy (EP-27)

Water de-ionizing unit

Steam drying oven

Wastewater pretreatment

Metal pretreat

DOCUMENTS INCORPORATED BY REFERENCE

These documents have been incorporated by reference into this permit.

- 1) Air Pollution Control Program Permit to Construct Number 1087-006A
- 2) Air Pollution Control Program Permit to Construct Number 0197-017
- 3) Air Pollution Control Program Permit to Construct Number 1297-010
- 4) Air Pollution Control Program Permit to Construct Number 032000-002
- 5) Air Pollution Control Program Permit to Construct Number 032000-002A
- 6) Air Pollution Control Program Permit to Construct Number 032000-017
- 7) Air Pollution Control Program Permit to Construct Number 102001-013
- 8) Air Pollution Control Program Permit to Construct Number 072003-009

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

Permit Condition PW001

10 CSR 10-6.060

Construction Permits Required

Air Pollution Control Program Permit to Construct Number 0197-017

Air Pollution Control Program Permit to Construct Number 1297-010

Emission Limitation:

If a continuing situation of demonstrated nuisance odors exists in violation of Missouri State Rule,

10 CSR 10-3.090, Restriction of Emission of Odors, the Director may require the permittee to submit a corrective action plan within ten days adequate to timely and significantly mitigate odors. The permittee shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of this permit.

Monitoring/Recordkeeping/Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

Permit Condition PW002

10 CSR 10-6.060

Construction Permits Required

Air Pollution Control Program Permit to Construct Number 1297-010

Emission Limitation:

If the presence of particulate matter less than ten microns (PM_{10}) in the ambient air exists in quantities and durations that directly or proximately cause or contribute to injury to human, plant or animal life or health, or to property, or that unreasonably interferes with the enjoyment of life or use of property, the Director may require the permittee to submit a corrective action plan within ten days adequate to timely and significantly mitigate the emission of PM_{10} . The permittee shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of the permit.

Monitoring/Recordkeeping/Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

EU0010 Coating Line		
Description	Manufacturer	2005 EIQ Reference #
1. All coating operations as defined in §63.3981. [§63.3882(b)(1)] a) Coating operation means equipment used to apply cleaning materials to a substrate to prepare it for coating application (surface preparation) or to remove dried coating; to apply coating to a substrate (coating application) and to dry or cure the coating after application; or to clean coating operation equipment (equipment cleaning); [§63.3981] b) Known coating operations at this installation include the three paint booths (EU0020 through EU0040) and the paint bake oven (EU0060). 2. All storage containers and mixing vessels in which coatings, thinners and/or other additives and cleaning materials are stored or mixed; [§63.3882(b)(2)] 3. All manual and automated equipment and containers used for conveying coatings, thinners and/or other additives and cleaning materials; [§63.3882(b)(3)] 4. All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation. [§63.3882(b)(4)]	Various	NA

Permit Condition EU0010-001

10 CSR 10-6.075
Maximum Achievable Control Technology Regulations
 40 CFR Part 63 Subpart M
National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products
 40 CFR Part 63 Subpart A
General Provisions

Emission Limitation:

- 1) For an existing affected source, you must limit organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in §63.3890(b)(1) through (5), except as specified in §63.3890(c), determined according to the requirements in §63.3941, §63.3951, or §63.3961. [§63.3890(b)]
 - a) *For each existing general use coating affected source*, limit organic HAP emissions to no more than 0.31 kg (2.6 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period. [§63.3890(b)(1)]
 - b) *For each existing high performance coating affected source*, limit organic HAP emissions to no more than 3.3 kg (27.5 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period. [§63.3890(b)(2)]

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- c) *For each existing magnet wire coating affected source*, limit organic HAP emissions to no more than 0.12 kg (1.0 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period. [§63.3890(b)(3)]
 - d) *For each existing rubber-to-metal coating affected source*, limit organic HAP emissions to no more than 4.5 kg (37.7 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period. [§63.3890(b)(4)]
 - e) *For each existing extreme performance fluoropolymer coating affected source*, limit organic HAP emissions to no more than 1.5 kg (12.4 lbs) organic HAP per liter (gal) coating solids used during each 12-month compliance period. [§63.3890(b)(5)]
- 2) If your facility's surface coating operations meet the applicability criteria of more than one of the subcategory emission limits specified in §63.3890(a) or (b), you may comply separately with each subcategory emission limit or comply using one of the alternatives in §63.3890(c)(1) or (2). [§63.3890(c)]
- a) If the general use or magnet wire surface coating operations subject to only one of the emission limits specified in §63.3890(a)(1), (3), (b)(1), or (3) account for 90 percent or more of the surface coating activity at your facility (i.e., it is the predominant activity at your facility), then compliance with that one emission limitations in 40 CFR Part 63, Subpart M MMM for all surface coating operations constitutes compliance with the other applicable emission limits. You must use liters (gal) of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative volume of coating solids used from parameters other than coating consumption and volume solids content (e.g., design specifications for the parts or products coated and the number of items produced). The determination of predominant activity must accurately reflect current and projected coating operations and must be verifiable through appropriate documentation. The use of parameters other than coating consumption and volume solids content must be approved by the Administrator. You may use data for any reasonable time period of at least one year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the Administrator. You must determine the predominant activity at your facility and submit the results of that determination with the initial notification required by §63.3910(b). Additionally, you must determine the facility's predominant activity annually and include the determination in the next semi-annual compliance report required by §63.3920(a). [§63.3890(c)(1)]
 - b) You may calculate and comply with a facility-specific emission limit as described in §63.3890(c)(2)(i) through (iii). If you elect to comply using the facility-specific emission limit alternative, then compliance with the facility-specific emission limit and the emission limitations in 40 CFR Part 63, Subpart M MMM for all surface coating operations constitutes compliance with this and other applicable surface coating NESHAP. In calculating a facility-specific emission limit, you must include coating activities that meet the applicability criteria of the other subcategories and constitute more than one percent of total coating activities. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than one percent of coating activities need not be included in the determination of predominant activity but must be included in the compliance calculation. [§63.3890(c)(2)]
 - i) You are required to calculate the facility-specific emission limit for your facility when you submit the notification of compliance status required in §63.3910(c), and on a monthly basis afterward using the coating data for the relevant 12-month compliance period. [§63.3890(c)(2)(i)]

- ii) Use Equation 1 of §63.3890 to calculate the facility-specific emission limit for your surface coating operations for each 12-month compliance period. [§63.3890(c)(2)(ii)]

$$\text{Facility - Specific Emission Limit} = \frac{\sum_{i=1}^n (\text{Limit}_i)(\text{Solids}_i)}{\sum_{i=1}^n (\text{Solids}_i)} \quad (\text{Eq. 1})$$

Where:

Facility-specific emission limit = Facility-specific emission limit for each 12-month compliance period, kg (lb) organic HAP per kg (lb) coating solids used.

Limit_i = The new source or existing source emission limit applicable to coating operation, i, included in the facility-specific emission limit, converted to kg (lb) organic HAP per kg (lb) coating solids used, if the emission limit is not already in those units. All emission limits included in the facility-specific emission limit must be in the same units.

Solids_i = The liters (gal) of solids used in coating operation, i, in the 12-month compliance period that is subject to emission limit, i. You may estimate the volume of coating solids used from parameters other than coating consumption and volume solids content (e.g., design specifications for the parts or products coated and the number of items produced). The use of parameters other than coating consumption and volume solids content must be approved by the Administrator.

n = The number of different coating operations included in the facility-specific emission limit.

- iii) If you need to convert an emission limit in another surface coating NESHAP from kg (lb) organic HAP per kg (lb) coating solids used to kg (lb) organic HAP per liter (gal) coating solids used, you must use the default solids density of 1.26 kg solids per liter coating solids (10.5 lb solids per gal solids). [§63.3890(c)(2)(iii)]
- 3) You must include all coatings (as defined in §63.3981), thinners and/or other additives and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit in §63.3890. To make this determination, you must use at least one of the three compliance options listed in §63.3891(a) through (c). You may apply any of the compliance options to an individual coating operation or to multiple coating operations as a group or to the entire affected source. You may use difference compliance options for different coating operations or at different times on the same coating operation. You may employ different compliance options when different coatings are applied to the same part or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance options for any coating operation or group of coating operations, you must document this switch as required by §63.3930(c), and you must report it in the next semiannual compliance report required in §63.3920. [§63.3891]
- a) *Compliant material option.* Demonstrate that the organic HAP content of each coating used in the coating operation(s) is less than or equal to the applicable emission limit in §63.3890 and that each thinner and/or other additive and cleaning material used contains no organic HAP. You must meet all the requirements of §§63.3940, 63.3941 and

- 63.3942 to demonstrate compliance with the applicable emission limit using this option. [§63.3891(a)]
- b) *Emission rate without add-on controls option.* Demonstrate that, based on the coatings, thinners and/or other additives and cleaning materials used in the coating operation(s), the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, calculated as a rolling 12-month emission rate and determined on a monthly basis. You must meet all the requirements of §§63.3950, 63.3951 and 63.3952 to determine compliance with the emission limit using this option. [§63.3891(b)]
- c) *Emission rate with add-on controls.* Demonstrate that, based on the coatings, thinners and/or other additives and cleaning materials used in the coating operation(s) and the emissions reductions achieved by emission capture systems and add-on controls, the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, calculated as a rolling 12-month emission rate and determined on a monthly basis. If you use this compliance option, you must also demonstrate that all emission capture systems and add-on control devices for the coating operation(s) meet the operating limits required in §63.3892, except for the solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j) and that you meet the work practice standards required by §63.3893. You must meet all the requirements of §§63.3960 through 63.3968 to determine compliance with the emission limits, operating limits and work practice standards using this option. [§63.3891(c)]
- 4) You must be in compliance with the emission limitations of 40 CFR Part 63 Subpart MMMM as specified in §63.3900(a)(1) and (2). [§63.3900(a)]
- a) Any coating operation(s) for which you use the compliant material option or the emission rate without add-on control option, as specified in §63.3891(a) and (b), must be in compliance with the applicable emission limit in §63.3890 at all times. [§63.3900(a)(1)]
- b) Any coating operation(s) for which you use the emission rate with add-on controls option, as specified in §63.3891(c), must be in compliance with the emission limitations as specified in §63.3900(a)(2)(i) through (iii). [§63.3900(a)(2)]
- i) The coating operation(s) must be in compliance with the applicable emission limit in §63.3890 at all times except during periods of startup, shutdown and malfunction. [§63.3900(a)(2)(i)]
- ii) The coating operation(s) must be in compliance with the operating permit limits for emission capture systems and add-on control devices required by §63.3892 at all times except during periods of startup, shutdown and malfunction and except for solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j). [§63.3900(a)(2)(ii)]
- iii) The coating operations must be in compliance with the work practice standards in §63.3893 at all times. [§63.3900(a)(2)(iii)]

Operating Limits:

- 1) For any coating operation(s) on which you use the compliant material option or the emission rate without add-on controls option, you are not required to meet any operating limits. [§63.3892(a)]
- 2) For any controlled coating operation(s) on which you use the emission rate with add-on controls option, except those for which you use a solvent recovery system and conduct a liquid-liquid material balance according to §63.3961(j), you must meet the operating limits

specified in Table 1 to 40 CFR Part 63, Subpart M MMMM. (See Attachment B.) These operating limits apply to the emission capture and control systems on the coating operation(s) for which you use this option, and you must establish the operating limits during the performance test according to the requirements in §63.3967. You must meet the operating limits at all times after you establish them. [§63.3892(b)]

- a) *Thermal oxidizer.* The average combustion temperature in any three hour period must not fall below the combustion temperature limit established according to §63.3967(a). [40 CFR Part 63, Subpart M MMMM - Table 1, Item No. 1.a]
- b) *Catalytic oxidizer.* [40 CFR Part 63, Subpart M MMMM - Table 1, Item No. 2]
 - i) The average temperature measured just before the catalyst bed in any three hour period must not fall below the limit established according to §63.3967(b) (for magnet wire coating machines, temperature can be monitored before or after the catalyst bed); and either [Table 1, Item No. 2.a]
 - ii) Ensure that the average temperature difference across the catalyst bed in any three hour period does not fall below the temperature difference limit established according to §63.3967(b) (2); or [Table 1, Item No. 2.b]
 - iii) Develop and implement an inspection and maintenance plan according to §63.3967(b)(4) or for magnet wire coating machines according to section 3.0 of Appendix A to Subpart M MMMM. [Table 1, Item No. 2.c]
- c) *Regenerative carbon adsorber.* [40 CFR Part 63, Subpart M MMMM - Table 1, Item No. 3]
 - i) The total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each carbon bed regeneration cycle must not fall below the total regeneration desorbing gas mass flow limit established according to §63.3967(c); and [Table 1, Item No. 3.a]
 - ii) The temperature of the carbon bed, after completing each regeneration and any cooling cycle, must not exceed the carbon bed temperature limit established according to §63.3967(c). [Table 1, Item No. 3.b]
- d) *Condenser.* The average condenser out (product side) gas temperature in any three hour period must not exceed the temperature limit established according to §63.3967(d). [40 CFR Part 63, Subpart M MMMM - Table 1, Item No. 4.a]
- e) Concentrators, including zeolite wheels and rotary carbon absorbers. [40 CFR Part 63, Subpart M MMMM - Table 1, Item No. 5]
 - i) The average gas temperature of the desorption concentrate stream in any three hour period must not fall below the limit established according to §63.3967(e) and; [Table 1, Item No. 5.a]
 - ii) The average pressure drop of the dilute stream across the concentrator in any three hour period must not fall below the limit established according to §63.3967(e). [Table 1, Item No. 5.b]
- f) Emission capture system that is a permanent total enclosure (PTE) according to §63.3965(a). [40 CFR Part 63, Subpart M MMMM - Table 1, Item No. 6]
 - i) The direction of the air flow at all times must be into the enclosure and either; [Table 1, Item No. 6.a]
 - ii) The average facial velocity of air through all natural draft openings in the enclosure must be at least 200 feet per minute or; [Table 1, Item No. 6.b]
 - iii) The pressure drop across the enclosure must be at least 0.007 inch H₂O, as established in Method 24 of Appendix M to 40 CFR Part 51. [Table 1, Item No. 6.c]
- g) *Emission capture system that is not a permanent total enclosure according to §63.3965(a).* The average gas volumetric flow rate or duct static pressure in each duct

between a capture device and add-on control device inlet in any three hour period must not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to §63.3967(f). [Table 1, Item No. 7]

- 3) If you use an add-on control device other than those listed in Table 1 to 40 CFR Part 63, Subpart M, or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under §63.8(f). [§63.3892(c)]

Work Practice Requirements:

- 1) For any coating operation(s) on which you use the compliant material option or the emission rate without add-on controls option, you are not required to meet any work practice standards. [§63.3893(a)]
- 2) If you use the emission rate with add-on controls option, you must develop and implement a work practice plan to minimize organic HAP emissions from the storage, mixing, and conveying of coatings, thinners and/or other additives, and cleaning materials used in, and waste materials generated by the controlled coating operation(s) for which you use this option; or you must meet an alternative standard as provided in §63.3893(c). The plan must specify practices and procedures to ensure that, at a minimum, the elements specified in §63.3893(b)(1) through (5) are implemented. [§63.3893(b)]
 - a) All organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be stored in closed containers. [§63.3893(b)(1)]
 - b) Spills of organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be minimized. [§63.3893(b)(2)]
 - c) Organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be conveyed from one location to another in closed containers or pipes. [§63.3893(b)(3)]
 - d) Mixing vessels which contain organic-HAP-containing coatings and other materials must be closed except when adding to, removing, or mixing the contents. [§63.3893(b)(4)]
 - e) Emissions of organic HAP must be minimized during cleaning of storage, mixing, and conveying equipment. [§63.3893(b)(5)]
- 3) As provided in §63.6(g), the U.S. Environmental Protection Agency, may choose to grant you permission to use an alternative to the work practice standards, if requested. [§63.3893(c)]
- 4) If your affected source uses an emission capture system and add-on control device, you must develop and implement a written startup, shutdown and malfunction plan according to the provisions in §63.6(e)(3). The plan must address the startup, shutdown and corrective actions in the event of a malfunction of the emission capture system or the add-on control device. The plan must also address any coating operation equipment that may cause increases emissions or that would affect capture efficiency if the process equipment malfunctions, such as conveyors that move parts among enclosures. [§63.3900(c)]

Compliance Demonstration:

GENERAL COMPLIANCE DATES

- 1) The date by which you must comply with this subpart is called the compliance date. The compliance date for each type of affected source is specified in §63.3883(a) through (c). The compliance date begins the initial compliance period during which you conduct the initial compliance demonstration described in §§63.3940, 63.3950 and 63.3960. [§63.3883]

- a) For an existing affected source, the compliance date is the date three years after January 2, 2004. [§63.3883(b)]
- b) You must meet the notification requirements in §63.3910 according to the dates specified in that section and in 40 CFR Part 63 Subpart A. Some of the notifications must be submitted before the compliance dates described in §63.3883(a) through (c). [§63.3883(d)]

COMPLIANCE REQUIREMENTS FOR THE COMPLIANT MATERIALS OPTION

Initial Compliance Demonstration

- 1) You must complete the initial compliance demonstration for the initial compliance period according to the requirements in §63.3941. The initial compliance period begins on the applicable compliance date specified in §63.3883 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through that month plus the next 12 months. The initial compliance demonstration includes the calculations according to §63.3941 and supporting documentation showing that during the initial compliance period, you used no coating with an organic HAP content that exceeded the applicable emission limit in §63.3890, and that you used no thinners and/or other additives, or cleaning materials that contained organic HAP as determined according to §63.3941(a). [§63.3940]
- 2) You may use the compliant material option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You must use either the compliant material option or the emission rate with add-on controls option for any coating operation in the affected source for which you do not use this option. To demonstrate initial compliance using the compliant material option, the coating operation or group of coating operations must use no coating with an organic HAP content that exceeds the applicable emission limits in §63.3890 and must use no thinner and/or other additive, or cleaning material that contains organic HAP as determined according to §63.3941. Any coating operation for which you use the compliant material option is not required to meet the operating limits or work practice standards required in §§63.3892 and 63.3893, respectively. [§63.3941]
- 3) You must conduct a separate initial compliance demonstration for each general use, high performance, magnet wire, rubber-to-metal, and extreme performance fluoropolymer coating operation unless you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c). [§63.3941]
- 4) If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. [§63.3941]
- 5) You must meet all the requirements of §63.3941. Use the procedures in §63.3941 on each coating, thinner and/or other additive, and cleaning material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. You do not need to redetermine the organic HAP content of coatings, thinners and/or other additives, and cleaning materials that are reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coating operation for which you use the compliant material option, provided these materials in their condition as received were demonstrated to comply with the compliant material option. [§63.3941]
- 6) *Compliance demonstration.* The calculated organic HAP content for each coating used during the initial compliance period must be less than or equal to the applicable emission

limit in §63.3890; and each thinner and/or other additive, and cleaning material used during the initial compliance period must contain no organic HAP, determined according to §63.3941(a). You must keep all records required by §§63.3930 and 63.3931. As part of the notification of compliance status required in §63.3910, you must identify the coating operation(s) for which you used the compliant material option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in §63.3890, and you used no thinners and/or other additives, or cleaning materials that contained organic HAP, determined according to the procedures in §63.3941(a). [§63.3941(e)]

Continuous Compliance Demonstration

- 1) For each compliance period to demonstrate continuous compliance, you must use no coating for which the organic HAP content (determined using Equation 2 of §63.3941) exceeds the applicable emission limit in §63.3890, and use no thinner and/or other additive, or cleaning material that contains organic HAP, determined according to §63.3941(a). A compliance period consists of 12 months. Each month, after the end of the initial compliance period described in §63.3940, is the end of a compliance period consisting of that month and the preceding 11 months. If you are complying with a facility-specific emission limit under §63.3890(c), you must also perform the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation. [§63.3942(a)]
- 2) If you choose to comply with the compliant material option, the use of any coating, thinner and/or other additive, or cleaning material that does not meet the criteria specified in §63.3942(a) is a deviation from the emission limitations that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(5). [§63.3942(b)]
- 3) As part of each semiannual compliance report required by §63.3920, you must identify the coating operation(s) for which you used the compliant material option. If there were no deviations from the applicable emission limit in §63.3890, submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the reporting period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in §63.3890, and you used no thinner and/or other additive, or cleaning material that contained organic HAP, determined according to §63.3941(a). [§63.3942(c)]
- 4) You must maintain records as specified in §§63.3930 and 63.3931. [§63.3942(d)]

COMPLIANCE REQUIREMENTS FOR THE EMISSION RATE WITHOUT ADD-ON CONTROLS OPTION

Initial Compliance Demonstration

- 1) You must complete the initial compliance demonstration for the initial compliance period according to the requirements of §63.3951. The initial compliance period begins on the applicable compliance date specified in §63.3883 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You must determine the mass of organic HAP emissions and volume of coating solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the calculations according to §63.3951 and supporting documentation showing that during the

initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in §63.3890. [§63.3950]

