



Louisville Metro Air Pollution Control District  
 850 Barret Avenue  
 Louisville, Kentucky 40204-1745



Permit No.: 29161-10-C(R2)

Plant ID 0870

Effective Date: [Click here to enter a date.](#) Expiration Date: [Click here to enter a date.](#) Permit Fee \$

GE Appliances & Lighting  
 Appliance Park  
 Louisville, KY 40225

is authorized to construct the described process equipment by the Louisville Metro Air Pollution Control District. Authorization is based on information provided with the application submitted by the company and in accordance with applicable regulations and the conditions specified herein.

Process equipment description:

One (1) 2.6 MMBtu/hr natural gas fired Preheat Eclipse Oven and one (1) 1.8 MMBtu/hr natural gas fired Post Heat Eclipse Oven.

Applicable Regulation(s): 2.03, 2.12, 2.16, 5.01, 5.21, 6.16, 7.09 and 40 CFR 63 Subpart NNNN

Choose reference(s): N/A

Application No.	34186	Application Received 1/24/2012
	11686	9/29/2010

Permit Writer:	Emily Tyler	{Manager}
		Air Pollution Control Officer

Date Sent to Public Comment 1/29/2012

Date of Final Draft 1/27/2012

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. Any permit shall be considered invalid if timely payment of applicable fees is not made after receipt of the statement of fees (SOF). The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

### General Conditions

- G1. The owner or operator of the affected facility covered by this permit shall notify the District of any process change, equipment change, material change, or change in method or hours of operation. This requirement is applicable to those changes that may have the potential for increasing the emission of air contaminants to a level in excess of the applicable limits or standards specified in this permit or District regulations.
- G2. The owner or operator shall obtain new or revised permits from the District when:  
(See [District Regulation 2.16](#) for Title V sources. See [District Regulation 2.17](#) for FEDOOP sources. See [District Regulation 2.03](#) for other sources.)
- a. The company relocates to a different physical address.
  - b. The ownership of the company is changed.
  - c. The name of the company as shown on the permit is changed.
  - d. Permits are nearing expiration or have expired.
- G3. The owner or operator shall submit a timely application for changes according to G2. For minor sources only, the District does not require application for permit renewal. The District automatically commences the process of permit renewal for minor sources upon expiration. Timely renewal is not always achievable; therefore, the company is hereby authorized to continue operation in compliance with the latest District permit(s) until the District issues the renewed permit(s).
- G4. The owner or operator shall not be authorized to transfer ownership or responsibility of the permit. The District may transfer permits after appropriate notification (Form [100A](#)) has been received and review has been made.
- G5. The owner or operator shall pay the required permit fees within 45 days after issuance of the SOF by the District, unless other arrangements have been proposed and accepted by the District.
- G6. This permit allows operation 8,760 hours per year unless specifically limited elsewhere in this permit.

- G7. The owner or operator shall submit emission inventory reports as required by [Regulation 1.06](#).
- G8. The owner or operator shall timely report abnormal conditions or operational changes, which may cause excess emissions as required by [Regulation 1.07](#).
- G9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.
- G10. If a change in the “Responsible Official” (RO) occurs during the term of this permit, the owner or operator shall provide written notification (Form [100A](#)) to the District within 30 calendar days of the date the RO change occurs.

### Specific Conditions

#### S1. Standards (Regulation 2.03, section 5.1)

##### a. VOC

##### i. Preheat Oven

- 1) The VOC content of the coating of the affected facility shall be less than the 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water and exempt solvents, delivered to the applicators associated with the prime, single or topcoat coating line. (Regulation 6.16, section 5.1)

Or

No person shall cause, allow or permit an affected facility to discharge into the atmosphere more than 15% by weight of the VOCs input into the affected facility unless said person has qualified for an exemption pursuant to Regulation 6.16, section 5.

- 2) The owner or operator shall not allow the VOC emissions from emission point (EP305) to exceed 0.97 tons per 12 consecutive month period. (TV permit 155-97-TV(R1)) (See [Comment 1](#))

##### ii. Post Heat Oven

- 1) The VOC content of the coating of the affected facility shall be less than the 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water and exempt solvents, delivered to the applicators associated with the prime, single or topcoat coating line. (Regulation 6.16, section 5.1)

Or

No person shall cause, allow or permit an affected facility to discharge into the atmosphere more than 15% by weight of the VOCs input into the affected facility unless said person has qualified for an exemption pursuant to Regulation 6.16, section 5.

