

$$P_e = \left\{ \frac{(M_s)_e - (M_s)_r - \left(\frac{P_r}{100}\right) [(M_s)_e + (M_s)_r]}{(M_s)_e + (M_s)_r} \right\} \times 100$$

Where  $(M_s)_r$  and  $(M_s)_e$  are the collective VOC solvent and water amounts used at all the subject plant facilities during the performance test.

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

$$P_r = \left[ \frac{(L_v)_e - (L_v)_r - (L_v)_e - (L_v)_r}{(L_v)_e} \right] \times 100$$

Where  $(L_v)_r$  is the collective VOC solvent amount used at all the subject plant facilities during the performance test.

**§ 60.434 Monitoring of operations and recordkeeping.**

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

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

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

emission percentage determined during the most recent performance test.

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

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

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

**§ 60.435 Test methods and procedures.**

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

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

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

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

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

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

(1) Determination of the VOC and water content from the formulation data supplied by the ink manufacturer