- 2) You may use the emission rate without add-on controls option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You must use either the compliant material option or the emission rate with add-on controls option for any coating operation in the affected source for which you do not use this option. To demonstrate initial compliance using the emission rate without add-on controls option, the coating operation or group of coating operations must meet the applicable emission limit in §63.3890, but is not required to meet the operating limits or work practice standards in §§63.3892 and 63.3893, respectively. [§63.3951]
- 3) You must conduct a separate initial compliance demonstration for each general use, magnet wire, rubber-to-metal, and extreme performance fluoropolymer coating operation unless you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c). [§63.3951]
- 4) If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. [§63.3951]
- 5) You must meet all the requirements of §63.3951. When calculating the organic HAP emission rate according to this section, do not include any coatings, thinners and/or other additives, or cleaning materials used on coating operations for which you use the compliant material option or the emission rate with add-on controls option. You do not need to redetermine the mass of organic HAP in coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coating operation for which you use the emission rate without add-on controls option. If you use coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site, the amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed. [§63.3951]
- 6) *Compliance demonstration.* The organic HAP emission rate for the initial compliance period calculated using Equation 3 of §63.3951 must be less than or equal to the applicable emission limit for each subcategory in §63.3890 or the predominant activity or facility-specific emission limit allowed in §63.3890(c). You must keep all records as required by §§63.3930 and 63.3931. As part of the notification of compliance status required by §63.3910, you must identify the coating operation(s) for which you used the emission rate without add-on controls option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in §63.3890, determined according to the procedures in this section. [§63.3951(h)]

Continuous Compliance Demonstration

- 1) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to §63.3951(a) through (g), must be less than or equal to the applicable emission limit in §63.3890. A compliance period consists of 12 months. Each month after the end of the initial compliance period described in §63.3950 is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in §63.3951(a) through (g) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility-specific emission limit under

- §63.3890(c), you must also perform the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation. [§63.3952(a)]
- 2) If the organic HAP emission rate for any 12-month compliance period exceeded the applicable emission limit in §63.3890, this is a deviation from the emission limitation for that compliance period and must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(6). [§63.3952(b)]
 - 3) As part of each semiannual compliance report required by §63.3920, you must identify the coating operation(s) for which you used the emission rate without add-on controls option. If there were no deviations from the emission limitations, you must submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in §63.3890, determined according to §63.3951(a) through (g). [§63.3952(c)]
 - 4) You must maintain records as specified in §§63.3930 and 63.3931. [§63.3952(d)]

COMPLIANCE REQUIREMENTS FOR THE EMISSION RATE WITH ADD-ON CONTROLS OPTION

Initial Compliance Demonstration

- 1) For an existing affected source, you must meet the requirements of §63.3960(b)(1) through (3). [§63.3960(b)]
 - a) All emission capture systems, add-on control devices, and continuous parameter monitoring system (CPMS) must be installed and operating no later than the applicable compliance date specified in §63.3883. Except for magnet wire coating operations and solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j), you must conduct a performance test of each capture system and add-on control device according to the procedures in §§63.3964, 63.3965, and 63.3966 and establish the operating limits required by §63.3892 no later than the compliance date specified in §63.3883. For magnet wire coating operations, you may, with approval, conduct a performance test of a single magnet wire coating machine that represents identical or very similar magnet wire coating machines. For a solvent recovery system for which you conduct liquid-liquid material balances according to §63.3961(j), you must initiate the first material balance no later than the compliance date specified in §63.3883. [§63.3960(b)(1)]
 - b) You must develop and begin implementing the work practice plan required by §63.3893 no later than the compliance date specified in §63.3883. [§63.3960(b)(2)]
 - c) You must complete the initial compliance demonstration for the initial compliance period according to the requirements of §63.3961. The initial compliance period begins on the applicable compliance date specified in §63.3883 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You must determine the mass of organic HAP emissions and volume of coating solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the results of emission capture system and add-on control device performance tests conducted according to §§63.3964, 63.3965, and 63.3966; results of liquid-liquid material balances conducted according to §63.3961(j); calculations according to §63.3961 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in §63.3890; the operating limits established during the performance tests

- and the results of the continuous parameter monitoring required by §63.3968; and documentation of whether you developed and implemented the work practice plan required by §63.3893. [§63.3960(b)(3)]
- 2) You are not required to conduct an initial performance test to determine capture efficiency or destruction efficiency of a capture system or control device if you receive approval to use the results of a performance test that has been previously conducted on that capture system or control device. Any such previous tests must meet the conditions described in §63.3960(c)(1) through (3). [§63.3960(c)]
 - a) The previous test must have been conducted using the methods and conditions specified in Subpart M. [§63.3960(c)(1)]
 - b) Either no process or equipment changes have been made since the previous test was performed or the owner or operator must be able to demonstrate that the results of the performance test, reliably demonstrate compliance despite process or equipment changes. [§63.3960(c)(2)]
 - c) Either the required operating parameters were established in the previous test or sufficient data were collected in the previous test to establish the required operating parameters. [§63.3960(c)(3)]
 - 3) You may use the emission rate with add-on controls option for any coating operation, for any group of coating operations in the affected source, or for all of the coating operations in the affected source. You may include both controlled and uncontrolled coating operations in a group for which you use this option. You must use either the compliant material option or the emission rate without add-on controls option for any coating operation in the affected source for which you do not use the emission rate with add-on controls option. To demonstrate initial compliance, the coating operation(s) for which you use the emission rate with add-on controls option must meet the applicable emission limitations in §§63.3890, 63.3892, and 63.3893. [§63.3961(a)]
 - 4) You must conduct a separate initial compliance demonstration for each general use, magnet wire, rubber-to-metal, and extreme performance fluoropolymer coating operation, unless you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c). [§63.3961(a)]
 - 5) If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.4490(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. [§63.3961(a)]
 - 6) You must meet all the requirements of §63.3961. When calculating the organic HAP emission rate according to this section, do not include any coatings, thinners and/or other additives, or cleaning materials used on coating operations for which you use the compliant material option or the emission rate without add-on controls option. You do not need to redetermine the mass of organic HAP in coatings, thinners and/or other additives, or cleaning materials that have been reclaimed onsite (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coatings operation(s) for which you use the emission rate with add-on controls option. If you use coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site, the amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed. [§63.3961(a)]
 - 7) *Compliance with operating limits.* Except as provided in §63.3960(a)(4), and except for solvent recovery systems for which you conduct liquid-liquid material balances according to the requirements of §63.3961(j), you must establish and demonstrate continuous compliance

during the initial compliance period with the operating limits required by §63.3892, using the procedures specified in §§63.3967 and 63.3968. [§63.3961(b)]

- 8) *Compliance with work practice requirements.* You must develop, implement, and document your implementation of the work practice plan required by §63.3893 during the initial compliance period, as specified in §63.3930. [§63.3961(c)]
- 9) *Compliance with emission limits.* You must follow the procedures in §63.3961(e) through (n) to demonstrate compliance with the applicable emission limit in §63.3890 for each affected source in each subcategory. Please refer to the permit conditions listed under Compliance Test Methods and Calculations, to comply with this requirement. [§63.3961(d)]
- 10) *Compliance demonstration.* The organic HAP emission rate for the initial compliance period, calculated using Equation 5 of §63.3961, must be less than or equal to the applicable emission limit for each subcategory in §63.3890 or the predominant activity or facility-specific emission limit allowed in §63.3890(c). You must keep all records as required by §§63.3930 and 63.3931. As part of the notification of compliance status required by §63.3910, you must identify the coating operation(s) for which you used the emission rate with add-on controls option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in §63.3890, and you achieved the operating limits required by §63.3892 and the work practice standards required by §63.3893. [§63.3961(n)]

Performance Tests

- 1) You must conduct each performance test required by §63.3960 according to the requirements in §63.7(e)(1) and under the conditions in this section, unless you obtain a waiver of the performance test according to the provisions in §63.7(h). [§63.3964(a)]
 - a) *Representative coating operation operating conditions.* You must conduct the performance test under representative operating conditions for the coating operation. Operations during periods of startup, shutdown, or malfunction and during periods of nonoperation do not constitute representative conditions. You must record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation. [§63.3964(a)(1)]
 - b) *Representative emission capture system and add-on control device operating conditions.* You must conduct the performance test when the emission capture system and add-on control device are operating at a representative flow rate, and the add-on control device is operating at a representative inlet concentration. You must record information that is necessary to document emission capture system and add-on control device operating conditions during the test and explain why the conditions represent normal operation. [§63.3964(a)(2)]
- 2) You must conduct each performance test of an emission capture system according to the requirements in §63.3965. You must conduct each performance test of an add-on control device according to the requirements in §63.3966. [§63.3964(b)]

Continuous Compliance Demonstration

- 1) To demonstrate continuous compliance with the applicable emission limit in §63.3890, the organic HAP emission rate for each compliance period, determined according to the procedures in §63.3961, must be equal to or less than the applicable emission limit in §63.3890. A compliance period consists of 12 months. Each month after the end of the initial compliance period described in §63.3960 is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in §63.3961 on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility-specific emission limit under §63.3890(c), you must also perform

the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation. [§63.3963(a)]

- 2) If the organic HAP emission rate for any 12-month compliance period exceeded the applicable emission limit in §63.3890, this is a deviation from the emission limitation for that compliance period that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(7). [§63.3963(b)]
- 3) You must demonstrate continuous compliance with each operating limit required by §63.3892 that applies to you, as specified in Table 1 to 40 CFR Part 63, Subpart M MMM (see Attachment B), when the coating line is in operation. [§63.3963(c)]
 - a) *Thermal oxidizer.* You must demonstrate continuous compliance with the operating limit by: [40 CFR Part 63, Subpart M MMM, Table 1]
 - i) Collecting the combustion temperature data according to § 63.3968(c); [Table 1, Item No. 1.a.i]
 - ii) Reducing the data to three hour block averages; and [Table 1, Item No. 1.a.ii]
 - iii) Maintaining the three hour average combustion temperature at or above the temperature limit. [Table 1, Item No. 1.a.iii]
 - b) *Catalytic Oxidizer.* You must demonstrate continuous compliance with the operating limit by: [40 CFR Part 63, Subpart M MMM, Table 1]

Temp before the catalyst bed

- i) Collecting the temperature data according to §63.3968(c); [Table 1, Item No. 2.a.i]
- ii) Reducing the data to three hour block averages; and [Table 1, Item No. 2.a.ii]
- iii) Maintaining the three hour average temperature before (or for magnet wire coating machines after) the catalyst bed at or above the temperature limit. [Table 1, Item No. 2.a.iii]

And either

Temp difference across the catalyst bed

- iv) Collecting the temperature data according to § 63.3968(c); [Table 1, Item No. 2.b.i]
- v) Reducing the data to three hour block averages; and [Table 1, Item No. 2.b.ii]
- vi) Maintaining the three hour average temperature difference at or above the temperature difference limit [Table 1, Item No. 2.b.iii]

Or

Inspection and maintenance plan

- vii) Maintaining and up-to-date inspection and maintenance plan, records of annual catalyst activity checks, records of monthly inspections of the oxidizer system, and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by § 63.3967(b)(4) or for magnet wire coating machines by section 3.0 of Appendix A to Subpart M MMM, you must take corrective action as soon as practicable consistent with the manufacturer's recommendations. [Table 1, Item No. 2.c.i]
- c) *Regenerative carbon adsorber.* You must demonstrate continuous compliance with the operating limit by: [40 CFR Part 63, Subpart M MMM, Table 1]
 - i) Measuring the total regeneration desorbing gas (*e.g.*, steam or nitrogen) mass flow for each regeneration cycle according to §63.3968(d); and [Table 1, Item No. 3.a.i]
 - ii) Maintaining the total regeneration desorbing gas mass flow at or above the mass flow limit. [Table 1, Item No. 3.a.ii]

- iii) Measuring the temperature of the carbon bed after completing each regeneration and any cooling cycle according to § 63.3968(d); and [Table 1, Item No. 3.b.i]
- iv) Operating the carbon beds such that each carbon bed is not returned to service until completing each regeneration and any cooling cycle until the recorded temperature of the carbon bed is at or below the temperature limit. [Table 1, Item No. 3.b.ii]
- d) *Condenser.* You must demonstrate continuous compliance with the operating limit by: [40 CFR Part 63, Subpart M, Table 1]
 - i) Collecting the condenser outlet (product side) gas temperature according to § 63.3968(e); [Table 1, Item No. 4.a.i]
 - ii) Reducing the data to three hour block averages; and [Table 1, Item No. 4.a.ii]
 - iii) Maintaining the three hour average gas temperature at the outlet at or below the temperature limit. [Table 1, Item No. 4.a.iii]
- e) *Concentrators, including zeolite wheels and rotary carbon absorbers.* You must demonstrate continuous compliance with the operating limit by: [40 CFR Part 63, Subpart M, Table 1]

Average Gas Temperature of the Desorption Concentrate Stream

- i) Collecting the temperature data according to §63.3968(f); [Table 1, Item No. 5.a.i]
- ii) Reducing the data to three hour block averages; and [Table 1, Item No. 5.a.ii]
- iii) Maintaining the three hour average temperature at or above the temperature limit. [Table 1, Item No. 5.a.iii]

Average pressure drop of the dilute stream across the concentrator

- iv) Collecting the pressure drop data according to §63.3968(f); [Table 1, Item No. 5.b.i]
- v) Reducing the pressure drop data to three hour block averages; and [Table 1, Item No. 5.b.ii]
- vi) Maintaining the three hour average pressure drop at or above the pressure drop limit. [Table 1, Item No. 5.b.iii]
- f) *Emission capture system that is a PTE according to §63.3965(a).* You must demonstrate continuous compliance with the operating limit by: [40 CFR Part 63, Subpart M, Table 1]
 - i) Collecting the direction of air flow, and either the facial velocity of air through all natural draft openings according to §63.3968(b)(1) or the pressure drop across the enclosure according to § 63.3968(g)(2); and [Table 1, Item No. 6.a.i]
 - ii) Maintaining the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit, and maintaining the direction of air flow into the enclosure at all times. [Table 1, Item No. 6.a.ii]
- g) *Emission capture system that is not a PTE according to §63.3965(a).* You must demonstrate continuous compliance with the operating limit by: [40 CFR Part 63, Subpart M, Table 1]
 - i) Collecting the gas volumetric flow rate or duct static pressure for each capture device according to §63.3968(g); [Table 1, Item No. 7.a.i]
 - ii) Reducing the data to three hour block averages; and [Table 1, Item No. 7.a.ii]
 - iii) Maintaining the three hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limited. [Table 1, Item No. 7.a.iii]

- 4) If an operating parameter is out of the allowed range specified in Table 1 to 40 CFR Part 63, Subpart M, this is a deviation from the operating limit that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(7). [§63.3963(c)(1)]
- 5) If an operating parameter deviates from the operating limit specified in Table 1 to 40 CFR Part 63, Subpart M, then you must assume that the emission capture system and add-on control device were achieving zero efficiency during the time period of the deviation, unless you have other data indicating the actual efficiency of the emission capture system and add-on control device and the use of these data is approved by the Administrator. [§63.3963(c)(2)]
- 6) You must meet the requirements for bypass lines in §63.3968(b) for controlled coating operations for which you do not conduct liquid-liquid material balances. If any bypass line is opened and emissions are diverted to the atmosphere when the coating operation is running, this is a deviation that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(7). For the purposes of completing the compliance calculations specified in §§ 63.3961(h), you must treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation as indicated in Equation 1 of §63.3961. [§63.3963(d)]
- 7) You must demonstrate continuous compliance with the work practice standards in §63.3893. If you did not develop a work practice plan, or you did not implement the plan, or you did not keep the records required by §63.3930(k)(8), this is a deviation from the work practice standards that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(7). [§63.3963(e)]
- 8) As part of each semiannual compliance report required in §63.3920, you must identify the coating operation(s) for which you used the emission rate with add-on controls option. If there were no deviations from the emission limitations, submit a statement that you were in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in §63.3890, and you achieved the operating limits required by §63.3892 and the work practice standards required by §63.3893 during each compliance period. [§63.3963(f)]
- 9) During periods of startup, shutdown, or malfunction of the emission capture system, add-on control device, or coating operation that may affect emission capture or control device efficiency, you must operate in accordance with the startup, shutdown, and malfunction plan required by §63.3900(c). [§63.3963(g)]
- 10) You must maintain records as specified in §§63.3930 and 63.3931. [§63.3963(j)]

Compliance Test Methods and Calculations:

COMPLIANCE TEST METHODS AND CALCULATIONS FOR THE COMPLIANT MATERIALS OPTION

- 1) *Determine the mass fraction of organic HAP for each material used.* You must determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during the compliance period by using one of the options in §63.3941(a)(1) through (5). [§63.3941(a)]
 - a) *Method 311 (Appendix A to 40 CFR part 63).* You may use Method 311 for determining the mass fraction of organic HAP. Use the procedures specified in §63.3941(a)(1)(i) and (ii) when performing a Method 311 test. [§63.3941(a)(1)]
 - i) Count each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined

- carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not have to count it. Express the mass fraction of each organic HAP you count as a value truncated to four places after the decimal point (*e.g.*, 0.3791). [§63.3941(a)(1)(i)]
- ii) Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to three places after the decimal point (*e.g.*, 0.763). [§63.3941(a)(1)(ii)]
- b) *Method 24 (Appendix A to 40 CFR part 60)*. For coatings, you may use Method 24 to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in Appendix A to 40 CFR Part 63, Subpart PPPP, rather than Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in Appendix A to 40 CFR Part 63, Subpart PPPP, as a substitute for the mass fraction of organic HAP. [§63.3941(a)(2)]
- c) *Alternative method*. You may use an alternative test method for determining the mass fraction of organic HAP once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval. [§63.3941(a)(3)]
- d) *Information from the supplier or manufacturer of the material*. You may rely on information other than that generated by the test methods specified in §63.3941(a)(1) through (3), such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to count it. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states the organic HAP or volatile matter mass fraction emitted. If there is a disagreement between such information and results of a test conducted according to §63.3941(a)(1) through (3), then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(a)(4)]
- e) *Solvent blends*. Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which must be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 3 or 4 to 40 CFR Part 63, Subpart MMMM. If you use the tables, you must use the values in Table 3 for all solvent blends that match Table 3 entries according to the instructions for Table 3, and you may use Table 4 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 3 and you know only whether the blend is aliphatic or aromatic. However, if the results of a Method 311 (Appendix A to 40 CFR Part 63) test indicate higher values than those listed on Table 3 or 4 to 40 CFR Part 63, Subpart MMMM, the Method 311 results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(a)(5)]
- 2) *Determine the volume fraction of coating solids for each coating*. You must determine the volume fraction of coating solids (liters (gal) of coating solids per liter (gal) of coating) for each coating used during the compliance period by a test, by information provided by the

supplier or the manufacturer of the material, or by calculation, as specified in §63.3941(b)(1) through (4). If test results obtained according to §63.3941(b)(1) do not agree with the information obtained under §63.3941(b)(3) or (4), the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(b)]

- a) *ASTM Method D2697-86 (Reapproved 1998) or ASTM Method D6093-97 (Reapproved 2003)*. You may use ASTM Method D2697-86 (Reapproved 1998), “Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings” (incorporated by reference, see § 63.14), or ASTM Method D6093-97 (Reapproved 2003), “Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer” (incorporated by reference, see § 63.14), to determine the volume fraction of coating solids for each coating. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of coating solids. [§63.3941(b)(1)]
- b) *Alternative method*. You may use an alternative test method for determining the solids content of each coating once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval. [§63.3941(b)(2)]
- c) *Information from the supplier or manufacturer of the material*. You may obtain the volume fraction of coating solids for each coating from the supplier or manufacturer. [§63.3941(b)(3)]
- d) *Calculation of volume fraction of coating solids*. You may determine the volume fraction of coating solids using Equation 1 of §63.3941: [§63.3941(b)(4)]

$$V_s = 1 - \frac{m_{\text{volatiles}}}{D_{\text{avg}}} \quad (\text{Eq. 1})$$

Where:

V_s = Volume fraction of coating solids, liters (gal) coating solids per liter (gal) coating.

$m_{\text{volatiles}}$ = Total volatile matter content of the coating, including HAP, volatile organic compounds (VOC), water, and exempt compounds, determined according to Method 24 in Appendix A of 40 CFR part 60, grams volatile matter per liter coating.

D_{avg} = Average density of volatile matter in the coating, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475-98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475-98 test results and other information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

- 3) *Determine the density of each coating*. Determine the density of each coating used during the compliance period from test results using ASTM Method D1475-98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see § 63.14), information from the supplier or manufacturer of the material, or specific gravity data for pure chemicals. If there is disagreement between ASTM Method D1475-98 test results and the supplier’s or manufacturer’s information, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(c)]

- 4) *Determine the organic HAP content of each coating.* Calculate the organic HAP content, kg (lb) of organic HAP emitted per liter (gal) coating solids used, of each coating used during the compliance period using Equation 2 of §63.3941: [§63.3941(d)]

$$H_c = \frac{(D_c)(W_c)}{V_s} \quad (\text{Eq. 2})$$

Where:

H_c = Organic HAP content of the coating, kg organic HAP emitted per liter (gal) coating solids used.

D_c = Density of coating, kg coating per liter (gal) coating, determined according to §63.3941(c).

W_c = Mass fraction of organic HAP in the coating, kg organic HAP per kg coating, determined according to §63.3941(a).