- 2) The owner or operator shall not allow the combined VOC emissions from emission points (EP309 and EP310) to exceed 4.82 tons per 12 consecutive month period. (Regulation 2.12) (See [Comments 2 & 3](#))

##### b. HAP

See Appendix A, Specific Condition S1.

c. **NO<sub>x</sub>**

The owner or operator shall not cause to be discharged into the atmosphere from any affected facility or from any air pollution control equipment installed on any affected facility any NO<sub>x</sub> fumes in excess of 300 ppm by volume expressed as NO<sub>2</sub>. (Regulation 7.08, section 4) (See [Comment 4](#))

d. **CO**

The owner or operator of a facility shall not emit carbon monoxide gases from a process unless they are burned at 1,300°F for 0.5 seconds or greater in a direct flame afterburner or equivalent device equipped with an indicating pyrometer that is positioned in the working area at the operator's eye level. (Regulation 7.09, section 5.1) (See [Comment 5](#))

e. **SO<sub>2</sub>**

The owner or operator shall not allow the affected facility emissions of the pollutant SO<sub>2</sub> to equal or exceed 40 tons during any twelve consecutive month period or four tons per month. (Regulation 7.09, section 4) (See [Comment 6](#))

Or

The owner or operator shall not at an the affected facility the release of a process gas stream containing sulfur dioxide with a concentration greater than 28.63 grains per 100 dscf at 0% excess oxygen. (Regulation 7.09, section 4)

f. **TACs**

The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.01 and 5.21) (See [Comment 7](#))

**S2. Monitoring and Record Keeping (Regulation 2.03, section 5.1)**

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **VOC**

## i. Preheat Oven

1) The owner or operator shall maintain the following records daily:  
(Regulation 6.16, section 6.1)

(a) The rule number applicable to the operation for which the records are being maintained;

- (b) The application method and substrate type (metal, plastic, paper, etc.);
  - (c) The amount and type of adhesive, coatings (including catalyst and reducer for multi-component coatings), solvent, and/or graphic arts material used at each point of application, including exempt compounds;
  - (d) The VOC content as applied in each adhesive, coating, solvent, and/or graphic arts material;
  - (e) The date for each application of adhesive, coating, solvent, and/or graphic arts material;
  - (f) The amount of surface preparation, clean-up, wash-up, of solvent (including exempt compounds) used and the VOC content of each; and
  - (g) The oven temperature when an oven is part of the coating line.
- 2) VOC content shall be calculated using a percent solids basis (less water and exempt solvents) for adhesives, coating, and inks; using EPA Method 24. (Regulation 6.16, section 6.1)
  - 3) The owner or operator shall be allowed to maintain a one time record of the information required in Specific Conditions S2.a.i.1)(a),(b),(d) and to notify the District of the company decides to make any changes to this information in order to demonstrate compliance with the daily records keeping requirements.

ii. Post Heat Oven

- 1) The owner or operator shall maintain the following records daily: (Regulation 6.16, section 6.1)
  - (a) The rule number applicable to the operation for which the records are being maintained;
  - (b) The application method and substrate type (metal, plastic, paper, etc.);
  - (c) The amount and type of adhesive, coatings (including catalyst and reducer for multi-component coatings), solvent, and/or graphic arts material used at each point of application, including exempt compounds;
  - (d) The VOC content as applied in each adhesive, coating, solvent, and/or graphic arts material;

