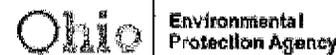


# Air Pollution Control Division



## Canton City Health Department

420 Market Avenue North • Canton, Ohio • 44702-1544  
(330) 489-3385 • Fax: (330) 489-3335

APC Contractual Representative  
Serving All of Stark County

James M. Adams, RS, MPH  
Health Commissioner

Terri A. Dzienis  
APC Administrator

March 15, 2012

### CERTIFIED MAIL

Mr. Mike Pijar  
Tank Services, Inc.  
4936 Southway St. SW  
Canton, OH 44708

**Re: NOTICE OF VIOLATION  
2011 Compliance Inspection  
Facility ID # 1576001860**

Dear Mr. Pijar:

On December 19, 2011, I met with you at 4936 Southway St. SW, Canton, Ohio, for the purpose of conducting a Full Compliance Evaluation (FCE) of Tank Services, Inc. in Canton, Ohio. The purpose of the inspection was to evaluate the compliance with the terms and conditions of the facility's air permit along with state and federal rules and regulations.

Compliance was assessed based upon an examination of each emissions unit at the facility, an examination of monitoring and record keeping files maintained at the facility and a review of compliance reports and fee emissions reports maintained at Canton City Health Department, Air Pollution Control Division (CCHD, APCD). Copies of records from December 2010, February and July 2011 from both K001 & K002 were obtained while onsite and also via email from Karen Hood on January 18 and February 24, 2012. Below is a summary of the inspection findings, violations, and actions that need to be addressed. These findings were verbally discussed with you before I left on December 19, 2011.

### **Finding 1:**

During the review of records maintained at the facility and copies obtained, it was observed that the facility was going over the emission limitation of 128 lbs OC/day as stated in the requirements of Permit to Install (PTI) 15-1300 issued August 27, 1997. In the Air Emission Summary of PTI 15-1300 for both K001 & K002 it states:

Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
PTI 15-1300 BAT	128 lbs OC/day 20 tons OC/yr 0.17 ton PM/yr

On February 14, and July 18, 2011 for K001 and December 14 and 22, 2010 for K002, the daily usage records, obtained from Karen Hood, show that the usages on these specified days were in violation of the 128 lbs OC/day limitation.

**Violation of:**

Failure to adhere to the permit allowable mass emissions and/or control/usage requirements is considered a violation of the terms and conditions of PTI 15-1300. Violations of the terms and conditions of an issued PTI are also considered violations of Ohio Revised Code (ORC) 3704.05(C), which states:

*"No person who is the holder of a permit issued under division (F) or (G) of section 3704.03 of the Revised Code shall violate any of its terms or conditions."*

**Finding 2:**

When comparing the copies of the records maintained at the facility with the deviation reports submitted to the CCHD, APCD it was observed that the exceedances of the 128 lbs OC/day, identified in Finding 1, were not reported as deviations.

**Violation of:**

Failure to report exceedances of the allowable mass emissions and/or control/usage requirements is a violation of the Reporting Requirements in Section C. of PTI 15-1300 which states:

*"The permittee shall submit deviation (excursion) reports which include the following information:*

- 1. An identification of all exceedances of the rolling, 12-month emission limitation for organic compounds, individual HAPs, and combined HAPS for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative emission levels;*
- 2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop range across the filters was outside the range specified above while the spray booth was being employed;*
- 3. An identification of all exceedances of the 128 pounds/day and 20 ton/year limit for organic compounds from this unit; and,*
- 4. An identification of any day in which the daily volume-weighted average VOC content of coatings exceeded 3.5 pounds/gallon."*

**Requested Actions:**

1. CCHD, APCD requests that Tank Services, Inc. immediately comply with all mass emissions and/or control/usage requirements as well as all terms and conditions in PTI 15-1300.
2. CCHD, APCD requests that Tank Services, Inc. review its records for the past three (3) years (starting January, 2009) and re-submit any deviation (excursion) reports since January 2009, that did not include all exceedances that had occurred during the reporting period, within thirty (30) days of receipt of this letter.
3. Please review the attached Engineering Guide #48 to determine if the emissions on the Daily Usage Sheets are being calculated correctly. If they are not or have not been calculated in this manner, please recalculate them, from January 2009 to present, and determine if there were indeed any deviations from your permit. Please provide a written explanation of your calculation review, results, and the revised records (if applicable) within 30 days of receipt of this letter.

