

## **Emissions Unit K011**

### **A. Emissions Limitations**

1. The volatile organic compounds (VOC) emissions from emissions unit K011 (Flexo 2) shall not exceed 87.1 pounds per hour.

This is based on the maximum application rate of emissions unit K011 (Flexo 2).

2. The VOC emissions from emissions unit K011 shall not exceed 36.6 tons per year as a rolling 12 month total.

### **B. Operational Limitations**

1. This facility shall be established as an area source with respect to 40 CFR 63 Subpart KK. Accordingly, the owner or operator agrees to comply with the following limits, which are found in 40 CFR 63.820(a)(2):
  - a. This facility shall use less than 9.1 Mg (10 tons) per each rolling 12-month period of each hazardous air pollutant (HAP), including materials used for source categories or purposes other than printing and publishing.
  - b. This facility shall use less than 22.7 Mg (25 tons) per each rolling 12-month period of any combination of HAP, including materials used for source categories or purposes other than printing and publishing.
  - c. The following materials may be excluded from the limitations: material used in routine janitorial or facility grounds maintenance, personal uses by employees or other persons, the use of products for the purpose of maintaining electric, propane, gasoline and diesel powered motor vehicles operated by the facility, and the use of HAP contained in intake water (used for processing or non contact cooling) or intake air (used either as compressed air or for combustion);
  - d. If either of the thresholds is exceeded for any rolling 12-month period (without first obtaining and complying with other limits that keep its potential to emit HAP below major source levels), the permittee shall be considered in violation of its commitment for that 12-month period and shall be considered a major source of HAP beginning the

first month after the end of the 12-month period in which either of the HAP use thresholds was exceeded. As a major source of HAP, this facility would be subject to the provisions of 40 CFR 63 Subpart of HAP, this facility would be subject to the provisions of 40 CFR 63 Subpart KK as noted in paragraph (a)(1) of that section. This facility would no longer be eligible to use the provisions of 40 CFR 63.820(a)(2).

2. The VOC content of inks shall not exceed 6 percent by weight as a rolling 12 months weighted average.
3. The maximum annual ink usage for this emissions unit shall not exceed 319,138 pounds, based upon a rolling, 12-month summation of the ink usage figure. The maximum usage (pounds) of ink may be exceeded provided the VOC emission limitations are not exceeded.

To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the ink usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Ink Usage (pounds)</u>
1	53,190
1-2	79,784
1-3	106,139
1-4	132,974
1-5	159,569
1-6	186,164
1-7	212,759
1-8	239,353
1-9	265,948
1-10	292,543
1-11	319,138
1-12	319,138

After the first 12 calendar months of operation, compliance with the annual ink usage limitation shall be based upon a rolling, 12-month summation of the ink usage figures.

4. The VOC content of coatings shall not exceed 13 percent by weight as a rolling 12 months weighted average.
5. The maximum annual coating usage for this emissions unit shall not exceed 373,328 pounds, based upon a

rolling, 12-month summation of the coating usage figures. The maximum usage (pounds) of coating may be exceeded provided the VOC emissions limitations are not exceeded.

To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the coating usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Coating Usage (pounds)</u>
1	62,221
1-2	93,332
1-3	124,443
1-4	155,553
1-5	186,664
1-6	217,775
1-7	248,885
1-8	279,996
1-9	311,107
1-10	342,217
1-11	373,328
1-12	373,328

After the first 12 calendar months of operation, compliance with the annual coating usage limitation shall be based upon a rolling, 12-month summation of the coating usage figures.

6. The maximum annual solvent-based cleanup material usage for this emissions unit shall not exceed 6,859 pounds, based upon a rolling, 12-month summation of the cleanup material usage figures. The maximum usage (pounds) of solvent-based clean-up materials may be exceeded provided the VOC emission limitations are not exceeded. To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the cleanup material usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable (pounds) Cumulative Cleanup Material Usage</u>
1	1,143
1-2	1,715
1-3	2,286
1-4	2,858
1-5	3,430
1-6	4,001

1-7	4,573
1-8	5,145
1-9	5,716
1-10	6,288
1-11	6,859
1-12	6,859

After the first 12 calendar months of operation, compliance with the annual cleanup material usage limitation shall be based upon a rolling, 12-month summation of the cleanup material usage figures.

7. In accordance with OAC rule 3745-21-09 (Y), the volatile organic compound content of the coatings and inks employed in this emissions unit shall not exceed the following limitations:
  - a. Forty percent (40%) VOC by volume of the coating and ink, excluding water; or,
  - b. Twenty-five percent (25%) VOC by volume of the volatile matter in the coating and ink.
8. The permittee shall store all spent VOC containing cleaning materials and cleaning rags in covered containers.