- (e) The date for each application of adhesive, coating, solvent, and/or graphic arts material;
    - (f) The amount of surface preparation, clean-up, wash-up, of solvent (including exempt compounds) used and the VOC content of each; and
    - (g) The oven temperature when an oven is part of the coating line.
  - 2) VOC content shall be calculated using a percent solids basis (less water and exempt solvents) for adhesives, coating, and inks; using EPA Method 24. (Regulation 6.16, section 6.1)
  - 3) The owner or operator shall be allowed to maintain a one time record of the information required in Specific Conditions S2.a.i.1)(a),(b),(d) and to notify the District of the company decides to make any changes to this information in order to demonstrate compliance with the daily records keeping requirements.
  - 4) The owner or operator shall monthly calculate and record the monthly and 12 consecutive monthly combined VOC emissions for emission points (EP309 and EP310).
- b. **HAP**
- See Appendix A, Specific Conditions S2 and S3.
- c. **NO<sub>x</sub>**
- There are no monitoring or record keeping requirements for NO<sub>x</sub> compliance. (See [Comment 4](#))
- d. **CO**
- There are no monitoring or record keeping requirements for CO compliance. (See [Comment 5](#))
- e. **SO<sub>2</sub>**
- There are no monitoring or record keeping requirements for SO<sub>2</sub> compliance for meeting the 40 tons during any twelve consecutive month period or four tons per month limit. (See [Comment 6](#))
- Or
- The owner or operator shall keep a record of the determination of the process gas stream concentration and if it exceeds the sulfur dioxide limit.

f. **TACs**

The owner or operator shall maintain the following records:

- i. If the content of a TAC in raw material is increased, or a new TAC is contained in a raw material, the owner or operator shall calculate and document that the resulting emission continue to be environmentally acceptable.
- ii. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to, MSDS, analysis of emissions, and calculations. These records shall be available to the District upon request.

S3. **Reporting (Regulation 2.03, section 5.1)**

The owner or operator shall submit a semi-annual compliance report that includes the information in this section. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance report shall clearly identify any deviation from a permit requirement. The compliance reports shall be postmarked within 60 days following the end of each reporting period

a. **Responsible Official Certification**

All compliance reports shall include the following certification statement per Regulation 2.16, section 3.5.11. If a change in the "Responsible Official" occurs during the term of this permit, the owner or operator shall provide written notification (Form [100A](#)) to the District within 30 calendar days following the date a change in the designated Responsible Official occurs for this facility.

- "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete."
- Signature and title of company responsible official.

**VOC**

- i. Preheat Oven
  - 1) Identification of all periods of exceedances of the VOC limit including the quantity of excess emissions;
  - 2) Reason for excess emissions;
  - 3) Description of corrective action taken to prevent future exceedances; and
  - 4) A negative declaration if no excess emissions occurred.

## ii. Post Heat Oven

- 1) Identification of all periods of exceedances of the VOC limit including the quantity of excess emissions;
- 2) Reason for excess emissions;
- 3) The monthly and 12 consecutive month combined VOC emissions for emission points (EP309 and EP310);
- 4) Description of corrective action taken to prevent future exceedances; and
- 5) A negative declaration if there were no exceedances.

b. **HAP**

See Appendix A, Specific Condition S4.

c. **NO<sub>x</sub>**

There are no compliance reporting requirements for this equipment.

d. **CO**

There are no compliance reporting requirements for this equipment.

e. **SO<sub>2</sub>**

There are no compliance reporting requirements for this equipment for meeting the 40 tons during any twelve consecutive month period or four tons per month limit.

Or

The owner or operator shall submit a one-time report of the determination of the process gas stream concentration and if it exceeds the sulfur dioxide limit.

f. **TACs**

Upon re-evaluating environmental acceptable (EA) levels, the owner or operator shall submit the EA demonstration to the District within six (6) months of the change that prompted re-evaluation to prove that the process remains EA.

### Comments

1. The allowable VOC emissions for U40/EP305 were 0.97 tpy which was below the significant level of 40 tpy for PSD/Nonattainment NSR.
2. The allowable VOC emissions for U42/EP309 & EP310 are below the significant level of 40 tpy for PSD/Nonattainment NSR.
3. The VOC emission limit is from the combination of the following permits 22-91, 23-91, 24-91, 25-91, and 11-95 including the following banking references:

Banking Ledger	Date	VOC Emissions
43104-045	7/30/1991	2.5 tpy
43104-048	7/30/1991	0.25 tpy
43104-049	7/30/1991	0.75 tpy
43104-080	1/9/1995	1.32 tpy
Total		.....4.82 tpy