V_s = Volume fraction of coating solids, liter (gal) coating solids per liter (gal) coating, determined according to §63.3941(b).

COMPLIANCE TEST METHODS AND CALCULATIONS FOR THE EMISSION RATE WITH NO ADD-ON CONTROLS OPTION

- 1) *Determine the mass fraction of organic HAP for each material used.* Determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each month according to the requirements in §63.3941(a). [§63.3951(a)]
- a) You must determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during the compliance period by using one of the options in §63.3941(a)(1) through (5). [§63.3941(a)]
- i) *Method 311 (Appendix A to 40 CFR part 63).* You may use Method 311 for determining the mass fraction of organic HAP. Use the procedures specified in §63.3941(a)(1)(i) and (ii) when performing a Method 311 test. [§63.3941(a)(1)]
- (1) Count each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not have to count it. Express the mass fraction of each organic HAP you count as a value truncated to four places after the decimal point (*e.g.*, 0.3791). [§63.3941(a)(1)(i)]
- (2) Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to three places after the decimal point (*e.g.*, 0.763). [§63.3941(a)(1)(ii)]
- ii) *Method 24 (Appendix A to 40 CFR part 60).* For coatings, you may use Method 24 to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in Appendix A to 40 CFR Part 63, Subpart PPPP, rather than Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in Appendix A to 40 CFR Part 63, Subpart PPPP, as a substitute for the mass fraction of organic HAP. [§63.3941(a)(2)]
- iii) *Alternative method.* You may use an alternative test method for determining the mass fraction of organic HAP once the Administrator has approved it. You must

- follow the procedure in §63.7(f) to submit an alternative test method for approval. [§63.3941(a)(3)]
- iv) *Information from the supplier or manufacturer of the material.* You may rely on information other than that generated by the test methods specified in §63.3941(a)(1) through (3), such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to count it. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states the organic HAP or volatile matter mass fraction emitted. If there is a disagreement between such information and results of a test conducted according to §63.3941(a)(1) through (3), then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(a)(4)]
- v) *Solvent blends.* Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which must be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 3 or 4 to 40 CFR Part 63, Subpart M. If you use the tables, you must use the values in Table 3 for all solvent blends that match Table 3 entries according to the instructions for Table 3, and you may use Table 4 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 3 and you know only whether the blend is aliphatic or aromatic. However, if the results of a Method 311 (Appendix A to 40 CFR Part 63) test indicate higher values than those listed on Table 3 or 4 to 40 CFR Part 63, Subpart M, the Method 311 results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(a)(5)]
- 2) *Determine the volume fraction of coating solids for each coating.* Determine the volume fraction of coating solids (liters (gal) of coating solids per liter (gal) of coating) for each month according to the requirements in §63.3941(b). [§63.3951(b)]
- a) You must determine the volume fraction of coating solids (liters (gal) of coating solids per liter (gal) of coating) for each coating used during the compliance period by a test, by information provided by the supplier or the manufacturer of the material, or by calculation, as specified in §63.3941(b)(1) through (4). If test results obtained according to §63.3941(b)(1) do not agree with the information obtained under §63.3941(b)(3) or (4), the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(b)]
- i) *ASTM Method D2697-86 (Reapproved 1998) or ASTM Method D6093-97 (Reapproved 2003).* You may use ASTM Method D2697-86 (Reapproved 1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings" (incorporated by reference, see §63.14), or ASTM Method D6093-97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer" (incorporated by reference, see § 63.14), to determine the volume fraction of

coating solids for each coating. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of coating solids.

[§63.3941(b)(1)]

- ii) *Alternative method.* You may use an alternative test method for determining the solids content of each coating once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval. [§63.3941(b)(2)]
- iii) *Information from the supplier or manufacturer of the material.* You may obtain the volume fraction of coating solids for each coating from the supplier or manufacturer. [§63.3941(b)(3)]
- iv) *Calculation of volume fraction of coating solids.* You may determine the volume fraction of coating solids using Equation 1 of §63.3941: [§63.3941(b)(4)]

$$V_s = 1 - \frac{m_{\text{volatiles}}}{D_{\text{avg}}} \quad (\text{Eq. 1})$$

Where:

V_s = Volume fraction of coating solids, liters (gal) coating solids per liter (gal) coating.

$m_{\text{volatiles}}$ = Total volatile matter content of the coating, including HAP, volatile organic compounds (VOC), water, and exempt compounds, determined according to Method 24 in Appendix A of 40 CFR part 60, grams volatile matter per liter coating.

D_{avg} = Average density of volatile matter in the coating, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475-98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see § 63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475-98 test results and other information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

- 3) *Determine the density of each material.* Determine the density of each liquid coating, thinner and/or other additive, and cleaning material used during each month from test results using ASTM Method D1475-98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If you are including powder coatings in the compliance determination, determine the density of powder coatings, using ASTM Method D5965-02, “Standard Test Methods for Specific Gravity of Coating Powders” (incorporated by reference, see §63.14), or information from the supplier. If there is disagreement between ASTM Method D1475-98 or ASTM Method D5965-02 test results and other such information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C, and 2 of §63.3951. [§63.3951(c)]
- 4) *Determine the volume of each material used.* Determine the volume (liters) of each coating, thinner and/or other additive, and cleaning material used during each month by measurement

or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, and 1C of §63.3951. [§63.3951(d)]

- 5) *Calculate the mass of organic HAP emissions.* The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners and/or other additives, and cleaning materials used during each month minus the organic HAP in certain waste materials. Calculate the mass of organic HAP emissions using Equation 1 of §63.3951. [§63.3951(e)]

$$H_e = A + B + C - R_w \quad (\text{Eq. 1})$$

Where:

H_e = Total mass of organic HAP emissions during the month, kg.

A = Total mass of organic HAP in the coatings used during the month, kg, as calculated in Equation 1A of §63.3951

B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg, as calculated in Equation 1B of §63.3951.

C = Total mass of organic HAP in the cleaning materials used during the month, kg, as calculated in Equation 1C of §63.3951.

R_w = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, kg, determined according to §63.3951(e)(4). (You may assign a value of zero to R_w if you do not wish to use this allowance.)

- a) Calculate the kg organic HAP in the coatings used during the month using Equation 1A of §63.3951: [§63.3951(e)(1)]

$$A = \sum_{i=1}^m (\text{Vol}_{c,i})(D_{c,i})(W_{c,i}) \quad (\text{Eq. 1A})$$

Where:

A = Total mass of organic HAP in the coatings used during the month, kg.

$\text{Vol}_{c,i}$ = Total volume of coating, i , used during the month, liters.

$D_{c,i}$ = Density of coating, i , kg coating per liter coating.

$W_{c,i}$ = Mass fraction of organic HAP in coating, i , kg organic HAP per kg coating. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of Part 63.

m = Number of different coatings used during the month.

- b) Calculate the kg of organic HAP in the thinners and/or other additives used during the month using Equation 1B of §63.3951: [§63.3951(e)(2)]

$$B = \sum_{j=1}^n (\text{Vol}_{t,j})(D_{t,j})(W_{t,j}) \quad (\text{Eq. 1B})$$

Where:

B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg.

$\text{Vol}_{t,j}$ = Total volume of thinner and/or other additive, j , used during the month, liters.

$D_{t,j}$ = Density of thinner and/or other additive, j, kg per liter.

$W_{t,j}$ = Mass fraction of organic HAP in thinner and/or other additive, j, kg organic HAP per kg thinner and/or other additive. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of part 63.

n = Number of different thinners and/or other additives used during the month.

- c) Calculate the kg organic HAP in the cleaning materials used during the month using Equation 1C of §63.3951: [§63.3951(e)(3)]

$$C = \sum_{k=1}^p (\text{Vol}_{s,k})(D_{s,k})(W_{s,k}) \quad (\text{Eq. 1C})$$

Where:

C = Total mass of organic HAP in the cleaning materials used during the month, kg.

$\text{Vol}_{s,k}$ = Total volume of cleaning material, k, used during the month, liters.

$D_{s,k}$ = Density of cleaning material, k, kg per liter.

$W_{s,k}$ = Mass fraction of organic HAP in cleaning material, k, kg organic HAP per kg material.

p = Number of different cleaning materials used during the month.

- d) If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of §63.3951, then you must determine the mass according to §63.3951(e)(4)(i) through (iv). [§63.3951(e)(4)]
- i) You may only include waste materials in the determination that are generated by coating operations in the affected source for which you use Equation 1 of §63.3951 and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. You may not include organic HAP contained in wastewater. [§63.3951(e)(4)(i)]
 - ii) You must determine either the amount of the waste materials sent to a TSDF during the month or the amount collected and stored during the month and designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a month if you have already included them in the amount collected and stored during that month or a previous month. [§63.3951(e)(4)(ii)]
 - iii) Determine the total mass of organic HAP contained in the waste materials specified in §63.3951(e)(4)(ii). [§63.3951(e)(4)(iii)]
 - iv) You must document the methodology you use to determine the amount of waste materials and the total mass of organic HAP they contain, as required in §63.3930(h). If waste manifests include this information, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them. [§63.3951(e)(4)(iv)]
- 6) Calculate the total volume of coating solids used. Determine the total volume of coating solids used, liters, which is the combined volume of coating solids for all the coatings used during each month, using Equation 2 of §63.3951: [§63.3951(f)]

$$V_{st} = \sum_{i=1}^m (\text{Vol}_{c,i})(V_{s,i}) \quad (\text{Eq. 2})$$

Where:

V_{st} = Total volume of coating solids used during the month, liters.

$\text{Vol}_{c,i}$ = Total volume of coating, i, used during the month, liters.

$V_{s,i}$ = Volume fraction of coating solids for coating, i, liter solids per liter coating, determined according to §63.3941(b).

m = Number of coatings used during the month.

- 7) *Calculate the organic HAP emission rate.* Calculate the organic HAP emission rate for the compliance period, kg (lb) organic HAP emitted per liter (gal) coating solids used, using Equation 3 of §63.3951: [§63.3951(g)]

$$H_{yr} = \frac{\sum_{y=1}^n H_e}{\sum_{y=1}^n V_{st}} \quad (\text{Eq. 3})$$

Where:

H_{yr} = Average organic HAP emission rate for the compliance period, kg organic HAP emitted per liter coating solids used.

H_e = Total mass of organic HAP emissions from all materials used during month, y, kg, as calculated by Equation 1 of §63.3951.

V_{st} = Total volume of coating solids used during month, y, liters, as calculated by Equation 2 of §63.3951.

y = Identifier for months.

n = Number of full or partial months in the compliance period (for the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13; for all following compliance periods, n equals 12).

COMPLIANCE TEST METHODS AND CALCULATIONS FOR THE EMISSION RATE WITH ADD-ON CONTROLS OPTION

- 1) *Determine the mass fraction of organic HAP, density, volume used and volume fraction of coating solids.* Follow the procedures specified in §63.3951(a) through (d) to determine the mass fraction of organic HAP, density, and volume of each coating, thinner and/or other additive, and cleaning material used during each month; and the volume fraction of coating solids for each coating used during each month. [§63.3961(e)]
 - a) *Determine the mass fraction of organic HAP for each material used.* Determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each month according to the requirements in §63.3941(a). [§63.3951(a)]
 - i) You must determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during the compliance period by using one of the options in §63.3941(a)(1) through (5). [§63.3941(a)]
 - (1) *Method 311 (Appendix A to 40 CFR Part 63).* You may use Method 311 for determining the mass fraction of organic HAP. Use the procedures specified in §63.3941(a)(1)(i) and (ii) when performing a Method 311 test. [§63.3941(a)(1)]

- (a) Count each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not have to count it. Express the mass fraction of each organic HAP you count as a value truncated to four places after the decimal point (e.g., 0.3791).
[§63.3941(a)(1)(i)]
- (b) Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to three places after the decimal point (e.g., 0.763). [§63.3941(a)(1)(ii)]
- (2) *Method 24 (Appendix A to 40 CFR part 60)*. For coatings, you may use Method 24 to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in Appendix A to 40 CFR Part 63, Subpart PPPP, rather than Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in Appendix A to 40 CFR Part 63, Subpart PPPP, as a substitute for the mass fraction of organic HAP. [§63.3941(a)(2)]
- (3) *Alternative method*. You may use an alternative test method for determining the mass fraction of organic HAP once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval. [§63.3941(a)(3)]
- (4) *Information from the supplier or manufacturer of the material*. You may rely on information other than that generated by the test methods specified in §63.3941(a)(1) through (3), such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to count it. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states the organic HAP or volatile matter mass fraction emitted. If there is a disagreement between such information and results of a test conducted according to §63.3941(a)(1) through (3), then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(a)(4)]
- (5) *Solvent blends*. Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which must be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 3 or 4 to 40 CFR Part 63, Subpart MMMM. If you use the tables, you must use the values in Table 3 for all solvent blends that match Table 3 entries according to the instructions for Table 3, and you may use Table 4 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 3 and you know only whether the blend is aliphatic or aromatic. However, if the results of a Method 311

(Appendix A to 40 CFR Part 63) test indicate higher values than those listed on Table 3 or 4 to 40 CFR Part 63, Subpart MMMM, the Method 311 results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(a)(5)]

b) *Determine the volume fraction of coating solids for each coating.* Determine the volume fraction of coating solids (liters (gal) of coating solids per liter (gal) of coating) for each month according to the requirements in §63.3941(b). [§63.3951(b)]

i) You must determine the volume fraction of coating solids (liters (gal) of coating solids per liter (gal) of coating) for each coating used during the compliance period by a test, by information provided by the supplier or the manufacturer of the material, or by calculation, as specified in §63.3941(b)(1) through (4). If test results obtained according to §63.3941(b)(1) do not agree with the information obtained under §63.3941(b)(3) or (4), the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3941(b)]

(1) *ASTM Method D2697-86 (Reapproved 1998) or ASTM Method D6093-97 (Reapproved 2003).* You may use ASTM Method D2697-86 (Reapproved 1998), “Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings” (incorporated by reference, see § 63.14), or ASTM Method D6093-97 (Reapproved 2003), “Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer” (incorporated by reference, see §63.14), to determine the volume fraction of coating solids for each coating. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of coating solids. [§63.3941(b)(1)]

(2) *Alternative method.* You may use an alternative test method for determining the solids content of each coating once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval. [§63.3941(b)(2)]

(3) *Information from the supplier or manufacturer of the material.* You may obtain the volume fraction of coating solids for each coating from the supplier or manufacturer. [§63.3941(b)(3)]

(4) *Calculation of volume fraction of coating solids.* You may determine the volume fraction of coating solids using Equation 1 of §63.3941:
[§63.3941(b)(4)]

$$V_s = 1 - \frac{m_{\text{volatiles}}}{D_{\text{avg}}} \quad (\text{Eq. 1})$$

Where:

V_s = Volume fraction of coating solids, liters (gal) coating solids per liter (gal) coating.

$m_{\text{volatiles}}$ = Total volatile matter content of the coating, including HAP, volatile organic compounds (VOC), water, and exempt compounds, determined according to Method 24 in Appendix A of 40 CFR part 60, grams volatile matter per liter coating.

D_{avg} = Average density of volatile matter in the coating, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475-98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see § 63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure

materials. If there is disagreement between ASTM Method D1475-98 test results and other information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

- c) *Determine the density of each coating.* Determine the density of each liquid coating, thinner and/or other additive, and cleaning material used during each month from test results using ASTM Method D1475-98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If you are including powder coatings in the compliance determination, determine the density of powder coatings, using ASTM Method D5965-02, “Standard Test Methods for Specific Gravity of Coating Powders” (incorporated by reference, see §63.14), or information from the supplier. If there is disagreement between ASTM Method D1475-98 or ASTM Method D5965-02 test results and other such information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C, and 2 of §63.3951. [§63.3951(c)]
 - d) *Determine the volume of each material used.* Determine the volume (liters) of each coating, thinner and/or other additive, and cleaning material used during each month by measurement or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, and 1C of §63.3951. [§63.3951(d)]
- 2) *Calculate the total mass of organic HAP emissions before add-on controls.* Using Equation 1 of §63.3951, calculate the total mass of organic HAP emissions before add-on controls from all coatings, thinners and/or other additives, and cleaning materials used during each month in the coating operation or group of coating operations for which you use the emission rate with add-on controls option. [§63.3961(f)]
- a) The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners and/or other additives, and cleaning materials used during each month minus the organic HAP in certain waste materials. Calculate the mass of organic HAP emissions using Equation 1 of §63.3951. [§63.3951(e)]
$$H_e = A + B + C - R_w \quad (\text{Eq. 1})$$

Where:

H_e = Total mass of organic HAP emissions during the month, kg.

A = Total mass of organic HAP in the coatings used during the month, kg, as calculated in Equation 1A of §63.3951

B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg, as calculated in Equation 1B of §63.3951.

C = Total mass of organic HAP in the cleaning materials used during the month, kg, as calculated in Equation 1C of §63.3951.

R_w = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, kg, determined

according to §63.3951(e)(4). (You may assign a value of zero to R_w if you do not wish to use this allowance.)

- i) Calculate the kg organic HAP in the coatings used during the month using Equation 1A of §63.3951: [§63.3951(e)(1)]

$$A = \sum_{i=1}^m (\text{Vol}_{c,i})(D_{c,i})(W_{c,i}) \quad (\text{Eq. 1A})$$

Where:

A = Total mass of organic HAP in the coatings used during the month, kg.

$\text{Vol}_{c,i}$ = Total volume of coating, i, used during the month, liters.

$D_{c,i}$ = Density of coating, i, kg coating per liter coating.

$W_{c,i}$ = Mass fraction of organic HAP in coating, i, kg organic HAP per kg coating. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of Part 63.

m = Number of different coatings used during the month.

- ii) Calculate the kg of organic HAP in the thinners and/or other additives used during the month using Equation 1B of §63.3951: [§63.3951(e)(2)]

$$B = \sum_{j=1}^n (\text{Vol}_{t,j})(D_{t,j})(W_{t,j}) \quad (\text{Eq. 1B})$$

Where:

B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg.

$\text{Vol}_{t,j}$ = Total volume of thinner and/or other additive, j, used during the month, liters.

$D_{t,j}$ = Density of thinner and/or other additive, j, kg per liter.

$W_{t,j}$ = Mass fraction of organic HAP in thinner and/or other additive, j, kg organic HAP per kg thinner and/or other additive. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of part 63.

n = Number of different thinners and/or other additives used during the month.

- iii) Calculate the kg organic HAP in the cleaning materials used during the month using Equation 1C of §63.3951: [§63.3951(e)(3)]

$$C = \sum_{k=1}^p (\text{Vol}_{s,k})(D_{s,k})(W_{s,k}) \quad (\text{Eq. 1C})$$

Where:

C = Total mass of organic HAP in the cleaning materials used during the month, kg.

$\text{Vol}_{s,k}$ = Total volume of cleaning material, k, used during the month, liters.

$D_{s,k}$ = Density of cleaning material, k, kg per liter.

$W_{s,k}$ = Mass fraction of organic HAP in cleaning material, k, kg organic HAP per kg material.

p = Number of different cleaning materials used during the month.

- iv) If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of §63.3951, then you must determine the mass according to §63.3951(e)(4)(i) through (iv). [§63.3951(e)(4)]
- (1) You may only include waste materials in the determination that are generated by coating operations in the affected source for which you use Equation 1 of §63.3951 and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. You may not include organic HAP contained in wastewater. [§63.3951(e)(4)(i)]
 - (2) You must determine either the amount of the waste materials sent to a TSDF during the month or the amount collected and stored during the month and designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a month if you have already included them in the amount collected and stored during that month or a previous month. [§63.3951(e)(4)(ii)]
 - (3) Determine the total mass of organic HAP contained in the waste materials specified in §63.3951(e)(4)(ii). [§63.3951(e)(4)(iii)]
 - (4) You must document the methodology you use to determine the amount of waste materials and the total mass of organic HAP they contain, as required in §63.3930(h). If waste manifests include this information, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them. [§63.3951(e)(4)(iv)]
- 3) *Calculate the organic HAP emission reduction for each controlled coating operation.* Determine the mass of organic HAP emissions reduced for each controlled coating operation during each month. The emission reduction determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add-on control device. Use the procedures in §63.3961(h) to calculate the mass of organic HAP emission reduction for each controlled coating operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. For each controlled coating operation using a solvent recovery system for which you conduct a liquid-liquid material balance, use the procedures in §63.3961(j) to calculate the organic HAP emission reduction. [§63.3961(g)]
- 4) *Calculate the organic HAP emission reduction for each controlled coating operation not using liquid-liquid material balance.* Use Equation 1 of §63.3961 to calculate the organic HAP emission reduction for each controlled coating operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. The calculation applies the emission capture system efficiency and add-on control device efficiency to the mass of organic HAP contained in the coatings, thinners and/or other additives, and cleaning materials that are used in the coating operation served by the emission capture system and add-on control device during each month. You must assume zero efficiency for the emission capture system and add-on control device for any period of time a deviation specified in §63.3963(c) or (d) occurs in the controlled coating operation, including a deviation during a period of startup, shutdown, or malfunction, unless you have other data indicating the actual efficiency of the emission capture system and add-on control device and the use of these data is approved by the Administrator. Equation 1 of §63.3961 treats the materials used during such a deviation as if they were used on an uncontrolled coating operation for the time period of the deviation. [§63.3961(h)]

$$H_c = (A_C + B_C + C_C - R_W H_{UNC}) \left(\frac{CE}{100} \times \frac{DRE}{100} \right) \quad (\text{Eq. 1})$$

Where:

H_C = Mass of organic HAP emission reduction for the controlled coating operation during the month, kg.