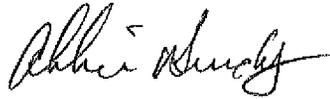
**Additional Information:**

Tank Services, Inc. is a Synthetic Minor facility. All Synthetic Minor facilities are required to submit all reports via eBusiness Center: Air Services, which is accessed through the eBusiness Center. The eBusiness Center may be reached from the Ohio EPA home page at <http://www.epa.ohio.gov> or directly at <http://ebiz.epa.ohio.gov>. CCHD, APCD has identified that numerous reports are not being submitted in this manner, and all reports in the future will need to be submitted via Air Services.

Please note that the Ohio EPA has the authority to seek civil penalties as provided in section 3704.06 of the Ohio Revised Code (ORC). This letter or information pursuant to this letter does not constitute a waiver of Ohio EPA's authority to seek civil penalties as provided in the ORC. The decision on whether or not to seek such penalties will be made by the Ohio EPA at a later date.

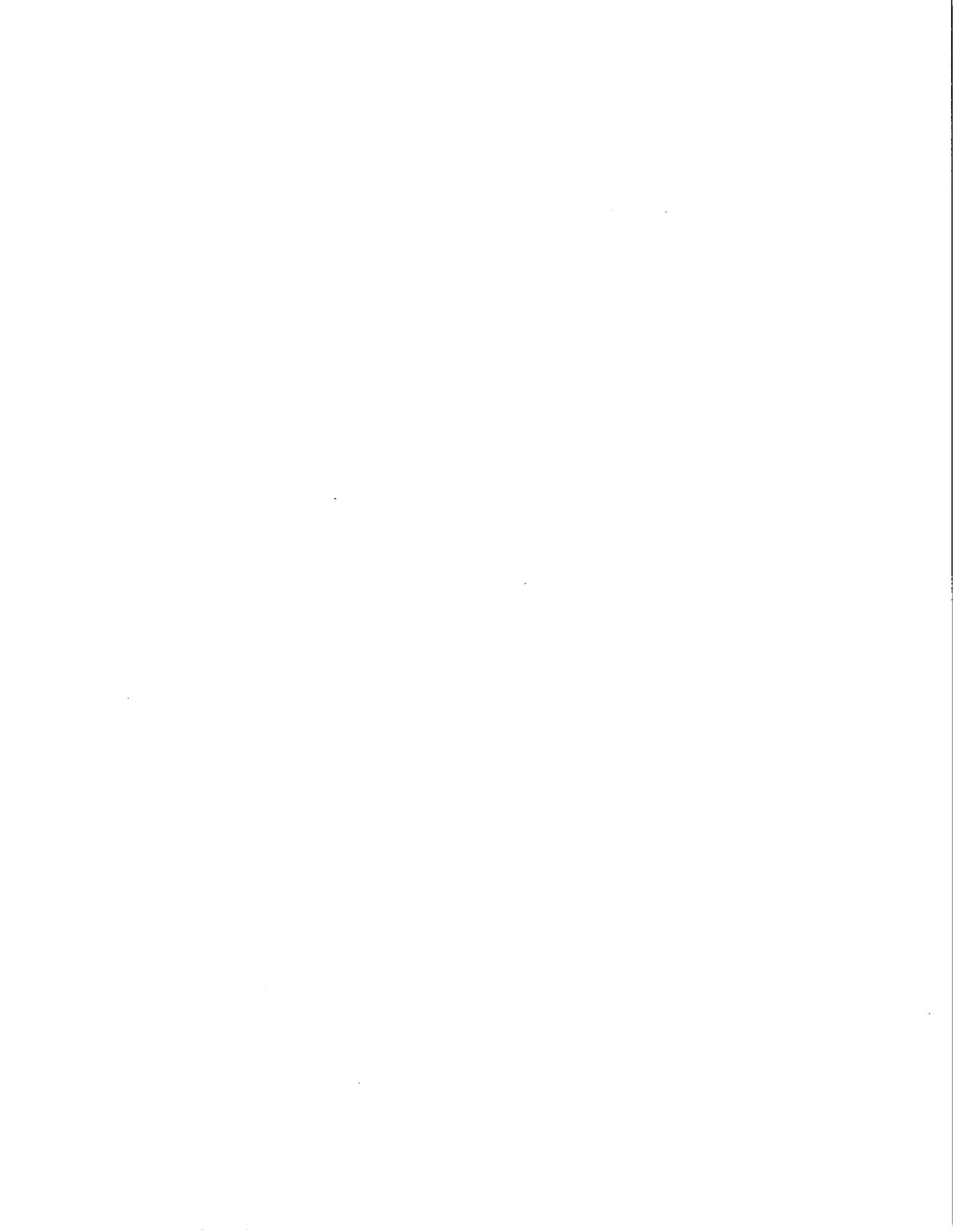
If you have any questions, please contact me at 330-489-3385 or email: [agurdy@cantonhealth.org](mailto:agurdy@cantonhealth.org).