4. A one-time NO<sub>x</sub> compliance demonstration using AP-42 emission factors and combusting natural gas was performed, and the emission standard cannot be exceeded. Therefore, there are no monitoring, record keeping, and reporting requirements with respect to NO<sub>x</sub> emission limits.
5. The CO emissions from the process are created by the combustion of natural gas to generate heat. The nominal flame temperature of greater than 2,000°F, exceeds the 1,300°F temperature requirement of 7.09, section 5.1, therefore the District has determined that this will be equivalent to a direct flame afterburner.
6. A one-time SO<sub>2</sub> compliance demonstration using AP-42 emission factors and combusting natural gas was performed, and the emission standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, and reporting requirements with respect to SO<sub>2</sub> emission limits.
7. The TAC emissions from the combustion of natural gas are considered to be “de minimis emissions” by the District. This includes all of the emissions from a process or process equipment for which the only emissions are the products of combustion of natural gas, such as from a natural gas-fired boiler or turbine, but does not include the other emissions from a process or process equipment that are not the products of the combustion of natural gas. (Regulation 5.01, section 1.6.7)
8. Revision R1 allowed for the ovens to be moved from Research and Development use to production activities. Revision R2 allows for the increase of the Post Heat Oven to be increased from 1.4 MMBtu/hr capacity to 1.8 MMBtu due to a change in the designed air flow.
9. The semi-annual compliance reports are due on or before the following date of each calendar year:

<u>Report Description</u>	<u>Report Period</u>	<u>Report Due Dates</u>
1 <sup>st</sup> Semi-annual Report	January 1 through June 30	August 29
2 <sup>nd</sup> Semi-annual Report	July 1 through December 31	March 1 <sup>1</sup>

Notes<sup>1</sup>: The date for leap years is February 29

10. The construction permit fees are based on the combined VOC Preheat and Post Heat oven limits of 0.97 tpy and 4.82 tpy, respectively. The total emissions are less than 10 and greater than 5 tons per year of VOC in accordance with Regulation 2.08, section 2.5.1.7.

## Appendix A

### 40 CFR 63 Subpart NNNN (MACT) Specific Conditions

#### S1. Standards (Regulation 2.03, section 5.1)

##### HAP

The owner or operator shall limit organic HAP emissions to the atmosphere to no more than 0.13 kilogram per liter (kg/liter) (1.1 pound per gallon (lb/gal)) of coating solids used during each compliance period. (40 CFR 63.4090(a))

#### S2. Monitoring (Regulation 2.03, section 5.1)

##### HAP

a. The owner or operator shall monthly determine the mass fraction of organic HAP for each coating, thinner, and cleaning material used during the month using one of the following methods: (40 CFR 63.4152(a) & 40 CFR 63.4151(a))

i. *Method 311 (Appendix A to 40 CFR part 63)*

The owner or operator may use a method 311 for determining the mass fraction of organic HAP using the following procedures: (40 CFR 63.4141(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 organic HAP 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 (for example, 0.3791). (40 CFR 63.4141(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 (for example, 0.763). (40 CFR 63.4141(a)(1)(ii))

ii. *Method 24 (Appendix A to 40 CFR part 60)*

For coatings, the owner or operator may use Method 24 to determine the mass fraction of non-aqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. (40 CFR 63.4141(a)(2))

iii. *Alternative Method*

The owner or operator may use an alternative test method for determining the mass fraction of organic HAP once the Administrator has approved it. (40 CFR 63.4141 (a)(3))

- iv. *Information from the supplier or manufacturer of the material*

The owner or operator may rely on information other than that generated by the test methods specified in Specific Conditions S2.a.i through S2.a.ii, such as manufacturer's formulation data if they represent 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 organic HAP 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. If there is a disagreement between such information and results of a test conducted according to Specific Conditions S2.a.i through S2.a.iii, then the test method results will take precedence. (40 CFR 63.4141(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 mass fraction of organic HAP in these solvent blends listed in Table 3 or 4 of this subpart. If you use the tables, you must use the values in Table 3 for all solvent blends that match Table 3 entries, and you may only use Table 4 if the solvent blends in the materials you use do not match any of the solvent blends in Table 3, and you only know whether a blend is aliphatic or aromatic. However, if the results of a Method 311 test indicate higher values than those listed in Table 3 or 4 of 40 CFR 63 Subpart NNNN, the Method 311 results will take precedence. (40 CFR 63.4141(a)(5))
- b. The owner or operator must determine the volume fraction of coating solids (liters of coating solids per liter 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 on one of the following: (40 CFR 63.4141(b))
  - i. *ASTM Method D2697-86 (Reapproved 1998) or D6093-97*