A_C = Total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg, as calculated in Equation 1A of §63.3961.

B_C = Total mass of organic HAP in the thinners and/or other additives used in the controlled coating operation during the month, kg, as calculated in Equation 1B of §63.3961.

C_C = Total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg, as calculated in Equation 1C of §63.3961.

R_W = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg, determined according to §63.3951(e)(4). (You may assign a value of zero to R_W if you do not wish to use this allowance.)

H_{UNC} = Total mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used during all deviations specified in §63.3963(c) and (d) that occurred during the month in the controlled coating operation, kg, as calculated in Equation 1D of §63.3961.

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent. Use the test methods and procedures specified in §§63.3964 and 63.3965 to measure and record capture efficiency.

DRE = Organic HAP destruction or removal efficiency of the add-on control device, percent. Use the test methods and procedures in §§63.3964 and 63.3966 to measure and record the organic HAP destruction or removal efficiency.

- a) Calculate the mass of organic HAP in the coatings used in the controlled coating operation, kg (lb), using Equation 1A of §63.3961: [§63.3961(h)(1)]

$$A_C = \sum_{i=1}^m (\text{Vol}_{c,i})(D_{c,i})(W_{c,i}) \quad (\text{Eq. 1A})$$

Where:

A_C = Total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg.

$\text{Vol}_{c,i}$ = Total volume of coating, i , used during the month, liters.

$D_{c,i}$ = Density of coating, i , kg per liter.

$W_{c,i}$ = Mass fraction of organic HAP in coating, i , kg per kg. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart P of Part 63.

m = Number of different coatings used.

- b) Calculate the mass of organic HAP in the thinners and/or other additives used in the controlled coating operation, kg (lb), using Equation 1B of §63.3961: [§63.3961(h)(2)]

$$B_C = \sum_{j=1}^n (\text{Vol}_{t,j})(D_{t,j})(W_{t,j}) \quad (\text{Eq. 1B})$$

Where:

B_C = Total mass of organic HAP in the thinners and/or other additives used in the controlled coating operation during the month, kg.

$\text{Vol}_{t,j}$ = Total volume of thinner and/or other additive, j, used during the month, liters.

$D_{t,j}$ = Density of thinner and/or other additive, j, kg per liter.

$W_{t,j}$ = Mass fraction of organic HAP in thinner and/or other additive, j, kg per kg. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of Part 63.

n = Number of different thinners and/or other additives used.

- c) Calculate the mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg (lb), using Equation 1C of §63.3961: [§63.3961(h)(3)]

$$C_C = \sum_{k=1}^p (\text{Vol}_{s,k})(D_{s,k})(W_{s,k}) \quad (\text{Eq. 1C})$$

Where:

C_C = Total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg.

$\text{Vol}_{s,k}$ = Total volume of cleaning material, k, used during the month, liters.

$D_{s,k}$ = Density of cleaning material, k, kg per liter.

$W_{s,k}$ = Mass fraction of organic HAP in cleaning material, k, kg per kg.

p = Number of different cleaning materials used.

- d) Calculate the mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used in the controlled coating operation during deviations specified in §63.3963(c) and (d), using Equation 1D of §63.3961: [§63.3961(h)(4)]

$$H_{UNC} = \sum_{h=1}^q (\text{Vol}_h)(D_h)(W_h) \quad (\text{Eq. 1D})$$

Where:

H_{UNC} = Total mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used during all deviations specified in §63.3963(c) and (d) that occurred during the month in the controlled coating operation, kg.

Vol_h = Total volume of coating, thinner and/or other additive, or cleaning material, h, used in the controlled coating operation during deviations, liters.

D_h = Density of coating, thinner and/or other additives, or cleaning material, h, kg per liter.

W_h = Mass fraction of organic HAP in coating, thinner and/or other additives, or cleaning material, h, kg organic HAP per kg coating. For reactive adhesives as defined in

§ 63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of Part 63.

q = Number of different coatings, thinners and/or other additives, and cleaning materials used.

5) *Calculate the organic HAP emission reduction for each controlled coating operation using liquid-liquid material balances.* For each controlled coating operation using a solvent recovery system for which you conduct liquid-liquid material balances, calculate the organic HAP emission reduction by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coatings, thinners and/or other additives, and cleaning materials that are used in the coating operation controlled by the solvent recovery system during each month. Perform a liquid-liquid material balance for each month as specified in §63.3961(j)(1) through (6). Calculate the mass of organic HAP emission reduction by the solvent recovery system as specified in §63.3961(j)(7).

[§63.3961(j)]

- a) For each solvent recovery system, install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system each month. The device must be initially certified by the manufacturer to be accurate to within ± 2.0 percent of the mass of volatile organic matter recovered. [§63.3961(j)(1)]
- b) For each solvent recovery system, determine the mass of volatile organic matter recovered for the month, based on measurement with the device required in §63.3961(j)(1). [§63.3961(j)(2)]
- c) Determine the mass fraction of volatile organic matter for each coating, thinner and/or other additive, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, kg volatile organic matter per kg coating. You may determine the volatile organic matter mass fraction using Method 24 of 40 CFR part 60, Appendix A, or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24 of 40 CFR part 60, Appendix A, or an approved alternative method, the test method results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. [§63.3961(j)(3)]
- d) Determine the density of each coating, thinner and/or other additive, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, kg per liter, according to §63.3951(c). [§63.3961(j)(4)]
- e) Measure the volume of each coating, thinner and/or other additive, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, liters. [§63.3961(j)(5)]
- f) Each month, calculate the solvent recovery system's volatile organic matter collection and recovery efficiency, using Equation 2 of §63.3961: [§63.3961(j)(6)]

$$R_v = 100 \frac{M_{VR}}{\sum_{i=1}^m Vol_i D_i WV_{c,i} + \sum_{j=1}^n Vol_j D_j WV_{t,j} + \sum_{k=1}^p Vol_k D_k WV_{s,k}} \quad (\text{Eq. 2})$$

Where:

R_V = Volatile organic matter collection and recovery efficiency of the solvent recovery system during the month, percent.

M_{VR} = Mass of volatile organic matter recovered by the solvent recovery system during the month, kg.

Vol_i = Volume of coating, i, used in the coating operation controlled by the solvent recovery system during the month, liters.

D_i = Density of coating, i, kg per liter.

$WV_{c,i}$ = Mass fraction of volatile organic matter for coating, i, kg volatile organic matter per kg coating. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of Part 63.

Vol_j = Volume of thinner and/or other additive, j, used in the coating operation controlled by the solvent recovery system during the month, liters.

D_j = Density of thinner and/or other additive, j, kg per liter.

$WV_{t,j}$ = Mass fraction of volatile organic matter for thinner and/or other additive, j, kg volatile organic matter per kg thinner and/or other additive. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of Part 63.

Vol_k = Volume of cleaning material, k, used in the coating operation controlled by the solvent recovery system during the month, liters.

D_k = Density of cleaning material, k, kg per liter.

$WV_{s,k}$ = Mass fraction of volatile organic matter for cleaning material, k, kg volatile organic matter per kg cleaning material.

m = Number of different coatings used in the coating operation controlled by the solvent recovery system during the month.

n = Number of different thinners and/or other additives used in the coating operation controlled by the solvent recovery system during the month.

p = Number of different cleaning materials used in the coating operation controlled by the solvent recovery system during the month.

- g) Calculate the mass of organic HAP emission reduction for the coating operation controlled by the solvent recovery system during the month, using Equation 3 of §63.3961 and according to §63.3961(j)(7)(i) through (iii): [§63.3961(j)(7)]

$$H_{CSR} = (A_{CSR} + B_{CSR} + C_{CSR}) \left(\frac{R_V}{100} \right) \quad (\text{Eq. 3})$$

Where:

H_{CSR} = Mass of organic HAP emission reduction for the coating operation controlled by the solvent recovery system using a liquid-liquid material balance during the month, kg.

A_{CSR} = Total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3A of §63.3961.

B_{CSR} = Total mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3B of §63.3961.

C_{CSR} = Total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3C of §63.3961.

R_V = Volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from Equation 2 of §63.3961.

- i) Calculate the mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system, kg, using Equation 3A of §63.3961. [§63.3961(j)(7)(i)]

$$A_{CSR} = \sum_{i=1}^m (\text{Vol}_{c,i})(D_{c,i})(W_{c,i}) \quad (\text{Eq. 3A})$$

Where:

A_{CSR} = Total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system during the month, kg.

$\text{Vol}_{c,i}$ = Total volume of coating, i, used during the month in the coating operation controlled by the solvent recovery system, liters.

$D_{c,i}$ = Density of coating, i, kg per liter.

$W_{c,i}$ = Mass fraction of organic HAP in coating, i, kg organic HAP per kg coating. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of Part 63.

m = Number of different coatings used.

- ii) Calculate the mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system, kg, using Equation 3B of §63.3961: [§63.3961(j)(7)(ii)]

$$B_{CSR} = \sum_{j=1}^n (\text{Vol}_{t,j})(D_{t,j})(W_{t,j}) \quad (\text{Eq. 3B})$$

Where:

B_{CSR} = Total mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system during the month, kg.

$\text{Vol}_{t,j}$ = Total volume of thinner and/or other additive, j, used during the month in the coating operation controlled by the solvent recovery system, liters.

$D_{t,j}$ = Density of thinner and/or other additive, j, kg per liter.

$W_{t,j}$ = Mass fraction of organic HAP in thinner and/or other additive, j, kg lb organic HAP per kg thinner and/or other additive. For reactive adhesives as defined in § 63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in Appendix A to Subpart PPPP of Part 63.

n = Number of different thinners and/or other additives used.

- iii) Calculate the mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system during the month, kg, using Equation 3C of §63.3961: [§63.3961(j)(7)(iii)]

$$C_{CSR} = \sum_{k=1}^p (\text{Vol}_{s,k})(D_{s,k})(W_{s,k}) \quad (\text{Eq. 1C})$$

Where:

C_{CSR} = Total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system during the month, kg.

$\text{Vol}_{s,k}$ = Total volume of cleaning material, k, used during the month in the coating operation controlled by the solvent recovery system, liters.

$D_{s,k}$ = Density of cleaning material, k, kg per liter.

$W_{s,k}$ = Mass fraction of organic HAP in cleaning material, k, kg organic HAP per kg cleaning material.

p = Number of different cleaning materials used.

- 6) Calculate the total volume of coating solids used. Determine the total volume of coating solids used, liters, which is the combined volume of coating solids for all the coatings used during each month in the coating operation or group of coating operations for which you use the emission rate with add-on controls option, using Equation 2 of §63.3951(f): [§63.3961(k)]

$$V_{st} = \sum_{i=1}^m (\text{Vol}_{c,i})(V_{s,i}) \quad (\text{Eq. 2})$$

Where:

V_{st} = Total volume of coating solids used during the month, liters.

$\text{Vol}_{c,i}$ = Total volume of coating, i, used during the month, liters.

$V_{s,i}$ = Volume fraction of coating solids for coating, i, liter solids per liter coating, determined according to §63.3941(b).

m = Number of coatings used during the month.

- 7) Calculate the mass of organic HAP emissions for each month. Determine the mass of organic HAP emissions, kg, during each month, using Equation 4 of §63.3961: [§63.3961(l)]

$$H_{HAP} = H_e - \sum_{i=1}^q (H_{c,i}) - \sum_{j=1}^r (H_{CSR,j}) \quad (\text{Eq. 4})$$

Where:

H_{HAP} = Total mass of organic HAP emissions for the month, kg.

H_e = Total mass of organic HAP emissions before add-on controls from all the coatings, thinners and/or other additives, and cleaning materials used during the month, kg, determined according to §63.3961(f).

$H_{c,i}$ = Total mass of organic HAP emission reduction for controlled coating operation, i, not using a liquid-liquid material balance, during the month, kg, from Equation 1 of §63.3961.

$H_{CSR,j}$ = Total mass of organic HAP emission reduction for coating operation, j, controlled by a solvent recovery system using a liquid-liquid material balance, during the month, kg, from Equation 3 of §63.3961.

q = Number of controlled coating operations not controlled by a solvent recovery system using a liquid-liquid material balance.

r = Number of coating operations controlled by a solvent recovery system using a liquid-liquid material balance.

- 8) *Calculate the organic HAP emission rate for the compliance period.* Determine the organic HAP emission rate for the compliance period, kg (lb) of organic HAP emitted per liter (gal) coating solids used, using Equation 5 of §63.3961: [§63.3961(m)]

$$H_{\text{annual}} = \frac{\sum_{y=1}^n H_{\text{HAP},y}}{\sum_{y=1}^n V_{\text{st},y}} \quad (\text{Eq. 5})$$

Where:

H_{annual} = Organic HAP emission rate for the compliance period, kg organic HAP emitted per liter coating solids used.

$H_{\text{HAP},y}$ = Organic HAP emissions for month, y, kg, determined according to Equation 4 of §63.3961.

$V_{\text{st},y}$ = Total volume of coating solids used during month, y, liters, from Equation 2 of §63.3951.

y = Identifier for months.

n = Number of full or partial months in the compliance period (for the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13; for all following compliance periods, n equals 12).

Determining Emission Capture System Efficiency

- 1) You must use the following procedures and test methods to determine capture efficiency as part of the performance test required by §63.3960. [§63.3965]
 - a) *Assuming 100 percent capture efficiency.* You may assume the capture system efficiency is 100 percent if both of the conditions in §63.3965(a)(1) and (2) are met: [§63.3965(a)]
 - i) The capture system meets the criteria in Method 204 of Appendix M to 40 CFR part 51 for a PTE and directs all the exhaust gases from the enclosure to an add-on control device. [§63.3965(a)(1)]
 - ii) All coatings, thinners and/or other additives, and cleaning materials used in the coating operation are applied within the capture system; coating solvent flash-off, curing, and drying occurs within the capture system; and the removal or evaporation of cleaning materials from the surfaces they are applied to occurs within the capture system. For example, this criterion is not met if parts enter the open shop environment when being moved between a spray booth and a curing oven. [§63.3965(a)(2)]
 - b) *Measuring capture efficiency.* If the capture system does not meet both of the criteria in §63.3965(a)(1) and (2), then you must use one of the three protocols described in §63.3965(c), (d), and (e) to measure capture efficiency. The capture efficiency

measurements use TVH capture efficiency as a surrogate for organic HAP capture efficiency. For the protocols in §63.3965(c) and (d), the capture efficiency measurement must consist of three test runs. Each test run must be at least three hours duration or the length of a production run, whichever is longer, up to eight hours. For the purposes of this test, a production run means the time required for a single part to go from the beginning to the end of the production, which includes surface preparation activities and drying and curing time. [§63.3965(b)]

c) *Liquid-to-uncaptured-gas protocol using a temporary total enclosure or building enclosure.* The liquid-to-uncaptured-gas protocol compares the mass of liquid TVH in materials used in the coating operation to the mass of TVH emissions not captured by the emission capture system. Use a temporary total enclosure or a building enclosure and the procedures in §63.3965(c)(1) through (6) to measure emission capture system efficiency using the liquid-to-uncaptured-gas protocol. [§63.3965(c)]

i) Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and/or other additives, and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash-off, curing, and drying areas. The areas of the coating operation where capture devices collect emissions for routing to an add-on control device, such as the entrance and exit areas of an oven or spray booth, must also be inside the enclosure. The enclosure must meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 of Appendix M to 40 CFR Part 51. [§63.3965(c)(1)]

ii) Use Method 204A or 204F of Appendix M to 40 CFR Part 51 to determine the mass fraction of TVH liquid input from each coating, thinner and/or other additive, and cleaning material used in the coating operation during each capture efficiency test run. To make the determination, substitute TVH for each occurrence of the term VOC in the methods. [§63.3965(c)(2)]

iii) Use Equation 1 of §63.3965 to calculate the total mass of TVH liquid input from all the coatings, thinners and/or other additives, and cleaning materials used in the coating operation during each capture efficiency test run: [§63.3965(c)(3)]

$$TVH_{used} = \sum_{i=1}^n (TVH_i)(Vol_i)(D_i) \quad (\text{Eq. 1})$$

Where:

TVH_{used} = Mass of liquid TVH in materials used in the coating operation during the capture efficiency test run, kg.

TVH_i = Mass fraction of TVH in coating, thinner and/or other additive, or cleaning material, i, that is used in the coating operation during the capture efficiency test run, kg TVH per kg material.

Vol_i = Total volume of coating, thinner and/or other additive, or cleaning material, i, used in the coating operation during the capture efficiency test run, liters.

D_i = Density of coating, thinner and/or other additive, or cleaning material, i, kg material per liter material.

n = Number of different coatings, thinners and/or other additives, and cleaning materials used in the coating operation during the capture efficiency test run.

- iv) Use Method 204D or 204E of Appendix M to 40 CFR Part 51 to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system. They are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods. [§63.3965(c)(4)]
- (1) Use Method 204D of Appendix M to 40 CFR part 51 if the enclosure is a temporary total enclosure. [§63.3965(c)(4)(1)]
- (2) Use Method 204E of Appendix M to 40 CFR 51 if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, must be shut down, but all fans and blowers must be operating normally. [§63.3965(c)(4)(2)]
- v) For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 2 of §63.395: [§63.3965(c)(5)]

$$CE = \frac{(TVH_{used} - TVH_{uncaptured})}{TVH_{used}} \times 100 \quad (\text{Eq. 2})$$

Where:

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent.

TVH_{used} = Total mass of TVH liquid input used in the coating operation during the capture efficiency test run, kg.

$TVH_{uncaptured}$ = Total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg.

- vi) Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the three test runs. [§63.3965(c)(6)]
- d) *Gas-to-gas protocol using a temporary total enclosure or a building enclosure.* The gas-to-gas protocol compares the mass of TVH emissions captured by the emission capture system to the mass of TVH emissions not captured. Use a temporary total enclosure or a building enclosure and the procedures in §63.3965(d)(1) through (5) to measure emission capture system efficiency using the gas-to-gas protocol. [§63.3965(d)]
- i) Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and/or other additives, and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash-off, curing, and drying areas. The areas of the coating operation where capture devices collect emissions generated by the coating operation for routing to an add-on control device, such as the entrance and exit areas of an oven or a spray booth, must also be inside the enclosure. The enclosure must meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 of Appendix M to 40 CFR Part 51. [§63.3965(d)(1)]
- ii) Use Method 204B or 204C of Appendix M to 40 CFR Part 51 to measure the total mass, kg, of TVH emissions captured by the emission capture system during each capture efficiency test run as measured at the inlet to the add-on control device.

To make the measurement, substitute TVH for each occurrence of the term VOC in the methods. [§63.3965(d)(2)]

- (1) The sampling points for the Method 204B or 204C measurement must be upstream from the add-on control device and must represent total emissions routed from the capture system and entering the add-on control device. [§63.3965(d)(2)(i)]
 - (2) If multiple emission streams from the capture system enter the add-on control device without a single common duct, then the emissions entering the add-on control device must be simultaneously measured in each duct and the total emissions entering the add-on control device must be determined. [§63.3965(d)(2)(ii)]
- iii) Use Method 204D or 204E of Appendix M to 40 CFR Part 51 to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system; they are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods. [§63.3965(d)(3)]
- (1) Use Method 204D of Appendix M to 40 CFR Part 51 if the enclosure is a temporary total enclosure. [§63.3965(d)(3)(i)]
 - (2) Use Method 204E of Appendix M to 40 CFR Part 51 if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, must be shut down, but all fans and blowers must be operating normally. [§63.3965(d)(3)(ii)]
- iv) For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 3 of §63.3965: [§63.3965(d)(4)]

$$CE = \frac{(TVH_{\text{captured}})}{(TVH_{\text{captured}} + TVH_{\text{uncaptured}})} \times 100 \quad (\text{Eq. 3})$$

Where:

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent.

TVH_{captured} = Total mass of TVH captured by the emission capture system as measured at the inlet to the add-on control device during the emission capture efficiency test run, kg.

$TVH_{\text{uncaptured}}$ = Total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg.