Sincerely,



Abbie Gurdy  
Canton City Health Department

cc: Tom Kalman, Central Office, Ohio EPA



Ohio EPA

Division of Air Pollution Control

Engineering Section

Engineering Guide #48

Question:

How do you determine compliance for a surface coating line which is subject to the emission limitations or control requirements contained in OAC Rule 3745-21-09? (This question was submitted by Vicki Saver of RAPCA in January, 1980 for purposes of clarification).

Answer:

The following table lists the surface coating categories regulated by OAC Rule 3745-21-09. Beside each category, the units of the respective emission limitation or control requirements are shown. The purpose of this Engineering Guide is to explain these emission limitations and control requirements and give examples for determining compliance with the regulations.

<u>Rule</u>	<u>Surface Coating Category</u>	<u>Units of Emission Limitation or Control Requirements</u>
3745-21-09	(C) Automobile and Light Duty Trucks	A or E
"	(D) Can	A or F
"	(E) Coil	A
"	(F) Paper	A
"	(G) Fabric	A
"	(H) Vinyl	A, B or C
"	(I) Metal Furniture	A or E
"	(J) Magnet Wire	A
"	(K) Large Appliance	A or E
"	(U) Misc. Metal Parts	A or B
"	(Y) Rotogravure/Flexographic Printing	B, C or D

A = pounds VOC/gallon of coating, excluding water\*

B = percent capture and percent control for the add-on control equipment

C = percent VOC by volume of the volatile portion (for

waterborne coatings)

- D = percent VOC by volume, excluding water\* (for high solids coatings)
- E = pounds VOC/gallon of coating, excluding water\*, and the associated transfer efficiency (for an alternative emission limitation)
- F = pounds VOC/day (alternative daily emission limitation or "bubble")

\*Exempt organic compounds such as 1,1,1-trichloroethane (methylchloroform), methylene chloride and trichlorotrifluoroethane are considered in the same manner as water in determining compliance with the applicable emission limitations of OAC Rule 3745-21-09.