The owner or operator may use ASTM Method D2697-86 (Reapproved 1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings," or D6093-97, "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer" (see 40 CFR 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. (40 CFR 63.4141(b)(1))
  - ii. Information from the supplier or manufacturer of the material.

The owner or operator may obtain the volume fraction of coating solids for each coating from the supplier or manufacturer. (40 CFR 63.4141(b)(2))

- iii. Calculation of volume fraction of coating solids.  
If the volume fraction of coating solids cannot be determined using the options in Specific Conditions S2.b.i or S2.b.ii., the owner or operator must determine the volume fraction of coating solids using Equation 1 of 40 CFR 63.4141(b)(3):

$$V_s = \left[ \frac{m_{\text{volatiles}}}{D_{\text{avg}}} \right] \text{ (Equation 1, 40 CFR 63.4141(b)(3))}$$

Where:

$V_s$  = volume fraction of coating solids, liters coating solids per liter 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.

$D_{\text{avg}}$  = 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" (40 CFR 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. (40 CFR 63.4141(b)(3))

- c. Determine the density of each coating used during the month from test results using ASTM Method D1475-98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products" (40 CFR 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. (40 CFR 63.4141(c))
- d. Determine the organic HAP content, kg organic HAP per liter coating solids, of each coating used during the compliance period, using Equation 2 of 40 CFR 63.4141(d), except that if the mass fraction of organic HAP equals zero, then the organic HAP content also equals zero and you are not required to use Equation 2 to calculate the organic HAP content: (40 CFR 63.4141(d))

$$H_c = (D_c)(W_c) / V_s \text{ (Equation 2, 40 CFR 63.4141(d))}$$

Where:

$H_c$  = organic HAP content of the coating, kg organic HAP per liter coating solids.

$D_c$  = density of coating, kg coating per liter coating, determined according to Specific Condition S2.d. of this section.

$W_c$  = mass fraction of organic HAP in the coating, kg organic HAP per kg coating, determined according to Specific Condition S2.a.  $V_s$  = volume fraction of coating solids, liters coating solids per liter coating, determined according to Specific Condition S2.b.

S3. **Record Keeping** (Regulation 2.03, section 5.1)

**HAP**

- a. A copy of each notification and report that you submitted to comply with 40 CFR 63 Subpart NNNN and the documentation supporting each notification and report. (40 CFR 63.4130(a))
- b. A current copy of information provided by materials suppliers or manufacturers such as manufacturer's formulation data or test caused to determine the mass fraction of organic HAP and density for each coating, thinner, 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 the 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. (40 CFR 63.4130(b))
- c. For each month, a record of the time periods (beginning and ending dates and times) and the coating operations at which each compliance option (compliant material option, the emission rate without add-on controls option, or the emission rate with add-on controls option) was used and a record of all determinations of kg organic HAP per liter of coating solids for the compliance option(s) you used as specified below: (40 CFR 63.41301(c))
  - i. *For the compliant material option:*  
A monthly record of the determination of the organic HAP content for each coating according to Specific Condition S2.d. (40 CFR 63.4130(c)(1))
  - ii. *For the emission rate without add-on controls option:*  
A monthly record of the calculation of the total mass of organic HAP emissions for the coatings, thinners, and cleaning materials used each month, using Equations 1 and 1A through 1C of 40 CFR 63.4151 and, if applicable, the calculations used to determine the mass of organic HAP in waste materials according to 40 CFR 63.4151(e)(4); the calculation of the total volume of coating solids used each month, using Equation 2 of 63.4151; and the calculation of the organic HAP emission rate, using Equation 3 of 63.4151. (40 CFR 63.413(c)(2))

- (1) Calculate the mass of organic HAP emission during the month: (40 CFR 63.4151(e)):

$$H_e = A + B + C - R_w \text{ (Equation 1, 40 CFR 63.4151)}$$

Where:

$H_e$  = total mass of organic HAP emissions during the compliance period, kg.