- v) Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the three test runs. [§63.3965(d)(5)]
- e) *Alternative capture efficiency protocol.* As an alternative to the procedures specified in §63.3965(c) and (d) and subject to the approval of the Administrator, you may determine capture efficiency using any other capture efficiency protocol and test methods that satisfy the criteria of either the DQO or LCL approach as described in Appendix A to Subpart KK Part 63. [§63.3965(e)]

Determining the Add-On Control Device Emission Destruction or Removal Efficiency

- 2) You must use the procedures and test methods listed below to determine the add-on control device emission destruction or removal efficiency as part of the performance test required by

§63.3960. You must conduct three test runs as specified in §63.7(e)(3) and each test run must last at least one hour. If the source is a magnet wire coating machine, you may use the procedures in Section 3.0 of Appendix A to Subpart M MMM as an alternative. [§63.3966]

- a) For all types of add-on control devices, use the test methods specified in §63.3966(a)(1) through (5). [§63.3966(a)]
 - i) Use Method 1 or 1A of Appendix A to 40 CFR Part 60, as appropriate, to select sampling sites and velocity traverse points. [§63.3966(a)(1)]
 - ii) Use Method 2, 2A, 2C, 2D, 2F, or 2G of Appendix A to 40 CFR Part 60, as appropriate, to measure gas volumetric flow rate. [§63.3966(a)(2)]
 - iii) Use Method 3, 3A, or 3B of Appendix A to 40 CFR Part 60, as appropriate, for gas analysis to determine dry molecular weight. [§63.3966(a)(3)]
 - iv) Use Method 4 of Appendix A to 40 CFR Part 60, to determine stack gas moisture. [§63.3966(a)(4)]
 - v) Methods for determining gas volumetric flow rate, dry molecular weight, and stack gas moisture must be performed, as applicable, during each test run. [§63.3966(a)(5)]
- b) Measure total gaseous organic mass emissions as carbon at the inlet and outlet of the add-on control device simultaneously, using either Method 25 or 25A of Appendix A to 40 CFR Part 60. [§63.3966(b)]
 - i) Use Method 25 if the add-on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be more than 50 parts per million (ppm) at the control device outlet. [§63.3966(b)(1)]
 - ii) Use Method 25A if the add-on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be 50 ppm or less at the control device outlet. [§63.3966(b)(2)]
 - iii) Use Method 25A if the add-on control device is not an oxidizer. [§63.3966(b)(3)]
- c) If two or more add-on control devices are used for the same emission stream, then you must measure emissions at the outlet to the atmosphere of each device. For example, if one add-on control device is a concentrator with an outlet to the atmosphere for the high-volume dilute stream that has been treated by the concentrator, and a second add-on control device is an oxidizer with an outlet to the atmosphere for the low-volume concentrated stream that is treated with the oxidizer, you must measure emissions at the outlet of the oxidizer and the high volume dilute stream outlet of the concentrator. [§63.3966(c)]
- d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and the outlet of the add-on control device, using Equation 1 of §63.3966. If there is more than one inlet or outlet to the add-on control device, you must calculate the total gaseous organic mass flow rate using Equation 1 of §63.3966 for each inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions: [§63.3966(d)]

$$M_f = Q_{sd}C_c(12)(0.0416)(10^{-6}) \quad (\text{Eq. 1})$$

Where:

M_f = Total gaseous organic emissions mass flow rate, kg per hour (h).

C_c = Concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A, parts per million by volume (ppmv), dry basis.

Q_{sd} = Volumetric flow rate of gases entering or exiting the add-on control device, as determined by Method 2, 2A, 2C, 2D, 2F, or 2G, dry standard cubic meters/hour (dscm/h).

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

- e) For each test run, determine the add-on control device organic emissions destruction or removal efficiency, using Equation 2 of §63.3966: [§63.3966(e)]

$$DRE = \frac{M_{fi} - M_{fo}}{M_{fi}} \times 100 \quad (\text{Eq. 2})$$

Where:

DRE = Organic emissions destruction or removal efficiency of the add-on control device, percent.

M_{fi} = Total gaseous organic emissions mass flow rate at the inlet(s) to the add-on control device, using Equation 1 of §63.3966, kg/h.

M_{fo} = Total gaseous organic emissions mass flow rate at the outlet(s) of the add-on control device, using Equation 1 of §63.3966, kg/h.

- f) Determine the emission destruction or removal efficiency of the add-on control device as the average of the efficiencies determined in the three test runs and calculated in Equation 2 of §63.3966. [§63.3966(f)]

Establishing the Emission Capture System and Add-On Control Device Operating Limits during the Performance Test

- 1) During the performance test required by §63.3960 and described in §§63.3964, 63.3965, and 63.3966, you must establish the operating limits required by §63.3892, unless you have received approval for alternative monitoring and operating limits under §63.8(f) as specified in §63.3892. [§63.3967]

- a) *Thermal oxidizers.* If your add-on control device is a thermal oxidizer, establish the operating limits according to §63.3967(a)(1) and (2). [§63.3967(a)]
- i) During the performance test, you must monitor and record the combustion temperature at least once every 15 minutes during each of the three test runs. You must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs. [§63.3967(a)(1)]
 - ii) Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for your thermal oxidizer. [§63.3967(a)(2)]
- b) *Catalytic oxidizers.* If your add-on control device is a catalytic oxidizer, establish the operating limits according to either §63.3967(b)(1) and (2) or (b)(3) and (4). If the source is a magnet wire coating machine, you may use the procedures in section 3.0 of Appendix A to 40 CFR Part 63, Subpart M as an alternative. [§63.3967(b)]
- i) During the performance test, you must monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the three test runs. [§63.3967(b)(1)]
 - ii) Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature

- difference across the catalyst bed maintained during the performance test. These are the minimum operating limits for your catalytic oxidizer. [§63.3967(b)(2)]
- iii) You must monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in §63.3967(b)(4). During the performance test, you must monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer. [§63.3967(b)(3)]
 - iv) You must develop and implement an inspection and maintenance plan for your catalytic oxidizer(s) for which you elect to monitor according to §63.3967(b)(3). The plan must address, at a minimum, the elements specified in §63.3967(b)(4)(i) through (iii). [§63.3967(b)(4)]
 - (1) Annual sampling and analysis of the catalyst activity (i.e., conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures. If problems are found during the catalyst activity test, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations. [§63.3967(b)(4)(i)]
 - (2) Monthly external inspection of the catalytic oxidizer system, including the burner assembly and fuel supply lines for problems and, as necessary, adjust the equipment to assure proper air-to-fuel mixtures. [§63.3967(b)(4)(ii)]
 - (3) Annual internal inspection of the catalyst bed to check for channeling, abrasion, and settling. If problems are found during the annual internal inspection of the catalyst, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations. If the catalyst bed is replaced and is not of like or better kind and quality as the old catalyst then you must conduct a new performance test to determine destruction efficiency according to §63.3966. If a catalyst bed is replaced and the replacement catalyst is of like or better kind and quality as the old catalyst, then a new performance test to determine destruction efficiency is not required and you may continue to use the previously established operating limits for that catalytic oxidizer. [§63.3967(b)(4)(iii)]
- c) *Regenerative carbon absorbers.* If your add-on control device is a regenerative carbon absorber, establish the operating limits according to §63.3967(c)(1) and (2). [§63.3967(c)]
- i) You must monitor and record the total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each regeneration cycle, and the carbon bed temperature after each carbon bed regeneration and cooling cycle for the regeneration cycle either immediately preceding or immediately following the performance test. [§63.3967(c)(1)]
 - ii) The operating limits for your regenerative carbon adsorber are the minimum total desorbing gas mass flow recorded during the regeneration cycle and the maximum carbon bed temperature recorded after the cooling cycle. [§63.3967(c)(2)]
- d) *Condensers.* If your add-on control device is a condenser, establish the operating limits according to §63.3967(d)(1) and (2). [§63.3967(d)]

- i) During the performance test, you must monitor and record the condenser outlet (product side) gas temperature at least once every 15 minutes during each of the three test runs. [§63.3967(d)(1)]
- ii) Use the data collected during the performance test to calculate and record the average condenser outlet (product side) gas temperature maintained during the performance test. This average condenser outlet gas temperature is the maximum operating limit for your condenser. [§63.3967(d)(2)]
- e) *Concentrators.* If your add-on control device includes a concentrator, you must establish operating limits for the concentrator according to §63.3967(e)(1) through (4). [§63.3967(e)]
 - i) During the performance test, you must monitor and record the desorption concentrate stream gas temperature at least once every 15 minutes during each of the three runs of the performance test. [§63.3967(e)(1)]
 - ii) Use the data collected during the performance test to calculate and record the average temperature. This is the minimum operating limit for the desorption concentrate gas stream temperature. [§63.3967(e)(2)]
 - iii) During the performance test, you must monitor and record the pressure drop of the dilute stream across the concentrator at least once every 15 minutes during each of the three runs of the performance test. [§63.3967(e)(3)]
 - iv) Use the data collected during the performance test to calculate and record the average pressure drop. This is the minimum operating limit for the dilute stream across the concentrator. [§63.3967(e)(4)]
- f) *Emission capture systems.* For each capture device that is not part of a PTE that meets the criteria of §63.3965(a), establish an operating limit for either the gas volumetric flow rate or duct static pressure, as specified in §63.3967(f)(1) and (2). The operating limit for a PTE is specified in Table 1 to 40 CFR Part 63, Subpart M. If the source is a magnet wire coating machine, you may use the procedures in Section 2.0 of Appendix A to 40 CFR Part 63, Subpart M as an alternative. [§63.3967(f)]
 - i) During the capture efficiency determination required by §63.3960 and described in §§63.3964 and 63.3965, you must monitor and record either the gas volumetric flow rate or the duct static pressure for each separate capture device in your emission capture system at least once every 15 minutes during each of the three test runs at a point in the duct between the capture device and the add-on control device inlet. [§63.3967(f)(1)]
 - ii) Calculate and record the average gas volumetric flow rate or duct static pressure for the three test runs for each capture device. This average gas volumetric flow rate or duct static pressure is the minimum operating limit for that specific capture device. [§63.3967(f)(2)]

Monitoring:

- 1) You must always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for the purposes of complying with this subpart, according to the provisions in §63.6(e)(1)(i). [§63.3900(b)]

Continuous Parameter Monitoring System (CPMS) Installation, Operation, and Maintenance Requirements

- 1) *General.* You must install, operate, and maintain each CPMS specified in §63.3968(c), (e), (f), and (g) according to §63.3968(a)(1) through (6). You must install, operate, and maintain each CPMS specified in §63.3968(b) and (d) according to §63.3968(a)(3) through (5). [§63.3968(a)]

- a) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four equally spaced successive cycles of CPMS operation in one hour. [§63.3968(a)(1)]
 - b) You must determine the average of all recorded readings for each successive three hour period of the emission capture system and add-on control device operation. [§63.3968(a)(2)]
 - c) You must record the results of each inspection, calibration, and validation check of the CPMS. [§63.3968(a)(3)]
 - d) You must maintain the CPMS at all times and have available necessary parts for routine repairs of the monitoring equipment. [§63.3968(a)(4)]
 - e) You must operate the CPMS and collect emission capture system and add-on control device parameter data at all times that a controlled coating operation is operating, except during monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, if applicable, calibration checks and required zero and span adjustments). [§63.3968(a)(5)]
 - f) You must not use emission capture system or add-on control device parameter data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities when calculating data averages. You must use all the data collected during all other periods in calculating the data averages for determining compliance with the emission capture system and add-on control device operating limits. [§63.3968(a)(6)]
 - g) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the CPMS to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations is a deviation from the monitoring requirements. [§63.3968(a)(7)]
- 2) *Capture system bypass line.* You must meet the requirements of §63.3968(b)(1) and (2) for each emission capture system that contains bypass lines that could divert emissions away from the add-on control device to the atmosphere. [§63.3968(b)]
- a) You must monitor or secure the valve or closure mechanism controlling the bypass line in a nondiverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism must meet one of the requirements specified in §63.3968(b)(1)(i) through (v). [§63.3968(b)(1)]
 - i) *Flow control position indicator.* Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add-on control device or diverted from the add-on control device. The time of occurrence and flow control position must be recorded, as well as every time the flow direction is changed. The flow control position indicator must be installed at the entrance to any bypass line that could divert the emissions away from the add-on control device to the atmosphere. [§63.3968(b)(1)(i)]
 - ii) *Car-seal or lock-and-key valve closures.* Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. You must visually inspect the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position, and the emissions are not diverted away from the add-on control device to the atmosphere. [§63.3968(b)(1)(ii)]

- iii) *Valve closure monitoring.* Ensure that any bypass line valve is in the closed (nondiverting) position through monitoring of valve position at least once every 15 minutes. You must inspect the monitoring system at least once every month to verify that the monitor will indicate valve position. [§63.3968(b)(1)(iii)]
 - iv) *Automatic shutdown system.* Use an automatic shutdown system in which the coating operation is stopped when flow is diverted by the bypass line away from the add-on control device to the atmosphere when the coating operation is running. You must inspect the automatic shutdown system at least once every month to verify that it will detect diversions of flow and shut down the coating operation. [§63.3968(b)(1)(iv)]
 - v) *Flow direction indicator.* Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow direction indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add-on control device or diverted from the add-on control device. Each time the flow direction changes, the next reading of the time of occurrence and flow direction must be recorded. The flow direction indicator must be installed in each bypass line or air makeup supply line that could divert the emissions away from the add-on control device to the atmosphere. [§63.3968(b)(1)(v)]
- b) If any bypass line is opened, you must include a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports required in §63.3920. [§63.3968(b)(2)]
- 3) *Thermal oxidizers and catalytic oxidizers.* If you are using a thermal oxidizer or catalytic oxidizer as an add-on control device (including those used with concentrators or with carbon absorbers to treat desorbed concentrate streams), you must comply with the requirements in §63.3968(c)(1) through (3): [§63.3968(c)]
- a) For a thermal oxidizer, install a gas temperature monitor in the firebox of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs. [§63.3968(c)(1)]
 - b) For a catalytic oxidizer, install gas temperature monitors upstream and/or downstream of the catalyst bed as required in §63.3967(b). [§63.3968(c)(2)]
 - c) For all thermal oxidizers and catalytic oxidizers, you must meet the requirements in §63.3968(a) and (c)(3)(i) through (v) for each gas temperature monitoring device. [§63.3968(c)(3)]
 - i) Locate the temperature sensor in a position that provides a representative temperature. [§63.3968(c)(3)(i)]
 - ii) Use a temperature sensor with a measurement sensitivity of five degrees Fahrenheit or 1.0 percent of the temperature value, whichever is larger. [§63.3968(c)(3)(ii)]
 - iii) Before using the sensor for the first time or when relocating or replacing the sensor, perform a validation check by comparing the sensor output to a calibrated temperature measurement device or by comparing the sensor output to a simulated temperature. [§63.3968(c)(3)(iii)]
 - iv) Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices. [§63.3968(c)(3)(iv)]
 - v) Conduct a visual inspection of each sensor every quarter if redundant temperature sensors are not used. [§63.3968(c)(3)(v)]

- 4) *Regenerative carbon absorbers.* If you are using a regenerative carbon absorber as an add-on control device, you must monitor the total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each regeneration cycle, the carbon bed temperature after each regeneration and cooling cycle, and comply with §63.3968(a)(3) through (5) and (d)(1) through (3). [§63.3968(d)]
 - a) The regeneration desorbing gas mass flow monitor must be an integrating device having a measurement sensitivity of plus or minus 10 percent capable of recording the total regeneration desorbing gas mass flow for each regeneration cycle. [§63.3968(d)(1)]
 - b) The carbon bed temperature monitor must be capable of recording the temperature within 15 minutes of completing any carbon bed cooling cycle. [§63.3968(d)(2)]
 - c) For all regenerative carbon absorbers, you must meet the requirements in §63.3968(c)(3)(i) through (v) for each temperature monitoring device. [§63.3968(d)(3)]
- 5) *Condensers.* If you are using a condenser, you must monitor the condenser outlet (product side) gas temperature and comply with §63.3968(a) and (e)(1) and (2). [§63.3968(e)]
 - a) The temperature monitor must provide a gas temperature record at least once every 15 minutes. [§63.3968(e)(1)]
 - b) For all condensers, you must meet the requirements in §63.3968(c)(3)(i) through (v) for each temperature monitoring device. [§63.3968(e)(2)]
- 6) *Concentrators.* If you are using a concentrator, such as a zeolite wheel or rotary carbon bed concentrator, you must comply with the requirements in §63.3968(f)(1) and (2). [§63.3968(f)]
 - a) You must install a temperature monitor in the desorption gas stream. The temperature monitor must meet the requirements in §63.3968(a) and (c)(3). [§63.3968(f)(1)]
 - b) You must install a device to monitor pressure drop across the zeolite wheel or rotary carbon bed. The pressure monitoring device must meet the requirements in §63.3968(a) and (g)(2). [§63.3968(f)(2)]
- 7) *Emission capture systems.* The capture system monitoring system must comply with the applicable requirements in §63.3968(g)(1) and (2). If the source is a magnet wire coating machine, you may use the procedures in section 2.0 of Appendix A to 40 CFR Part 63, Subpart M as an alternative. [§63.3968(g)]
 - a) For each flow measurement device, you must meet the requirements in §63.3968(a) and (g)(1)(i) through (vii). [§63.3968(g)(1)]
 - i) Locate a flow sensor in a position that provides a representative flow measurement in the duct from each capture device in the emission capture system to the add-on control device. [§63.3968(g)(1)(i)]
 - ii) Use a flow sensor with an accuracy of at least 10 percent of the flow. [§63.3968(g)(1)(ii)]
 - iii) Perform an initial sensor calibration in accordance with the manufacturer's requirements. [§63.3968(g)(1)(iii)]
 - iv) Perform a validation check before initial use or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values with electronic signal simulations or via relative accuracy testing. [§63.3968(g)(1)(iv)]
 - v) Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor values with electronic signal simulations or via relative accuracy testing. [§63.3968(g)(1)(v)]
 - vi) Perform leak checks monthly. [§63.3968(g)(1)(vi)]
 - vii) Perform visual inspections of the sensor system quarterly if there is no redundant sensor. [§63.3968(g)(1)(vii)]

- b) For each pressure drop measurement device, you must comply with the requirements in §63.3968(a) and (g)(2)(i) through (vii). [§63.3968(g)(2)]
 - i) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure drop across each opening you are monitoring. [§63.3968(g)(2)(i)]
 - ii) Use a pressure sensor with an accuracy of at least 0.5 inches of water column or five percent of the measured value, whichever is larger. [§63.3968(g)(2)(ii)]
 - iii) Perform an initial calibration of the sensor according to the manufacturer's requirements. [§63.3968(g)(2)(iii)]
 - iv) Conduct a validation check before initial operation or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources. [§63.3968(g)(2)(iv)]
 - v) Conduct accuracy audits every quarter and after every deviation. Accuracy audits include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources. [§63.3968(g)(2)(v)]
 - vi) Perform monthly leak checks on pressure connections. A pressure of at least 1.0 inches of water column to the connection must yield a stable sensor result for at least 15 seconds. [§63.3968(g)(2)(vi)]
 - vii) Perform a visual inspection of the sensor at least monthly if there is no redundant sensor. [§63.3968(g)(2)(vii)]

Recordkeeping:

- 1) You must collect and keep records of the data and information specified in §63.3930. Failure to collect and keep these records is a deviation from the applicable standard. [§63.3930]
- 2) A copy of each notification and report that you submitted to comply with 40 CFR Part 63, Subpart M, and the documentation supporting each notification and report. If you are using the predominant activity alternative under §63.3890(c), you must keep records of the data and calculations used to determine the predominant activity. If you are using the facility-specific emission limit alternative under §63.3890(c), you must keep records of the data used to calculate the facility-specific emission limit for the initial compliance demonstration. You must also keep records of any data used in each annual predominant activity determination and in the calculation of the facility-specific emission limit for each 12-month compliance period included in the semi-annual compliance reports. [§63.3930(a)]
- 3) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP and density for each coating, thinner and/or other additive, and cleaning material, and the volume fraction of coating solids for each coating. If you conducted testing to determine mass fraction of organic HAP, density, or volume fraction of coating solids, you must keep a copy of the complete test report. If you use information provided to you by the manufacturer or supplier of the material that was based on testing, you must keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier. [§63.3930(b)]
- 4) For each compliance period, the records specified in §63.3930(c)(1) through (c)(4). [§63.3930(c)]

- a) A record of the coating operations on which you used each compliance option and the time periods (beginning and ending dates and times) for each option you used. [§63.3930(c)(1)] (See Attachment C.)
- b) For the compliant material option, a record of the calculation of the organic HAP content for each coating, using Equation 2 of §63.3941. [§63.3930(c)(2)]
- c) For the emission rate without add-on controls option, a record of the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1, 1A through 1C and 2 of §63.3951; and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4); the calculation of the total volume of coating solids used each month using Equation 2 of §63.3951; and the calculation of each 12-month organic HAP emission rate using Equation 3 of §63.3951. [§63.3930(c)(3)]
- d) For the emission rate with add-on controls option, records of the calculations specified §63.3930(c)(4)(i) through (v). [§63.3930(c)(4)]
 - i) The calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1 and 1A through 1C of §63.3951 and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4); [§63.3930(c)(4)(i)]
 - ii) The calculation of the total volume of coating solids used each month using Equation 2 of §63.3951; [§63.3930(c)(4)(ii)]
 - iii) The calculation of the mass of organic HAP emission reduction by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.3961 and Equations 2, 3, and 3A through 3C of §63.3961, as applicable; [§63.3930(c)(4)(iii)]
 - iv) The calculation of each month's organic HAP emission rate using Equation 4 of §63.3961; and [§63.3930(c)(4)(iv)]
 - v) The calculation of each 12-month organic HAP emission rate using Equation 5 of §63.3961. [§63.3930(c)(4)(v)]
- 5) A record of the name and volume of each coating, thinner and/or other additive, and cleaning material used during each compliance period shall be kept. If you are using the compliant material option for all coatings at the source, you may maintain purchase records for each material used rather than a record of the volume used. [§63.3930(d)] (See Attachment D.)
- 6) A record of the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each compliance period unless the material is tracked by weight. [§63.3930(e)] (See Attachment D.)
- 7) A record of the volume fraction of coating solids for each coating used during each compliance period. [§63.3930(f)] (See Attachment D.)
- 8) If you use either the emission rate without add-on controls or the emission rate with add-on controls compliance option, the density for each coating, thinner and/or other additive, and cleaning material used during each compliance period. [§63.3930(g)] (See Attachment D.)
- 9) If you use an allowance in Equation 1 of §63.3951 for organic HAP contained in waste materials sent to or designated for shipment to a treatment, storage, and disposal facility (TSDF) according to §63.3951(e)(4), you must keep records of the information specified in §63.3930(h)(1) through (3). [§63.3930(h)]
 - a) The name and address of each TSDF to which you sent waste materials for which you use an allowance in Equation 1 of §63.3951; a statement of which Subparts under 40 CFR Parts 262, 264, 265, and 266 apply to the facility; and the date of each shipment. [§63.3930(h)(1)]