Pounds VOC/Gallon Coating, Excluding Water (A):

The emission limitation which is common to all surface coating operations (excluding the category of rotogravure/flexographic printing) is expressed as pounds VOC/gallon of coating, excluding water. In order to make a compliance determination, this value must be calculated for each coating. The following information is required for this calculation:

1. % by volume solids (or gal solids/gal coating)
2. % by volume VOC (or gal VOC/gal coating)
3. % by volume water (or gal water\*/gal coating)
4. % by volume exempt organic compounds (or gal exempt organic compounds/gal coating)
5. Density of VOC (or lbs VOC/gal VOC)

Note: When the density of VOC is not specifically reported, it can be calculated from other coating material data as follows:

$$\text{Density of VOC} = \frac{(\text{lbs VOC/gal coating})}{(\% \text{ by volume VOC})} (100\%)$$

or

$$= \frac{(\text{lbs VOC/gal coating, excluding water}) [100\% - (\% \text{ by volume water})]}{(\% \text{ by volume VOC})}$$

These numbers must represent the coating "as-employed" in order to account for any diluent. Data given on applications must be checked for accuracy. More often than not the information on the

appendices is incorrect (i.e., the numbers reflect "as-received" or a mixture of "as-received" and "as-employed"). If necessary, confirm the data by contacting the coating suppliers. Once the volume percentages are established, the VOC content may be calculated using either of the following formulas:

$$\frac{(\% \text{ by volume VOC})(\text{density of VOC})}{100\% - (\% \text{ by volume water} + \% \text{ by volume exempt organic compounds})} = \text{lbs VOC/gal coating, excluding water}$$

or

$$\frac{\text{gal VOC/gal coating} \times \text{lbs VOC/gal VOC}}{1 - [(\text{gal water} + \text{gal exempt organic compounds})/\text{gal coating}]} = \text{lbs VOC/gal coating, excluding water}$$

Example I provides an example calculation for "lbs VOC/gal coating, excluding water."

If the VOC content of every coating employed in a coating line is less than or equal to the allowable limitation, the source is in compliance. It should be noted that the allowable limitation is a daily, volume-weighted average of all coatings employed in the coating line. Hence, it is possible for a coating line to employ some coatings which exceed the allowable limitation on an individual basis yet still be in compliance with the rule. Example II demonstrates how to compute this. If the daily, volume-weighted average is greater than that allowed in the rule, the coating line is not in compliance.

Percent Capture and Percent Control (B):

OAC Rules 3745-21-09 (H), (J), and (Y) (vinyl, misc. metal parts, and graphic arts, respectively) address the option of utilizing add-on control equipment such as incineration, carbon adsorption, or condensing units. These rules specify capture and control efficiencies for the control equipment. The stated capture and control efficiencies must be demonstrated in accordance with OAC Rule 3745-21-10 (C).

Additionally, the owners or operators of other types of surface coating lines may elect to install controls as a means of achieving compliance, even though such an alternative is not specified in the rule. This, however, would require a demonstration that the reduction achieved by the control equipment is sufficient to meet the allowable emission limitation

for the coating line.

Percent VOC by volume of the Volatile Portion (C):

Vinyl coaters and rotogravure/flexographic printing presses have a control option specified in OAC Rule 3745-21-09 (H) (1) (b) and (Y) (1) (a) (ii), respectively, which states that the VOC content of the coating cannot exceed 25% by volume of the volatile portion, as determined through the use of a Method 24 analysis or from data submitted from the coating supplier. This requirement defines the formulation of a waterborne coating. The following four formulations are examples of complying coatings:

formulation: 60% solids  
40% volatiles - 25% VOC  
75% water

formulation: 10% solids  
90% volatiles - 25% VOC  
75% water

formulations: 5% solids  
95% volatiles - 18% VOC  
82% water

formulation: 5% solids  
95% volatiles - 10% VOC  
20% exempt organic compounds  
70% water

Percent VOC by Volume, Excluding Water (D):