A = total mass of organic HAP in the coatings used during the compliance period, kg, as calculated in Equation 1A of this section.

B = total mass of organic HAP in the thinners used during the compliance period, kg, as calculated in Equation 1B.

C = total mass of organic HAP in the cleaning materials used during the compliance period, kg, as calculated in Equation 1C.

$R_w$  = 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 40 CFR 63.4151(e)(4). (You may assign a value of zero to  $R_w$  if you do not wish to use this allowance.)

- (2) Calculate the kg organic HAP in the coatings used during the month (40 CFR 63.4151(e)(1)):

$$A = \sum_{i=1}^m (\text{Vol}_{c,i})(D_{c,i})(W_{c,i}) \text{ (Equation 1A, 40 CFR 63.4151)}$$

Where:

A = total mass of organic HAP in the coatings used during the compliance period, kg.

$\text{Vol}_{c,i}$  = total volume of coating, i, used during the compliance period, liters.

$D_{c,i}$  = density of coating, I, kg coating per liter coating

$W_{c,i}$  = mass fraction or organic HAP in coating, i, kg organic HAP per kg coating.

m = number of different coatings used during the compliance period

- (3) Calculate the kg or organic HAP in the thinners used during the month (40 CFR 63.4151(e)(2)):

$$B = \sum_{j=1}^n (\text{Vol}_{t,j})(D_{t,j})(W_{t,j}) \text{ (Equation 1B, 40 CFR 63.4151)}$$

Where:

B = total mass or organic HAP in the thinners used during the compliance period, kg.

$\text{Vol}_{t,j}$  = total volume of thinner, j, used during the compliance period, liters.

$D_{t,j}$  = density of thinner, j, kg thinner per liter thinner.

$W_{t,j}$  = mass fraction of organic HAP in thinner, j, kg organic HAP per kg thinner.

n = number of different thinners used during the compliance period.

- (4) Calculate the kg organic HAP in the cleaning materials used during the month (40 CFR 63.4151(e)(3)):

$$C = \sum_{k=1}^p (Vol_{s,k})(D_{s,k})(W_{s,k}) \quad \text{(Equation 1C, 40 CFR 63.4151)}$$

Where:

C = total mass of organic HAP in the cleaning materials used during the compliance period, kg.

$Vol_{s,k}$  = total volume of cleaning material, k, used during the compliance period, liters.

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

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

p = number of different cleaning materials used during the compliance period.

- (5) Calculate the total volume of coating solids used during the month (40 CFR 63.4151(f)):

$$V_{st} = \sum_{i=1}^m (Vol_{c,i})(V_{s,i}) \quad \text{(Equation 2, 40 CFR 63.4151)}$$

Where:

$V_{st}$  = total volume of coating solids used during the month, liters

$Vol_{c,i}$  = total volume of coating, i, used during the compliance period, liters.

$V_{s,i}$  = volume fraction of coating solids for coating, i, liters solids per liter coating, determined according to one of the following: (40 CFR 63.4141(b))

- (a) ASTM Method D2697-86 (Reapproved 1998) or D6093-97. You may use ASTM Method D2697-86 (Reapproved 1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings," or D6093-97, "Standard Test Method for Percent Volume Nonvolatile in Clear or Pigmented Coatings Using a Helium Gas Pycnometer" 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. (40 CFR 63.4141(b)(1))

- (b) 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. (40 CFR 63.4141(b)(2))
- (c) Calculation of volume fraction of coating solids. If the volume fraction of coating solids cannot be determined using the options on Specific Condition S3.c.ii(5)(a) or (b), then you must determine using equation 1 of 40 CFR 63.4141 (40 CFR 63.4141(b)(3)):

$$V_s = 1 - \frac{m_{volatiles}}{D_{avg}}$$

(Equation 1, 40 CFR 63.4141)

Where:

$V_s$  = volume fraction of coating solids, liters coating solids per liter coating.