- b) Identification of the coating operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of §63.3951. [§63.3930(h)(2)]
 - c) The methodology used in accordance with §63.3951(e)(4) to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment. [§63.3930(h)(3)]
- 10) You must keep records of the date, time, and duration of each deviation. [§63.3930(j)]
- 11) If you use the emission rate with add-on controls, you must keep the records specified in §63.3930(k)(1) through (8). [§63.3930(k)]
- a) For each deviation, a record of whether the deviation occurred during a period of startup, shutdown, or malfunction. [§63.3930(k)(1)]
 - b) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction. [§63.3930(k)(2)]
 - c) The records required to show continuous compliance with each operating limit specified in Table 1 to 40 CFR Part 63, Subpart M (see Attachment B) that applies to you. [§63.3930(k)(3)]
 - d) For each capture system that is a PTE, the data and documentation you used to support a determination that the capture system meets the criteria in Method 204 of Appendix M to 40 CFR part 51 for a PTE and has a capture efficiency of 100 percent, as specified in §63.3965(a). [§63.3930(k)(4)]
 - e) For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in §§63.3964 and 63.3965(b) through (e), including the records specified in §63.3930(k)(5)(i) through (iii) that apply to you. [§63.3930(k)(5)]
 - i) *Records for a liquid-to-uncaptured gas protocol using a temporary total enclosure or building enclosure.* Records of the mass of total volatile hydrocarbon (TVH) as measured by Method 204A or 204F of Appendix M to 40 CFR Part 51 for each material used in the coating operation, and the total TVH for all materials used during each capture efficiency test run, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run, as measured by Method 204D or 204E of Appendix M to 40 CFR Part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of Appendix M to 40 CFR Part 51 for either a temporary total enclosure or a building enclosure. [§63.3930(k)(5)(i)]
 - ii) *Records for a gas-to-gas protocol using a temporary total enclosure or a building enclosure.* Records of the mass of TVH emissions captured by the emission capture system as measured by Method 204B or 204C of Appendix M to 40 CFR part 51 at the inlet to the add-on control device, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run as measured by Method 204D or 204E of Appendix M to 40 CFR Part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of

- Appendix M to 40 CFR part 51 for either a temporary total enclosure or a building enclosure. [§63.3930(k)(5)(ii)]
- iii) *Records for an alternative protocol.* Records needed to document a capture efficiency determination using an alternative method or protocol as specified in §63.3965(e), if applicable. [§63.3930(k)(5)(iii)]
 - f) The records specified in §63.3930(k)(6)(i) and (ii) for each add-on control device organic HAP destruction or removal efficiency determination as specified in §63.3966. [§63.3930(k)(6)]
 - i) Records of each add-on control device performance test conducted according to §§63.3964 and 63.3966. [§63.3930(k)(6)(i)]
 - ii) Records of the coating operation conditions during the add-on control device performance test showing that the performance test was conducted under representative operating conditions. [§63.3930(k)(6)(ii)]
 - g) Records of the data and calculations you used to establish the emission capture and add-on control device operating limits as specified in §63.3967 and to document compliance with the operating limits as specified in Table 1 to Subpart MMMM. [§63.3930(k)(7)]
 - h) A record of the work practice plan required by §63.3893 and documentation that you are implementing the plan on a continuous basis. [§63.3930(k)(8)]
- 12) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). Where appropriate, the records may be maintained as electronic spreadsheets or as a database. [§63.3931(a)]
- 13) As specified in §63.10(b)(1), you must keep each record for five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [§63.3931(b)]
- 14) You must keep each record on-site for at least two years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You may keep the records off-site for the remaining three years. [§63.3931(c)]

Reporting:

- 1) *General.* You must submit the notifications in §§63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) that apply to you by the dates specified in those sections, except as provided in §63.3910(b) and (c). [§63.3910(a)]
- 2) *Initial notification.* For an existing affected source, you must submit the initial notification no later than one year after January 2, 2004. [§63.3910(b)]
- 3) *Notification of compliance status.* You must submit the notification of compliance status required by §63.9(h) no later than 30 calendar days following the end of the initial compliance period described in §§63.3940 that applies to your affected source. The notification of compliance status must contain the information specified in §63.3910(c)(1) through (11) and in §63.9(h). [§63.3910(c)]
 - a) Company name and address. [§63.3910(c)(1)]
 - b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. [§63.3910(c)(2)]
 - c) Date of the report and beginning and ending dates of the reporting period. The reporting period is the initial compliance period described in §§63.3940, 63.3950, or 63.3960 that applies to your affected source. [§63.3910(c)(3)]

- d) Identification of the compliance option or options specified in §63.3891 that you used on each coating operation in the affected source during the initial compliance period. [§63.3910(c)(4)]
- e) Statement of whether or not the affected source achieved the emission limitations for the initial compliance period. [§63.3910(c)(5)]
- f) If you had a deviation, include the information in §63.3910(c)(6)(i) and (ii). [§63.3910(c)(6)]
 - i) A description and statement of the cause of the deviation. [§63.3910(c)(6)(i)]
 - ii) If you failed to meet the applicable emission limit in §63.3890, include all the calculations you used to determine the kg (lb) of organic HAP emitted per liter (gal) coating solids used. You do not need to submit information provided by the materials' suppliers or manufacturers, or test reports. [§63.3910(c)(6)(ii)]
- g) For each of the data items listed in §63.3910(c)(7)(i) through (iv) that is required by the compliance option(s) you used to demonstrate compliance with the emission limit, include an example of how you determined the value, including calculations and supporting data. Supporting data may include a copy of the information provided by the supplier or manufacturer of the example coating or material, or a summary of the results of testing conducted according to §63.3941(a), (b), or (c). You do not need to submit copies of any test reports. [§63.3910(c)(7)]
 - i) Mass fraction of organic HAP for one coating, for one thinner and/or other additive, and for one cleaning material. [§63.3910(c)(7)(i)]
 - ii) Volume fraction of coating solids for one coating. [§63.3910(c)(7)(ii)]
 - iii) Density for one coating, one thinner and/or other additive, and one leaning material, except that if you use the compliant material option, only the example coating density is required. [§63.3910(c)(7)(iii)]
 - iv) The amount of waste materials and the mass of organic HAP contained in the waste materials for which you are claiming an allowance in Equation 1 of §63.3951. [§63.3910(c)(7)(iv)]
- h) The calculation of kg (lb) of organic HAP emitted per liter (gal) coating solids used for the compliance option(s) you used, as specified in §63.3910(c)(8)(i) through (iii). [§63.3910(c)(8)]
 - i) For the compliant material option, provide an example calculation of the organic HAP coating for one coating, using Equation 2 of §63.3941. [§63.3910(c)(8)(i)]
 - ii) For the emission rate without add-on controls option, provide the calculation of the total mass of organic HAP emissions for each month; the calculation of the total volume of coating solids used each month; and the calculation of the 12-month organic HAP emission rate using Equations 1 and 1A through 1C, 2, and 3, respectively, of §63.3951. [§63.3910(c)(8)(ii)]
 - iii) For the emission rate with add-on controls option, provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month, using Equations 1 and 1A through 1C of §63.3951; the calculation of the total volume of coating solids used each month using Equation 2 of §63.3951; the mass of organic HAP emission reduction each month by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.3961 and Equations 2, 3, and 3A through 3C of §63.3961 as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of §63.3961; and the calculation of the 12-month organic HAP emission rate using Equation 5 of §63.3961. [§63.3910(c)(8)(iii)]

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- i) For the emission rate with add-on controls option, you must include the information specified in §63.3910(c)(9)(i) through (iv), except that the requirements in §63.3910(c)(9)(i) through (iii) do not apply to solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j). [§63.3910(c)(9)]
 - i) For each emission capture system, a summary of the data and copies of the calculations supporting the determination that the emission capture system is a permanent total enclosure (PTE) or a measurement of the emission capture system efficiency. Include a description of the protocol followed for measuring capture efficiency, summaries of any capture efficiency tests conducted, and any calculations supporting the capture efficiency determination. If you use the data quality objective (DQO) or lower confidence limit (LCL) approach, you must also include the statistical calculations to show you meet the DQO or LCL criteria in Appendix A to Subpart KK of Part 63. You do not need to submit complete test reports. [§63.3910(c)(9)(i)]
 - ii) A summary of the results of each add-on control device performance test. You do not need to submit complete test reports. [§63.3910(c)(9)(ii)]
 - iii) A list of each emission capture system's and add-on control device's operating limits and a summary of the data used to calculate those limits. [§63.3910(c)(9)(iii)]
 - iv) A statement of whether or not you developed and implemented the work practice plan required by §63.3893. [§63.3910(c)(9)(iv)]
 - j) If you are complying with a single emission limit representing the predominant activity under §63.3890(c)(1), include the calculations and supporting information used to demonstrate that this emission limit represents the predominant activity as specified in §63.3890(c)(1). [§63.3910(c)(10)]
 - k) If you are complying with a facility-specific emission limit under §63.3890(c)(2), include the calculation of the facility-specific emission limit and any supporting information as specified in §63.3890(c)(2). [§63.3910(c)(11)]
- 4) *Semiannual compliance reports.* You must submit semiannual compliance reports for each affected source according to the requirements of §63.3920(a)(1) through (7). The semiannual compliance reporting requirements may be satisfied by reports required under other parts of the Clean Air Act (CAA), as specified in §63.3920(a)(2). [§63.3920(a)]
- a) *Dates.* Unless the Administrator has approved or agreed to a different schedule for submission of reports under § 63.10(a), you must prepare and submit each semiannual compliance report according to the dates specified in §63.3920(a)(1)(i) through (iv). Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation. [§63.3920(a)(1)]
 - i) The first semiannual compliance report must cover the first semiannual reporting period which begins the day after the end of the initial compliance period described in §63.3940 that applies to your affected source and ends on June 30 or December 31, whichever date is the first date following the end of the initial compliance period. [§63.3920(a)(1)(i)]
 - ii) Each subsequent semiannual compliance report must cover the subsequent semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. [§63.3920(a)(1)(ii)]
 - iii) Each semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. [§63.3920(a)(1)(iii)]

- iv) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the date specified in §63.3920(a)(1)(iii). [§63.3920(a)(1)(iv)]
- b) *Inclusion with Title V Report.* Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in 40 CFR Part 63, Subpart M in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a semiannual compliance report along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the semiannual compliance report includes all required information concerning deviations from any emission limitation in 40 CFR Part 63, Subpart M, its submission will be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a semiannual compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority. [§63.3920(a)(2)]
- c) *General Requirements.* The semiannual compliance report must contain the information specified in §63.3920(a)(3)(i) through (vii), and the information specified in §63.3920(a)(4) through (7) and (c)(1) that is applicable to your affected source. [§63.3920(a)(3)]
 - i) Company name and address. [§63.3920(a)(3)(i)]
 - ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. [§63.3920(a)(3)(ii)]
 - iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation. [§63.3920(a)(3)(iii)]
 - iv) Identification of the compliance option or options specified in §63.3891 that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting period, you must report the beginning and ending dates for each option you used. [§63.3920(a)(3)(iv)]
 - v) If you used the emission rate without add-on controls or the emission rate with add-on controls compliance option (§63.3891(b) or (c)), the calculation results for each rolling 12-month organic HAP emission rate during the 6-month reporting period. [§63.3920(a)(3)(v)]
 - vi) If you used the predominant activity alternative (§63.3890(c)(1)), include the annual determination of predominant activity if it was not included in the previous semi-annual compliance report. [§63.3920(a)(3)(vi)]
 - vii) If you used the facility-specific emission limit alternative (§63.3890(c)(2)), include the calculation of the facility-specific emission limit for each 12-month compliance period during the 6-month reporting period. [§63.3920(a)(3)(vii)]
- d) *No Deviations.* If there were no deviations from the emission limitations in §§63.3890, that apply to you, the semiannual compliance report must include a statement that there were no deviations from the emission limitations during the reporting period. If you used the emission rate with add-on controls option and there were no periods during which the

continuous parameter monitoring systems (CPMS) were out-of-control as specified in §63.8(c)(7), the semiannual compliance report must include a statement that there were no periods during which the CPMS were out-of-control during the reporting period. [§63.3920(a)(4)]

- e) *Deviations: Compliant material option.* If there was a deviation from the applicable organic HAP content requirements in §63.3890, the semiannual compliance report must contain the information in §63.3920(a)(5)(i) through (iv). [§63.3920(a)(5)]
- i) Identification of each coating used that deviated from the applicable emission limit, and each thinner and/or other additive, and cleaning material used that contained organic HAP, and the dates and time periods each was used. [§63.3920(a)(5)(i)]
 - ii) The calculation of the organic HAP content (using Equation 2 of §63.3941) for each coating identified in §63.3920(a)(5)(i). You do not need to submit background data supporting this calculation (e.g., information provided by coating suppliers or manufacturers, or test reports). [§63.3920(a)(5)(ii)]
 - iii) The determination of mass fraction of organic HAP for each thinner and/or other additive, and cleaning material identified in §63.3920(a)(5)(i). You do not need to submit background data supporting this calculation (e.g., information provided by material suppliers or manufacturers, or test reports). [§63.3920(a)(5)(iii)]
 - iv) A statement of the cause of each deviation. [§63.3920(a)(5)(iv)]
- f) *Deviations: Emission rate without add-on controls option.* If you used the emission rate without add-on controls option and there was a deviation from the applicable emission limit in §63.3890, the semiannual compliance report must contain the information in §63.3920(a)(6)(i) through (iii). [§63.3920(a)(6)]
- i) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in §63.3890. [§63.3920(a)(6)(i)]
 - ii) The calculations used to determine the 12-month organic HAP emission rate for the compliance period in which the deviation occurred. You must submit the calculations for Equations 1, 1A through 1C, 2, and 3 of §63.3951; and if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4). You do not need to submit background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports). [§63.3920(a)(6)(ii)]
 - iii) A statement of the cause of each deviation. [§63.3920(a)(6)(iii)]
- g) *Deviations: Emission rate with add-on controls option.* If there was a deviation from an emission limitation (including any periods when emissions bypassed the add-on control device and were diverted to the atmosphere), the semiannual compliance report must contain the information in §63.3920(a)(7)(i) through (xiv). This includes periods of startup, shutdown, and malfunction during which deviations occurred. [§63.3920(a)(7)]
- i) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in §63.3890. [§63.3920(a)(7)(i)]
 - ii) The calculations used to determine the 12-month organic HAP emission rate for each compliance period in which a deviation occurred. You must provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1 and 1A through 1C of §63.3951; and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4);

the calculation of the total volume of coating solids used each month using Equation 2 of §63.3951; the calculation of the mass of organic HAP emission reduction each month by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.3961, and Equations 2, 3, and 3A through 3C of §63.3961, as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of §63.3961; and the calculation of the 12-month organic HAP emission rate using Equation 5 of §63.3961. You do not need to submit the background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports).

[§63.3920(a)(7)(ii)]

- iii) The date and time that each malfunction started and stopped. [§63.3920(a)(7)(iii)]
 - iv) A brief description of the CPMS. [§63.3920(a)(7)(iv)]
 - v) The date of the latest CPMS certification or audit. [§63.3920(a)(7)(v)]
 - vi) The date and time that each CPMS was inoperative, except for zero (low-level) and high-level checks. [§63.3920(a)(7)(vi)]
 - vii) The date, time, and duration that each CPMS was out-of-control, including the information in §63.8(c)(8). [§63.3920(a)(7)(vii)]
 - viii) The date and time period of each deviation from an operating limit in Table 1 to Subpart M MMM; date and time period of any bypass of the add-on control device; and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period. [§63.3920(a)(7)(viii)]
 - ix) A summary of the total duration of each deviation from an operating limit in Table 1 to Subpart M MMM and each bypass of the add-on control device during the semiannual reporting period, and the total duration as a percent of the total source operating time during that semiannual reporting period. [§63.3920(a)(7)(ix)]
 - x) A breakdown of the total duration of the deviations from the operating limits in Table 1 of Subpart M MMM and bypasses of the add-on control device during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes. [§63.3920(a)(7)(x)]
 - xi) A summary of the total duration of CPMS downtime during the semiannual reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that semiannual reporting period. [§63.3920(a)(7)(xi)]
 - xii) A description of any changes in the CPMS, coating operation, emission capture system, or add-on control device since the last semiannual reporting period. [§63.3920(a)(7)(xii)]
 - xiii) For each deviation from the work practice standards, a description of the deviation, the date and time period of the deviation, and the actions you took to correct the deviation. [§63.3920(a)(7)(xiii)]
 - xiv) A statement of the cause of each deviation. [§63.3920(a)(7)(xiv)]
- h) *Performance test reports.* If you use the emission rate with add-on controls option, you must submit reports of performance test results for emission capture systems and add-on control devices no later than 60 days after completing the tests as specified in §63.10(d)(2). [§63.3920(b)]
- i) *Startup, shutdown, malfunction reports.* If you use the emission rate with add-on controls option, and you had a startup, shutdown, or malfunction during the semiannual

reporting period, you must submit the reports specified in §63.3920(c)(1) and (2).
 [§63.3920(c)]

- i) If your actions were consistent with your startup, shutdown, and malfunction plan, you must include the information specified in §63.10(d) in the semiannual compliance report required by §63.3920(a). [§63.3920(c)(1)]
- ii) If your actions were not consistent with your startup, shutdown, and malfunction plan, you must submit an immediate startup, shutdown, and malfunction report as described in §63.3920(c)(2)(i) and (ii). [§63.3920(c)(2)]
 - (1) You must describe the actions taken during the event in a report delivered by facsimile, telephone, or other means to the Administrator within two working days after starting actions that are inconsistent with the plan.
 [§63.3920(c)(2)(i)]
 - (2) You must submit a letter to the Administrator within seven working days after the end of the event, unless you have made alternative arrangements with the Administrator as specified in §63.10(d)(5)(ii). The letter must contain the information specified in §63.10(d)(5)(ii). [§63.3920(c)(2)(ii)]

EU0020 through EU0040			
Paint Booth #1			
Paint Booth #2			
Paint Booth #3			
Emission Unit	Description	Manufacturer	2005 EIQ Reference #
EU0020	A paint booth equipped with paint arrestors; Maximum hourly design rate (MHDR) = 13.272 gallons of coating/hr (for EU0020 and EU0030 combined); Installed in 1978.	Young & Bertke	EP-13
EU0030	A paint booth equipped with paint arrestors; MHDR = 13.272 gallons of coating/hr (for EU0020 and EU0030 combined); Installed in 1978.	Young & Bertke	EP-13
EU0040	A paint booth with paint arrestors and a clean-up booth; MHDR = 11.0 gallons of coating/hr; Installed in June 2000.	Hydro Aluminum North America	EP-13

Permit Condition (EU0020 through EU0040)-001

10 CSR 10-6.060
Construction Permits Required
 Air Pollution Control Program Permit to Construct Number 032000-002A

Emission Limitation:

The permittee shall emit into the atmosphere from the entire existing coating line (13.272 gph) and the third proposed coating booth (11.0 gph) less than 173.4 tons of volatile organic compounds (VOC) in any consecutive 12-month rolling average.

Equipment and Operation Parameters:

- 1) Paint arrestors must be in use at all times when the coating line and clean-up booth (EP-13) are in operation.

- 2) The paint arrestors shall be operated and maintained in accordance with the manufacturer's specifications.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain the monthly and the sum of the most recent consecutive 12-month records of the VOC emissions from the entire coating line (EP13).
- 2) The permittee shall use Attachment E, *Monthly VOC Emissions Tracking Records*, or an equivalent form to demonstrate compliance with the Emission Limitation.
- 3) The permittee shall maintain operating and maintenance logs for the paint arrestors which shall include the following (See Attachment F):
 - a) Incidents of malfunction, with impact on emissions, duration of event; probable cause and corrective action; and
 - b) Maintenance activities, inspection schedule, repair actions and replacements, etc.
- 4) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
- 5) All records shall be maintained for five years.

Reporting:

- 1) If a situation arises such that the Emission Limitation of this permit condition is altered in order to allow the existing installation to emit more than 173.4 tons of VOC, the permittee will be required to submit a New Source Review in accordance with 10 CSR 10-6.060(8). Such a review must include a Best Available Control Technology (BACT) analysis of the current control technologies and any other requirements that the Director deems necessary pursuant to 10 CSR 10-6.060(8).
- 2) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which *Monthly VOC Emissions Tracking Records* (Monitoring/Recordkeeping 2.), indicate that the source exceeds the Emission Limitation of this permit condition.