#### C. Recordkeeping Requirements

1. The permittee shall maintain monthly records which list the following information for emissions unit K011:
  - a. The number of hours the press ran during the month;
  - b. The company identification of each ink, coating, and cleanup material employed;
  - c. The amount of each ink, coating, and cleanup material employed in pounds;
  - d. The VOC content of each ink, coating, and cleanup material employed;
  - e. The monthly weighted average VOC content for each material type (i.e., ink, coating, and cleanup material).
  - f. The monthly VOC emissions in pounds or tons from this emissions unit based on a 7 percent organic

solvent retention for inks and 100 percent organic solvent evaporation for coatings and cleanup materials. If the permittee sends waste collected for waste disposal, the permittee may take a credit for that in emissions calculations, provided that the permittee keeps adequate records to calculate the total amount of VOCs in the waste disposed of from this emissions unit;

- g. The updated rolling twelve month total usage for each material type (i.e., ink, coating, and cleanup material) in pounds per year; and,
  - h. The updated rolling twelve month total VOC emissions in tons per year.
1. These monthly records, as well as any supporting material analysis and computations, shall be retained in the company's files for a period of not less than three years and shall be made available to the Director or any authorized representative of the Director for review during normal business hours.
  2. During the first 12 calendar months of operation, the permittee shall record the cumulative usage of each material (inks, coatings, cleanup materials) for each calendar month.
  3. In accordance with 40 CFR 63.829(d), the permittee shall maintain records of all required measurements and calculations needed to demonstrate compliance with the limits found in paragraph B.1., including the mass of all HAP containing materials used and the mass fraction of HAP present in each HAP containing material used, on a monthly basis.

D. Compliance Methods

1. Hourly emissions from this emissions unit shall be determined in the following manner:

$$HE = \frac{\text{Sum (muse I, * VOC\% I * (100-RF))}}{MH}$$

Where:

- HE = hourly emissions, in pounds per hour;
- I = subscript denoting individual coating;
- muse = monthly usage of each individual coating or ink, in pounds/month
- VOC% = VOC content for each individual material, in weight

percent;  
RF = retention factor, 7 percent for ink and 0 percent for coating;  
MH = total hours the press was running during the month in hours/month

2. Yearly emissions shall be calculated in the following manner:

$$TPY = \frac{\text{Sum (Mei)}}{2000}$$

Where:

TPY = yearly emissions of VOC in tons per year  
I = subscript denoting an individual month;  
ME = monthly VOC emissions, in pounds per month; and shall be calculated in the following manner;  
= Sum (muse \* VOC% I \* (1000-RFi))

Where:

I = subscript denoting an individual coating;  
muse = monthly usage of each individual coating or ink, in pounds per month;

VOC% = VOC content for each individual material, in weight percent;

RF = retention factor, 7 percent for ink and 0 percent for coating.

3. Either USEPA Method 24A (for flexographic printing inks and related coatings) 40 CFR Part 60, Appendix A or similar formulation data certified by the coating manufacturer shall be used to determine the VOC contents for coatings will be required for all coatings used in this operation.

#### E. Reporting Requirements

1. The permittee shall submit annual reports which include the following information:

a. The updated rolling twelve month total usage for each material type (i.e., ink, coating, and cleanup material), in pounds per year, for each month; and,

b. The updated rolling twelve month total VOC emissions in tons per year, for each month.

The reports shall be submitted by March 1 of each year and shall cover the previous calendar year.

2. The permittee shall notify the Director of any record showing that this emissions unit has exceeded the emission limitations and/or the operational limitations outlined in this permit. A copy of such record shall be sent to the Director within 30 days after the exceedance occurs.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12 month material usage limitations and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative material usage levels. If no deviations occurred during the calendar quarter, the permittee shall submit a quarterly report which states that no deviation occurred. These reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

In accordance with 40 CFR 63 Subpart KK, the permittee shall submit an initial notification report. This report shall include the following information:

- a. The name and address of the owner and operator;
- b. The address (i.e., physical location) of the affected source;
- c. An identification of the relevant standard or other requirement, that is the basis of the notification and the source's compliance date;
- d. A brief description of the nature, size, design, and method of operation of the source, including its operating design capacity, and an identification of each point of emission for each hazardous air pollutant, or if a definitive identification is not yet possible, a preliminary identification of each point of emission for each hazardous air pollutant; and,
- e. A statement of whether the affected source is a major source or an area source.

This report shall be submitted no later than 120 days after initial start-up.