$m_{volatiles}$  = 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" 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.

- d. A monthly record of the name and volume of each coating, thinner, and cleaning material used during the month. (40 CFR 63.4130(d))
- e. A monthly record of the mass fraction of organic HAP for each coating, thinner, and cleaning material used during each month. (40 CFR 63.4130(e))
- f. A monthly record of the volume fraction of coating solids for each coating used during each month except for zero-HAP coatings for which volume solids determination is not required as allowed in 40 CFR 63.4141(a). (40 CFR 63.4130(f))
- g. A monthly record of the density for each coating used during each compliance period except for zero-HAP coatings for which volume solids determination is not required as allowed in 63.4141(a) and, if you use either the emission rate without add-on controls or the emission rate with add-on controls compliance option, a

record of the density for each thinner and cleaning material used during each compliance period. (40 CFR 63.4130(g))

- h. The owner or operator shall maintain records of the date, time, and duration of each deviation. (40 CFR 63.4130(j))

S4. **Reporting** (Regulation 2.03, section 5.1)

**HAP**

The semiannual compliance reports must contain the information specified as below: (40 CFR 63.4120(b))

- a. Company name and address. (40 CFR 63.4120(b)(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. (40 CFR 63.4120(b)(2))
- c. 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. (40 CFR 63.4120(b)(3))
- d. Identification of the compliance option or options specified in 63.4091 (compliant material option, the emission rate with add-on controls option) that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting, you must report the beginning and ending dates you used each option. (40 CFR 63.4120(b)(4))
- e. If there were no deviations from the emission limit in Specific Condition S1, the semiannual compliance report must include the statement that there were no deviations from the emission limitation during the reporting period. (40 CFR 63.4120(c))
- f. For the compliant material option:  
If you used the compliant material option and there was a deviation from the applicable emission limit in Specific Condition S1, the semiannual compliance report must contain the following: (40 CFR 63.4120(d))
  - i. Identification of each coating used that deviated from the emission limit, each thinner and cleaning material used that contained organic HAP, and the dates and time periods each was used. (40 CFR 63.4120(d)(1))
  - ii. The determination of the organic HAP content, according to 63.4141(d), for each coating identified in Specific Condition S4.f.i. You do not need to submit background data supporting this calculation, for example, information

- provided by coating suppliers or manufacturers or test reports. (40 CFR 63.4120(d)(2))
- iii. The determination of the organic HAP for each thinner and cleaning material identified in Specific Condition S4.f.i. You do not need to submit background data supporting this calculation, for example, information provided by material suppliers or manufacturers or test reports. (40 CFR 63.4120(d)(3))
  - iv. A statement if the cause of each deviation. (40 CFR 63.4120(d)(4))
- g. For the emission rate without add-on controls option:  
If you use the emission rate without add-on controls option and there was a deviation from the applicable emission limit in 63.4090, the semiannual compliance report must contain the following information: (40 CFR 63.4120(e))
- i. The beginning and ending dates of each compliance period during which the organic HAP emission rate exceeded the emission limit in Specific Condition S1. (40 CFR 63.4120(e)(1))
  - ii. The calculations used to determine the organic HAP emission rate for the compliance period in which the deviation occurred. You must provide the calculations for Equations 1, 1A through 1C, 2, and 3 in 63.4151; (see Specific Condition S3.c.ii) and, if applicable, the calculation used to determine the organic HAP in waste materials according to 63.4151(e)(4). You do not need to submit background data supporting these calculations, for example, information provided by materials suppliers or manufacturers or test reports. (40 CFR 63.4120(e)(2))
  - iii. A statement of the cause of each deviation. (40 CFR 63.4120(e)(3))

### Comments

1. The Initial Notification required by 40 CFR 63.4110(a)(1) was submitted on July 23, 2003.
2. The Notification of Compliance Status was submitted on Sep. 30, 2005.
3. The reports required by 40 CFR 63 Subpart NNNN are to be postmarked or delivered by July 31 or January 31, whichever is the first date following the end of the report period.