Permit Condition (EU0020 through EU0040)-002

10 CSR 10-6.220

Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any new source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-

- b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then
- c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Recordkeeping:

- 1) The permittee shall maintain records of all observation results (see Attachments G and H), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions. (See Attachment I.)
- 3) The permittee shall maintain records of any USEPA Method 9 opacity test performed (see Attachment J) in accordance with this permit condition.
- 4) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
- 5) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

Permit Condition (EU0020 through EU0040)-003

10 CSR 10-6.400

Restriction of Emission of Particulate Matter from Industrial Processes

Emission Limitation:

- 1) The permittee shall not emit particulate matter in excess of 0.74 lbs/hr from emission unit EU0020.
- 2) The permittee shall not emit particulate matter in excess of 0.74 lbs/hr from emission unit EU0030.
- 3) The permittee shall not emit particulate matter in excess of 0.65 lbs/hr from emission unit EU0040.
- 4) The concentration of particulate matter in the exhaust gases from each of these emission units shall not exceed 0.30 gr/scf.

Paint Arrestor Filter Monitoring:

- 1) These emission units shall not be operated without all appropriate paint arrestor filters in place.
- 2) Paint arrestor filters shall be inspected for holes, imperfections, proper installation or other problems that could hinder the effectiveness of the filter.

- 3) The filters shall be inspected each shift before spraying begins in a booth and after installation of a new filter.
- 4) The manufacturer's recommendations shall be followed with regard to installation and frequency of replacement of the filters.

Recordkeeping:

- 1) The permittee shall maintain records of the inspections of paint arrestor filters including when they occur.
- 2) Attachment F contains a log including these recordkeeping requirements. This log, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
- 3) These records shall be made available immediately for inspection to the Department of Natural Resources personnel upon request.
- 4) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

EU0050 through EU0060 Paint Line Boiler Paint Bake Oven			
Emission Unit	Description	Manufacturer	2005 EIQ Reference #
EU0050	A 12.6 MMBtu/hr natural gas/propane boiler used to supply steam to metal pretreat including drying; Installed 1978	Superior Aztec	EP-12
EU0060	A 6 MMBtu/hr natural gas/propane-fired oven used to dry painted parts; Installed 1978	Young & Bertke	EP-14

<p style="text-align: center;">Permit Condition (EU0050 through EU0060)-001</p> <p>10 CSR 10-3.060 Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating</p>
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Emission Limitation:

The permittee shall not emit particulate matter in excess of 0.29 pounds per million BTU of heat input from each of these emission units.

Equipment and Operation Parameters:

These emission units shall be limited to burning pipeline grade natural gas and propane.

Monitoring/Recordkeeping:

- 1) The permittee shall retain the potential to emit calculations in Attachment K which demonstrate that the above emission limitation will never be exceeded. No further recordkeeping shall be required to demonstrate compliance with this emission limitation.
- 2) These records shall be made available immediately for inspection to the Department of Natural Resources personnel upon request.
- 3) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

Permit Condition (EU0050 through EU0060)-002
10 CSR 10-6.260 ¹
Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) No person shall cause or allow emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight pounds of sulfur dioxide per million BTUs actual heat input averaged on any consecutive three hour time period
- 2) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over two times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over two times in any five consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any two consecutive days

¹ 10 CSR 10-6.260(4) is state-only.

Equipment and Operation Parameters:

These emission units shall be limited to burning pipeline grade natural gas and propane.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain an accurate record of the sulfur content of fuel used. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and sulfur content will be acceptable.
- 2) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
- 3) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

EU0070		
Paint Hook Burn-Off Oven		
Description	Manufacturer	2005 EIQ Reference #
A 1.3 MMBtu/hr natural gas fired oven used to remove paint from the hooks used in the paint booths; Installed 2008.	Guspro	EP-15

Permit Condition EU0070-001
10 CSR 10-6.260 ² Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any existing source operation shall not contain more than 500 ppmv of sulfur dioxide.
- 2) Stack gasses shall not contain more than 35 mg per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three-hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year

² 10 CSR 10-6.260(4) is state-only.

Pollutant	Concentration by Volume	Remarks
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over two times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over two times in any five consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any two consecutive days

Equipment and Operation Parameters:

This emission unit shall be limited to burning pipeline grade natural gas and propane.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain an accurate record of the sulfur content of fuel used. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and sulfur content will be acceptable.
- 2) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
- 3) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

EU0080 Age Oven 3		
Description	Manufacturer	Proposed 2005 EIQ Reference #
An oven used as a heat treatment process that insures that the metal products have adequate and consistent tensile properties; The oven is equipped with a 2.5 MMBtu/hr natural gas/propane-fired burner and has the ability to process metal at a maximum rate of 2.5 tons/hr; Installed in June 2003.	Granco-Clark	EP-30

Permit Condition EU0080-001
10 CSR 10-3.060 Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating

Emission Limitation:

The permittee shall not emit particulate matter in excess of 0.29 pounds per million BTU of heat input from this emission unit.

Equipment and Operation Parameters:

This emission unit shall be limited to burning pipeline grade natural gas and propane.

Monitoring/Recordkeeping:

- 1) The permittee shall retain the potential to emit calculations in Attachment K which demonstrate that the above emission limitation will never be exceeded. No further recordkeeping shall be required to demonstrate compliance with this emission limitation.
- 2) These records shall be made available immediately for inspection to the Department of Natural Resources personnel upon request.
- 3) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

Permit Condition EU0080-002

10 CSR 10-6.060

Construction Permits Required

Air Pollution Control Program Permit to Construct Number 072003-009

Emission Limitation/Equipment and Operation Parameters:

Aluminum extrusions entering the aging oven (EP30) shall not contain any visible oil or other organic contaminants.

Monitoring/Recordkeeping:

- 1) The permittee shall inspect each load of aluminum extrusions prior to processing in the oven.
- 2) These inspections shall be documented using Attachment L or an equivalent form.
- 3) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
- 4) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

Permit Condition EU0080-003

10 CSR 10-6.260³

Restriction of Emission of Sulfur Compounds

³ 10 CSR 10-6.260(4) is state-only.

Emission Limitation:

- 1) No person shall cause or allow emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight pounds of sulfur dioxide per million BTUs actual heat input averaged on any consecutive three hour time period
- 2) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over two times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over two times in any five consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any two consecutive days

Equipment and Operation Parameters:

This emission unit shall be limited to burning pipeline grade natural gas and propane.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain an accurate record of the sulfur content of fuel used. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and sulfur content will be acceptable.
- 2) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
- 3) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

IV. Core Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days, in writing, the following information:
 - a) Name and location of installation;
 - b) Name and telephone number of person responsible for the installation;
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - d) Identity of the equipment causing the excess emissions;
 - e) Time and duration of the period of excess emissions;
 - f) Cause of the excess emissions;
 - g) Air pollutants involved;
 - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and
 - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph 1 information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
- 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.
- 4) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
- 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months.

[10 CSR 10-6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(6)(C)1.C(II)] The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request.

[10 CSR 10-6.065(6)(C)3.B]

10 CSR 10-6.110 Submission of Emission Data, Emission Fees and Process Information

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079 to satisfy the requirements of the Federal Clean Air Act, Title V.
- 3) The fees shall be due April 1 each year for emissions produced during the previous calendar year. The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the director.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director.
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.

- 3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
 - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
 - b) Paving or frequent cleaning of roads, driveways and parking lots;
 - c) Application of dust-free surfaces;
 - d) Application of water; and
 - e) Planting and maintenance of vegetative ground cover.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

- 1) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
- 2) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-3.030 Open Burning Restrictions

- 1) The permittee shall not conduct, cause, permit or allow a salvage operation, the disposal of trade wastes or burning of refuse by open burning.
- 2) Exception - Open burning of trade waste or vegetation may be permitted only when it can be shown that open burning is the only feasible method of disposal or an emergency exists which requires open burning.
- 3) Any person intending to engage in open burning shall file a request to do so with the director. The request shall include the following:
 - a) The name, address and telephone number of the person submitting the application; The type of business or activity involved; A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and expected composition and amount of air contaminants to be released to the atmosphere where known;
 - b) The schedule of burning operations;
 - c) The exact location where open burning will be used to dispose of the trade wastes;
 - d) Reasons why no method other than open burning is feasible; and
 - e) Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction.
- 4) Upon approval of the open burning permit application by the director, the person may proceed with the operation under the terms of the open burning permit. Be aware that such approval shall not exempt Hydro Aluminum North America from the provisions of any other law, ordinance or regulation.
- 5) The permittee shall maintain files with letters from the director approving the open burning operation and previous DNR inspection reports.

10 CSR 10-3.090 Restriction of Emission of Odors

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. **This requirement is not federally enforceable.**

10 CSR 10-6.100 Alternate Emission Limits

Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the department. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective.

10 CSR 10-6.080 Emission Standards for Hazardous Air Pollutants and 40 CFR Part 61 Subpart M National Emission Standard for Asbestos

- 1) The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.
- 2) The permittee shall conduct monitoring to demonstrate compliance with registration, certification, notification, and Abatement Procedures and Practices standards as specified in 40 CFR Part 61, Subpart M.

10 CSR 10-6.250 Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees. Each individual who works in asbestos abatement projects must first obtain certification for the appropriate occupation from the department. Each person who offers training for asbestos abatement occupations must first obtain accreditation from the department. Certain business entities that meet the requirements for state-approved exemption status must allow the department to monitor training classes provided to employees who perform asbestos abatement.

Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to §82.166. (“MVAC-like” appliance as defined at §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR part 82*

10 CSR 10-6.280 Compliance Monitoring Usage
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- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
 - a) Monitoring methods outlined in 40 CFR Part 64;
 - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, “Operating Permits”, and incorporated into an operating permit; and
 - c) Any other monitoring methods approved by the director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
 - a) Monitoring methods outlined in 40 CFR Part 64;
 - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, “Operating Permits”, and incorporated into an operating permit; and

- c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
 - a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - ii) 10 CSR 10-6.040, "Reference Methods";
 - iii) 10 CSR 10-6.070, "New Source Performance Standards";
 - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
 - b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

10 CSR 10-6.065(6)(c)1.B Permit Duration

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

10 CSR 10-6.065(6)(c)1.C General Recordkeeping and Reporting Requirements

- 1) Recordkeeping
 - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
 - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
- 2) Reporting
 - a) All reports shall be submitted to the Air Pollution Control Program, Enforcement Section,
P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - iii) Exception. Monitoring requirements which require reporting more frequently than semi annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
 - c) Each report shall identify any deviations from emission limitations, monitoring, recordkeeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
 - d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(c)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.

- ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

10 CSR 10-6.065(6)(c)1.D Risk Management Plan Under Section 112®

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

10 CSR 10-6.065(6)(c)1.F Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

10 CSR 10-6.065(6)(c)1.G General Requirements

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program

reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(c)1.

10 CSR 10-6.065(6)(c)1.H Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

10 CSR 10-6.065(6)(c)1.I Reasonably Anticipated Operating Scenarios

None.

10 CSR 10-6.065(6)(c)3 Compliance Requirements

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
 - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
 - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, as well as the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must

be included in the compliance certifications. The compliance certification shall include the following:

- a) The identification of each term or condition of the permit that is the basis of the certification;
- b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
- c) Whether compliance was continuous or intermittent;
- d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
- e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065(6)(c)6 Permit Shield

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - a) The application requirements are included and specifically identified in this permit, or
 - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
 - a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
 - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - c) The applicable requirements of the acid rain program,
 - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
 - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

10 CSR 10-6.065(6)(c)7 Emergency Provisions

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(c)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - b) That the installation was being operated properly,
 - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.

- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(6)(c)8 Operational Flexibility

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program, Enforcement Section,

P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), recordkeeping, reporting or compliance requirements of the permit.
 - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the APCP shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the APCP as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the APCP as soon as possible after learning of the need to make the change.
 - b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(c)9 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - b) The permittee must provide written notice of the change to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA

Region VII,
901 North 5th Street, Kansas City, Kansas 66101, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.

- c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
- d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)@12 Responsible Official

The application utilized in the preparation of this permit was signed by Mr. Paul Wahlert, Managing Director. The Air Pollution Control Program was informed that Mr. Patrick Lawlor, Vice President of Operations is now the responsible official. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) Missouri Department of Natural Resources or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
 - a) The permit has a remaining term of less than three years;
 - b) The effective date of the requirement is later than the date on which the permit is due to expire; or
 - c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source,

provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or

- 5) Missouri Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065(6)(E)1.C Statement of Basis
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This permit is accompanied by a statement setting forth the legal and factual basis for the draft permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. Attachments

Attached below.

Attachment B

This attachment is referenced by Permit Condition EU0010-001.

Table 1 to Subpart MMMM of Part 63. – Operating Limits if Using the Emission Rate with Add-on Controls Option

For the following device...	You must meet the following operating limit...	And you must demonstrate compliance with the operating limit by...
1. Thermal oxidizer	a) The average combustion temperature in any three hour period must not fall below the combustion temperature limit established according to §63.3967(a).	1. Collecting the combustion temperature data according to §63.3968(c); 2. Reducing the data to three hour block averages; and 3. Maintaining the three hour average combustion temperature at or above the temperature limit.
2. Catalytic oxidizer	a) The average temperature measured just before the catalyst bed in any three hour period must not fall below the limit established according to §63.3967(b) (for magnet wire coating machines, temperature can be monitored before or after the catalyst bed); and either b) Ensure that the average temperature difference across the catalyst bed in any three hour period does not fall below the temperature difference limit established according to §63.3967(b)(2); or c) Develop and implement an inspection and maintenance plan according to §63.3967(b)(4) or for magnet wire coating machines according to section 3.0 of appendix A to 40 CFR Part 63, Subpart MMMM.	1. Collecting the temperature data according to §63.3968(c); 2. Reducing the data to three hour block averages; and 3. Maintaining the three hour average temperature before (or for magnet wire coating machines after) the catalyst bed at or above the temperature limit. 1. Collecting the temperature data according to §63.3968(c); 2. Reducing the data to three hour block averages; and 3. Maintaining the three hour average temperature difference at or above the temperature difference limit. 1. Maintaining and up-to-date inspection and maintenance plan, records of annual catalyst activity checks, records of monthly inspections of the oxidizer system, and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by §63.3967(b)(4) or for magnet wire coating machines by section 3.0 of appendix A to 40 CFR Part 63, Subpart MMMM, you must take corrective action as soon as practicable consistent with the manufacturer's recommendations.

Table 1 to Subpart MMMM of Part 63. – Operating Limits if Using the Emission Rate with Add-on Controls Option		
For the following device...	You must meet the following operating limit...	And you must demonstrate compliance with the operating limit by...
. Regenerative carbon adsorber	<p>a) The total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each carbon bed regeneration cycle must not fall below the total regeneration desorbing gas mass flow limit established according to §63.3967(c); and</p> <p>b) The temperature of the carbon bed, after completing each regeneration and any cooling cycle, must not exceed the carbon bed temperature limit established according to §63.3967(c).</p>	<p>1. Measuring the total regeneration desorbing gas (e.g., steam or nitrogen) mass flow for each regeneration cycle according to §63.3968(d); and</p> <p>2. Maintaining the total regeneration desorbing gas mass flow at or above the mass flow limit.</p> <p>1. Measuring the temperature of the carbon bed after completing each regeneration and any cooling cycle according to §63.3968(d); and</p> <p>2. Operating the carbon beds such that each carbon bed is not returned to service until completing each regeneration and any cooling cycle until the recorded temperature of the carbon bed is at or below the temperature limit.</p>
4. Condenser	a) The average condenser outlet (product side) gas temperature in any three hour period must not exceed the temperature limit established according to §63.3967(d).	<p>1. Collecting the condenser outlet (product side) gas temperature according to §63.3968(e);</p> <p>2. Reducing the data to three hour block averages; and</p> <p>3. Maintaining the three hour average gas temperature at the outlet at or below the temperature limit.</p>
5. Concentrators, including zeolite wheels and rotary carbon adsorbers	<p>a) The average gas temperature of the desorption concentrate stream in any three hour period must not fall below the limit established according to §63.3967(e); and</p> <p>b) The average pressure drop of the dilute stream across the concentrator in any three hour period must not fall below the limit established according to §63.3967(e).</p>	<p>1. Collecting the temperature data according to §63.3968(f);</p> <p>2. Reducing the data to three hour block averages; and</p> <p>3. Maintaining the three hour average temperature at or above the temperature limit.</p> <p>1. Collecting the pressure drop data according to §63.3968(f);</p> <p>2. Reducing the pressure drop data to three hour block averages; and</p> <p>3. Maintaining the three hour average pressure drop at or above the pressure drop limit.</p>

Table 1 to Subpart MMMM of Part 63. – Operating Limits if Using the Emission Rate with Add-on Controls Option		
For the following device...	You must meet the following operating limit...	And you must demonstrate compliance with the operating limit by...
6. Emission capture system that is a PTE according to §63.3965(a)	<p>a) The direction of the air flow at all times must be into the enclosure; and either</p> <p>b) The average facial velocity of air through all natural draft openings in the enclosure must be at least 200 feet per minutes; or</p> <p>c) The pressure drop across the enclosure must be at least 0.007 inch H₂O, as established in Method 204 of appendix M to 40 CFR Part 51.</p>	<p>1. Collecting the direction of air flow, and either the facial velocity of air through all natural draft openings according to §63.3968(b)(1) or the pressure drop across the enclosure according to §63.3968(g)(2); and</p> <p>2. Maintaining the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit, and maintaining the direction of air flow into the enclosure at all times.</p> <p>3. See items 6.a.i. and 6.a.ii.</p> <p>4. See items 6.a.i. and 6.a.ii.</p>
7. Emission capture system that is not a PTE according to §63.3965(a)	a) The average gas volumetric flow rate or duct static pressure in each duct between a capture device and add-on control device inlet in any three hour period must not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to §63.3967(f).	<p>1. Collecting the gas volumetric flow rate or duct static pressure for each capture device according to §63.3968(g);</p> <p>2. Reducing the data to three hour block averages; and</p> <p>3. Maintaining the three hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limited.</p>

Attachment J

This attachment may be used to help meet the recordkeeping requirements of Permit Condition (EU0020 through EU0040)-002.

Method 9 Opacity Emissions Observations	
Company	Observer
Location	Observer Certification Date
Date	Emission Unit
Time	Control Device

Hour	Minute	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							

SUMMARY OF AVERAGE OPACITY				
Set Number	Time		Opacity	
	Start	End	Sum	Average

Readings ranged from _____ to _____ % opacity.

Was the emission unit in compliance at the time of evaluation? _____

YES NO

Signature of Observer

Attachment K

This attachment may be used to help meet the recordkeeping requirements of Permit Condition (EU0050 through EU0060)-001.

Demonstration of Compliance with 10 CSR 10-3.060						
Unit	Fuel	Maximum Hourly Design Rate ¹	Emission Factor ²	Boiler Heat Input (MMBtu/hr)	Potential PM Emission Rate ³ (lbs/MMBtu)	Emission Limitation (lbs/MMBtu)
EU0050	Natural Gas	0.0124	7.6	12.6	0.01	0.29
	Propane	0.1377	0.6	12.6	0.01	0.29
EU0060	Natural Gas	0.0059	7.6	6.0	0.01	0.29
	Propane	0.0656	0.6	6.0	0.01	0.29

¹ Natural Gas: Heat Content = 1020 MMBtu/MMCF
 Units = MMCF/hr

Propane: Heat Content = 91.5 MMBtu/1000 gallons
 Units = 1000 gallons/hr

² Natural Gas: Emission Factor Source = AP42 Sec 1.4 (7/98)
 Units = lb PM/MMCF

Propane: Emission Factor Source = AP42 Sec 1.5 (10/96)
 Units = lb PM/1000 gallons

³ Potential PM Emission Rate = Maximum Hourly Design Rate × Emission Factor ÷ Boiler Heat Input

STATEMENT OF BASIS

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Application, received December 30, 2002;
- 2) 2005 Emissions Inventory Questionnaire, received April 3, 2006;
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition;
- 4) Factor Information Retrieval (FIRE) Data System version 6.23;
- 5) Part 70 Operating Permit Number 009-0005-0001;
- 6) Correspondence from the installation dated August 1, 2003 and November 6, 2003.

Applicable Requirements Included in the Operating Permit but Not in the Application

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

- 1) 10 CSR 10-6.060, Construction Permits Required
Air Pollution Control Program Permit to Construct Number 0197-017
Air Pollution Control Program Permit to Construct Number 1297-010
The requirements of these construction permits were not included in the operating permit application. However, they have been deemed to apply to the installation and are included in the operating permit.
- 2) 10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants
Since 40 CFR Part 61 Subpart M has been deemed to apply to all installations as a core permit requirement, this rule also applies as a core permit requirement as it references 40 CFR Part 61 subparts.
- 3) 10 CSR 10-6.100, Alternate Emission Limits
This rule has been deemed to be applicable to all installations in the event that an area is redesignated nonattainment for ozone and is, as such, included in the operating permit as a core permit requirement.
- 4) 10 CSR 10-6.250, Asbestos Abatement Projects – Certification, Accreditation and Business Exemption Requirements
This rule has been deemed to be applicable to all installations and is, as such, included in the operating permit as a core permit requirement.
- 5) 10 CSR 10-6.280, Compliance Monitoring Usage
On past forms issued by the Air Pollution Control Program, including the application for this permit, this rule was automatically marked as an administrative rule not required to be listed as an applicable requirement. It is no longer judged to be solely administrative and is, therefore, included in the operating permit as a core permit requirement.

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

- 1) 10 CSR 10-6.060, Construction Permits Required
Air Pollution Control Program Permit to Construct Number 1087-006A

This permit was superceded by Permit to Construct Number 0197-017, and therefore, is not included in either operating permit for this installation.
- 2) 10 CSR 10-6.060, Construction Permits Required
Air Pollution Control Program Permit to Construct Number 032000-002

The conditions of this permit were superceded by Permit to Construct Number 032000-002A, and therefore, are not included in either operating permit for this installation.
- 3) 10 CSR 10-6.060, Construction Permits Required
Air Pollution Control Program Permit to Construct Number 032000-017

The only requirement associated with this construction permit is rendering the burner that was replaced inoperable once the permitted burners were installed. Since the permitted burners have been installed and the original burner removed, the conditions of the permit are no longer needed. As such, the permit was not included in either operating permit for the installation.
- 4) 10 CSR 10-6.060, Construction Permits Required
Air Pollution Control Program Permit to Construct Number 102001-013

The application of a release coating to painted extrusions, which is subject to this construction permit, was never installed. According to the Standard Conditions of the construction permit, Hydro Aluminum had to begin construction on the release coating project within two years of the effective date of the permit (or by September 19, 2003) or otherwise notify the agency. Since no extension was requested, construction of the release coating project cannot begin without applying for another construction permit. In addition, Construction Permit Number 072003-009 implies that the installation currently has no intention of installing the release coating emission unit. As such, the requirements of this construction permit were not included in either operating permit for the installation.

Construction Permit Revisions

The following revisions were made to construction permits for this installation:

1. Air Pollution Control Program Permit to Construct Number 0197-017
Due to name changes since the issuance of this construction permit, the name of the installation was not included in the condition but was instead referred to as "the permittee."
2. Air Pollution Control Program Permit to Construct Number 032000-002A
 - a) Special Condition 1A of the construction permit indicates the maximum hourly design rate of the two existing paint booths is 12.64 gallons per hour. However, the permit review of Permit to Construct Number 032000-002 indicates a rate of 13.272 gallons per hour based on coating 1050 pieces per hour and using 12.64 gallons per 1000 pieces. Since there is documentation of the 13.272 gallons per hour in the permit review and not the 12.64 gallons per hour, the reference to the maximum hourly design rate for the existing paint booths was changed to 13.272 gallons per hour.
 - b) As a gap-filling requirement needed to show compliance with the paint arrestor operation and maintenance plans, an example recordkeeping sheet was included in the operating permit even though it was not included in the construction permit.
 - c) Due to name changes since the issuance of this construction permit, the name of the installation was not included in the conditions but was instead referred to as "the permittee."

3. Air Pollution Control Program Permit to Construct Number 072003-009

This construction permit provided no method of demonstrating compliance with the emission limitation/equipment and operating parameters requirement of the permit. As such, gap-filling inspections and associated recordkeeping requirements were included in the operating permit for this construction permit.

NSPS Applicability

1. Currently, there are no 40 CFR Part 60 subparts that apply to the emission units covered under this permit.
2. 40 CFR Part 60 Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, does not apply to any of the combustion units at this installation since none meet both the size and construction date applicability requirements.
3. 40 CFR Part 60 Subparts K, *Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction or Modification Commenced After June 11, 1973 and Prior to May 19, 1978*, Ka, *Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction or Modification Commenced After May 18, 1978 and Prior to July 23, 1984* and Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels(Including Petroleum Liquid Storage Vessels)* for which Construction, Reconstruction or Modification Commenced After July 23, 1984 since all storage tanks at the installation have capacities of less than 10,000 gallons.
4. 40 CFR Part 60 Subparts SS, *Standards of Performance for Industrial Surface Coating: Large Appliances* and TT, *Standards of Performance for Metal Coil Surface Coating*, do not apply to the units covered by this permit since neither large appliances nor metal coils are being coated.

MACT Applicability

- 1) 40 CFR Part 63 Subpart RRR, *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*, does not apply to emission units covered by this permit but is contained in the operating permit for the secondary aluminum production operations.
 - a) The rule does not define a furnace. However, the preamble to the original proposed rule does as a “refractory-lined metal vessel heated by an oil or gas burner to achieve a metal temperature of about 760°C (1400°F).” In addition, the same preamble describes HAP emissions as coming from scrap contamination, fluxing and alloying agents. None of these activities are associated with any of the emission units included in this permit.
 - b) The rule was not applied to the age ovens since these furnaces are used as heat treating furnaces. They process castings only and not molten metal.
 - c) The rule was not applied to the billet heaters since these heaters are used to heat billets to a more malleable state so they can be extruded through dies. The billets are not heated enough to produce molten metal. As such, the heaters were not considered process furnaces.
- 2) 40 CFR Part 63 Subpart MMMM, *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products*, does apply to emission units covered by this permit.
 - a) The regulation was included in the operating permit for a coating line comprised of the three paint booths (EU0020 through EU0040), the paint bake oven (EU0060) and all supporting equipment as defined as the affected source in §63.3882(b)

- b) The paint hook burn-off oven is not considered a coating operation since solvents are not used in the process. (The preamble to the proposed rule (pages 52783 - 52784) implies that when referencing cleaning equipment the rule is referring to that cleaning equipment used to apply or transfer solvents.)
 - c) Since the installation does not have to be in compliance with the rule until 2007, all compliance options were included in the permit. Once the installation determines which method(s) it will use to comply with the rule, only the applicable requirements for that compliance method will be applicable.
- 3) 40 CFR Part 63 Subparts NNNN, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Large Appliances and SSSS, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil, do not apply to the units covered by this permit since neither large appliances nor metal coils are being coated.
 - 4) 40 CFR Part 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters is applicable because the units in question meet the definition of an affected source, but the qualifying subcategories are subject to only an initial notification (existing large gaseous fuel units per Subpart DDDDD, notification received on March 10, 2005). Therefore, these regulations have not been cited as permit conditions in this operating permit. However, affected source subcategories with limited or no regulatory requirements remain affected sources that are covered by this MACT standard. EPA requires Missouri to track such facilities as affected sources, noting which boiler units have limited or no regulatory requirements. Furthermore, regulatory requirements could change based on new data and analyses [such as the Residual Risk Program required by Section 112(f) of the Clean Air Act] and all affected source subcategories should be tracked to ensure continued compliance with the current rule and future rule amendments.

NESHAP Applicability

40 CFR Part 61, Subpart M, *National Emission Standard for Asbestos*, applies to the installation because of the renovation and demolition parts of the subpart which makes the subpart applicable to all sources. It is included as a core permit requirement.

Other Regulatory Determinations

- 1) In June of 1998, Part 70 Operating Permit Number 009-0005-001 was issued to Wells Aluminum Corporation. Since that time, the installation was purchased by Hydro Aluminum North America. Hydro Aluminum kept all existing processes in operation but divided the installation into two separate operating entities: secondary aluminum production operations (Hydro Aluminum Metal Products) and extrusion and painting operations (Hydro Aluminum North America). The accounting, billing and services of the two entities are operated under separate operational divisions. Scrap from extrusion and painting is sold to secondary aluminum production as raw material, and the resulting product is sold to extrusion and painting as raw material for that process. Each entity has a different responsible official that cannot sign for or be responsible for activities at the other entity. As such, two separate Part 70 operating permits are being issued to Hydro Aluminum for these operations. This operating permit covers emission units associated with the extrusion and painting operations.
- 2) Even though separate operating permits are being issued for the two entities that make up the installation, the potential to emit for the two entities must be combined to determine both Title V and MACT standard applicability. All operations are owned by the same parent company, and as

such, cannot be considered to be under separate control even though they may be operating independently of each other. The parent company would always have the authority to influence operations of each entity. Since the two entities are located on contiguous property and are considered to be under common control, the potential emissions of each entity must be combined to determine the potential emissions for the installation. The potential emissions of the installation, not each individual entity, are used to determine regulation applicability (specifically for Title V and MACT standards).

- 3) The following emission units were included in this operating permit as Emission Units Without Limitations. The reasons they were not included as significant emission units are explained below.

Emission Unit Description	Explanation
South billet heater	These emission units emit only products of combustion, produces less than 150 pounds per day of any air contaminant and has a heat input of less than 10 MMBtu/hr by using exclusively natural gas and propane. The APCP has determined that it is not necessary to include units such as this in the operating permit.
Middle billet heater	
North billet heater	
West age oven	
East age oven	
Die cleaning burner	See preceding explanation. This indirect-fired burner is used to heat an NaOH/water solution. The only emissions are water vapor and products of combustion.
500-gallon hydraulic oil storage tank	VOC emissions (possibly including some HAPs) are the only emissions generated from these emission units. As described earlier in the Statement of Basis, none of the NSPS for tanks apply to these storage vessels. In addition, there are no Missouri regulations limiting VOC emissions applicable to these emission units.
55-gallon oil drum	
Miscellaneous saws	Based on engineering judgment, it was determined that only particulate matter is emitted from these operations and that potential emissions from each are less than 0.5 lbs/hr. As such, no regulations apply to these emission units.
Acetylene torches	
Nitrex metals nitrider	These units are not expected to emit regulated air pollutants. As such, no requirements are applicable.
Water de-ionizing unit	
Steam drying oven	
Wastewater pretreatment	
Metal pretreat	See preceding explanation. Metal is cleaned with an alkaline spray wash, rinsed with water, etched with an acid spray wash and rinsed again. Water vapor is the only emission.
Maintenance stoddard solvent parts degreaser	VOC emissions (possibly including some HAPs) are the only emissions generated from these emission units. There are no regulations governing these emissions.
Bridge fill-in with two part epoxy	
Aerosol can graphite spray used in extrusion department	

4) 10 CSR 10-3.060, Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating

a) Installation Heat Input Determination

The following represents the installation's heat input (Q) used to determine the particulate matter emission limit associated with this rule. Since all operations on site are considered one installation, the heat input is based on those units covered in both this permit and those covered by the secondary aluminum production operations permit (Operating Permit Number 2003-01-005).

Emission Unit	Emission Unit Description	Heat Input (MMBtu/hr)
EU0050	Paint Line Boiler	12.6
EU0060	Paint Bake Oven	6.0
EU0080	Age Oven 3	2.5
NA	South Billet Heater	3.0
NA	Middle Billet Heater	3.0
NA	North Billet Heater	3.0
NA	West Age Oven	2.6
NA	East Age Oven	2.5
NA	Die Cleaning Burner	0.3
Total Heat Input for this Permit (OP 2003-01-004)		35.5
Total Heat Input for OP 2003-01-005		50.4
Total Heat Input for the Installation		85.9

The heat input EU0070 Paint Hook Burn-Off Oven and its associated afterburner were not included in the installation's heat input since they do not meet the definition of an indirect heating source. The rule is applicable to the three billet heaters, the east and west age ovens and the die cleaning burner. However, since these units are considered Emission Units Without Limitations as described above, the rule was not included in the operating permit for them.

b) Particulate Matter Emission Limit Determination

Since EU0050, EU0060 and EU0080 were installed after February 24, 1971, they are considered new indirect heating sources. As such, their particulate matter (PM) emission limit (E) is calculated as follows.

$$E = 1.31(Q)^{-0.338}$$

$$E = 0.29 \text{ lbs of PM/MMBtu of heat input}$$

Both units are subject to the same emission limitation. Compliance calculations can be found in Attachment E.

5) 10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants

This rule was not included in the operating permit for four emission units covered by this permit: EU0050 Paint Line Boiler, EU0060 Paint Bake Oven, EU0070 Paint Hook Burn-Off Oven and EU0080 Age Oven 3. The primary emissions from Emission Units EU0050, EU0060, EU0070 and EU0080 that could cause opacity issues are from the combustion of natural gas and propane. Based on a decision/agreement between EPA Region VII, Air Pollution Control Program Enforcement and Air Pollution Control Program Permitting, 10 CSR 10-6.220 is not being included in Title V Permits for natural gas or propane combustion units because by the nature of the fuel no opacity exceedances would ever be expected under normal operating conditions.

6) 10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds

The rule (and therefore the compliance calculations) is not included in the operating permit for the three billet heaters, the east and west age ovens or the die cleaning burner since these emission units are considered Emission Units Without Limitations as described above.

The rule is included in the operating permit for the units listed in the table below. All of these units are in compliance with the rule as demonstrated.

Emission Unit	Emission Unit Description		SO ₂ Emission Factor ¹	SO ₂ Emissions	SO ₂ Limit
EU0050 EU0060	Paint Line Boiler Paint Bake Oven	Natural Gas	0.6 lb/MMCF AP42 Tbl 1.4-2 (07/98)	0.0006 lb/MMBtu ²	8.0 lb/MMBtu
		Propane	0.10S lb/10 ³ gal; S=0.18 AP42 Tbl 1.5-1 (10/96)	0.00002 lb/MMBtu ²	8.0 lb/MMBtu
EU0070	Paint Hook Burn-Off Oven	Natural Gas	0.6 lb/MMCF AP42 Tbl 1.4-2 (07/98)	0.33 ppmv ³	500 ppmv

¹S = the sulfur content of the fuel in terms of gr/100 ft³ of gas vapor. The APCP allows a default sulfur content of propane of 0.00002% which equates to approximately 0.18 gr/100 ft³

²General Equation: lb/MMBtu SO₂ = SO₂ Emission Factor ÷ Heat Content

- 1) The SO₂ emission factor is the emission factor presented in the table. It assumes that all sulfur in the fuel is converted to SO₂ emissions.
- 2) The heat content of natural gas is 1020 MMBtu/MMCF (AP42 Tbl 1.4-2 footnote a). The heat content of propane is 91.5 MMBtu/10³ gallons (AP42 pg 1.5-1).

³General Equation: ppmv SO₂ = SO₂ Emission Factor ÷ Heat Content ÷ F factor ÷ Conversion Factor

- 1) The SO₂ emission factor is the emission factor presented in the table. It assumes that all sulfur in the fuel is converted to SO₂ emissions.
- 2) The heat content of natural gas is 1020 MMBtu/MMCF (AP42 Tbl 1.4-2 footnote a). The heat content of propane is 91.5 MMBtu/10³ gallons (AP42 pg 1.5-1).
- 3) The F factor is the ratio of gas volume of products of combustion to the heat content of the fuel. For natural gas, the F factor is 10,610 wscf/MMBtu. For propane, the F factor is 10,200 wscf/MMBtu. (40 CFR Part 60 Appendix A Method 19 Tbl 19-2)
- 4) The conversion factor is 1.660E-7 lb/scf per ppmv (40 CFR Part 60 Appendix A Method 19 Tbl 19-1).

AP42 Tables 1.4-2 and 1.5-1 assume all sulfur is converted to SO₂. SO₃ emissions are considered insignificant, and it is highly unlikely that the limitations of 10 CSR 10-6.260(3)(B) will ever be exceeded.

- 7) 10 CSR 10-6.400, Restriction of Emission of Particulate Matter from Industrial Processes
 - a) This rule was not included as an applicable regulation for the Paint Line Boiler, the Paint Bake Oven or the Age Oven 3 (EU0050, EU0060 and EU0080) since indirect heating is specifically exempted by the rule. In addition, based on engineering judgment, it was determined that emissions of particulate matter from the Paint Hook Burn-Off Oven (EU0070) are less than 0.5 pounds per hour, and therefore, the unit is specifically exempted by the rule. The rule does apply to the three paint booths (EU0020, EU0030 and EU0040). Since the process weight rate into each emission unit is less than 30 tons per hour, the maximum allowable pound per hour particulate matter emission limit is calculated for each emission unit as described below.

Maximum Allowable PM Emissions [E (lb/hr)] = 4.1(P)^{0.67}

Potential PM Emission Rate =

$$\text{MHDR} \times \text{Emission Factor (E.F.)} \times [1 - ((\text{Control Eff}/100)(\text{Capture Eff}/100))] \times [1 - (\text{Transfer Eff}/100)]$$

The compliance calculations for particulate matter emitted from the paint booths (EU0020 through EU0040) was based on data obtained from Air Pollution Control Program Permit to Construct Number 03200-002. It was assumed that the same coatings are used in each of the paint booths.

The coating with the highest density was used to determine the emission unit’s maximum hourly design rate. Of the two types of coatings listed in the construction permit, the one with the highest density is a “low-VOC” coating at 11.6 lb/gal. The construction permit indicates that the maximum hourly design rate in terms of gallons for EU0020 and EU0030 is 13.272 gallons per hour (12.64 gallons per 1000 pieces at 1050 pieces per hour). For process weight rate compliance calculations, it was assumed that both booths have the capability to run at this rate.

The coating with the highest solids content was used to determine the emission unit’s emission factor. Of the two types of coatings listed in the construction permit, the one with the highest solids content is a “low-VOC” coating at 73.6%. The construction permit review indicates a transfer efficiency of 92%. These emission units each have paint arrestors. Overall control efficiencies for each of the paint booths was deemed to be 94.05% based on information contained in the construction permit review.

Emission units (EU0020 through EU0040) have a maximum emission rate that is in compliance with the allowable limitation with the use of a control device. The monitoring and recordkeeping requirements for these units will be on the visual inspection and maintenance on the filters associated with the booths. A sample recordkeeping log is included in the operating permit as Attachment F.

Sample Calculations for EU0020

$$E \text{ (lb/hr)} = 4.1(P)^{0.67} = 0.74 \text{ lb PM/hr (limit)}$$

$$\begin{aligned} \text{Potential PM Emission Rate} &= 0.0770 \text{ tons/hr} \times 1472 \text{ lb/ton} \times (1-(99/100)(95/100)) \times (1-(92/100)) \\ &= 0.54 \text{ lb/hr} \end{aligned}$$

Since this rate is less than the allowable limit, the unit is in compliance as long as the filters are inspected and operated as indicated in the permit conditions.

Emission Unit	MHDR (tph)	PM E. F. (lb/ton)	Basis of E.F.	Transfer Eff. (%)	Capture Eff. (%)	Control Device Eff. (%)	Potential PM Emission Rate (lb/hr)	Allowable PM Emission Rate (lb/hr)
EU0020	0.0770	1472	Mass Balance	92	99	95	0.54	0.74
EU0030	0.0770	1472	Mass Balance	92	99	95	0.54	0.74
EU0040	0.0638	1472	Mass Balance	92	99	95	0.45	0.65

- b) Section (3)(A)4. of 10 CSR 10-6.400 limits the concentration of particulate matter to 0.30 grains per standard cubic foot of exhaust gases. Compliance calculations follow as do the assumptions used in the calculations. The flow rate used is from the 2001 EIQ and was assumed to be in terms of actual cubic feet per minute (acfm). ACFM was converted to dry standard cubic feet per minute (dscfm). This was done assuming that the pressure in the exhaust is the same as the standard pressure of 29.92 in Hg and that the filters do not trap any of the moisture in the paint so that the worst case VOC content coating results in the worst case moisture content of the exhaust (46.7%).

Grain Loading = Potential PM Emission Rate ÷ 60 min/hr × 7000 grains/lb ÷ DSCFM

Where:

- 1) Potential PM Emission Rate is as calculated above for the pound per hour limit compliance demonstration, and
- 2) $DSCFM = ACFM \times [(460^{\circ}R + 70^{\circ}F) \div (460^{\circ}R + Temp(^{\circ}F))] \times [Pressure \text{ (in Hg)} \div 29.92 \text{ in Hg}] \times (1 - Moisture \text{ Content})$

Sample Calculation for EU0020

Potential PM Emission Rate = 0.54 lb/hr

$$DSCFM = 4000 \text{ acfm} \times [(460^{\circ}R + 70^{\circ}F) \div (460^{\circ}R + 77^{\circ}F)] \times [29.92 \text{ in Hg} \div 29.92 \text{ in Hg}] \times (1 - 0.467) = 2104 \text{ dscfm}$$

Grain Loading = 0.54 lb/hr ÷ 60 min/hr × 7000 grains/lb ÷ 2104 dscfm = 0.03 grains/dscfm

Emission Unit	Potential PM Emission Rate (lb/hr)	ACF/min	Temp (°F)	Pressure (in Hg)	Moisture Content (%)	DSCF /min	Potential Grain Loading (gr/dscfm)	Allowable Grain Loading (gr/dscfm)
EU0020	0.54	4000	77	29.92	46.7	2104	0.03	0.3
EU0030	0.54	4000	77	29.92	46.7	2104	0.03	0.3
EU0040	0.45	4000	77	29.92	46.7	2104	0.02	0.3

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

- 1) The specific pollutant regulated by that rule is not emitted by the installation;
- 2) The installation is not in the source category regulated by that rule;
- 3) The installation is not in the county or specific area that is regulated under the authority of that rule;
- 4) The installation does not contain the type of emission unit which is regulated by that rule;
- 5) The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the Air Pollution Control's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the Air Pollution Control Program a schedule for achieving compliance for that regulation(s).

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