The rotogravure flexographic printing industry also has the option of achieving compliance with OAC Rule 3745-21-09 (Y) (1) (a) (i) through the use of high solids coatings. This rule limits the VOC content of high solids coatings to no more than 40% by volume of the coating, excluding water. Compliance is determined by means of a Method 24 analysis of from data submitted by the coating supplier. The next three examples are of two complying coatings and one noncomplying coating:

formulation: 60% solids - complying coating because the  
40% VOC VOC content is 40% of the  
coating, excluding water

formulation: 40% solids - noncomplying coating because  
40% VOC VOC content is 50% of the  
20% water coating, excluding water

formulation: 55% solids - complying coating because the  
30% VOC VOC content of the coating,  
15% exempt excluding water and exempt  
organic organic compounds, is approx-  
compounds imately 35%

Alternative Emission Limitation (E):

The categories of automobile and light duty trucks, metal furniture, and large appliances (OAC Rule 3745-21-09 (C), (I) and (K), respectively) each have a provision within the rule for an alternative emission limitation based upon a higher coating application transfer efficiency (TE). The emission limitations expressed in the rules are based on transfer efficiencies recognized for those industries, and the specific baseline TE's are given in the rules. Theoretically, as the TE increases more solids will be applied to the substrate, thereby requiring less coating to be used (i.e., less overspray). The case-by-case equivalency demonstration of an alternative emission limitation must be made on a pounds VOC/gallon of solids basis. Example III demonstrates how to determine pounds VOC/gallon of solids, and pounds VOC/gallon of solids applied.

Alternative Daily Emission Limitation or Bubble (F):

OAC Rule 3745-21-09 (D), for can coating, is the only rule that specifically provides for a facility bubble. The equations used in that calculation are defined by rule (D)(3)(b) and (D)(3)(c) and will not be covered by this Engineering Guide.

(Bubble variances are available to all existing surface coating operations pursuant to OAC Rule 3745-35-03 (E)(2)(d). For calculations of emission reductions necessary to demonstrate RACT equivalence for a bubble variance, see Example IV. Please note that unlike the bubble contained in OAC Rule 3745-21-09 (D), RACT equivalence for a bubble variance must be calculated on a constant-solids basis).

EXAMPLE I

The following calculations show how to determine "lbs VOC/gal coating, excluding water."

Coating formulation:

44.0% by volume solids  
56.0% by volume volatiles

67% of the volatile portion is water or exempt organic

compounds

33% of the volatile portion is VOC

7.36 lbs/gal = density of the VOC for purposes of this example

Category: Coil coating line; emission limitation of 2.6 lbs  
VOC/gal of coating, excluding water

Step 1: Determine the percent by volume of VOC and water in the  
coating (skip this step if coating does not contain  
water or exempt organic compounds):

$$\frac{.56 \text{ gal volatiles}}{\text{gal coating}} \times \frac{.33 \text{ gal VOC}}{\text{gal volatiles}} = \frac{.185 \text{ gal VOC}}{\text{gal coating}} = 18.5\% \text{ VOC}$$

$$\frac{.56 \text{ gal volatiles}}{\text{gal coating}} \times \frac{.67 \text{ gal water}}{\text{gal volatiles}} = \frac{.375 \text{ gal water}}{\text{gal coating}} = 37.5\% \text{ water}$$

Restated, the coating formulation is:

- 44.0% by volume solids
- 18.5% by volume VOC
- 37.5% by volume water (or exempt organic compounds, if  
applicable)

Step 2: Determine the lbs/gal of coating, excluding water:

General formula:

$$\frac{\text{gal VOC/gal coating} \times \text{lbs VOC/gal VOC}}{1 - [(\text{gal water} + \text{gal exempt organic compounds})/\text{gal coating}]}$$

$$\frac{.185 \text{ gal VOC}}{\text{gal coating}} \times \frac{7.36 \text{ lbs VOC}}{\text{gal VOC}} = 2.18 \text{ lbs: VOC/gal, excluding water}$$
$$1 - \frac{.375 \text{ gal water}}{\text{gal coating}}$$

Therefore, this is a compliance coating.

EXAMPLE II

The following calculation shows how to determine the daily,  
volume-weighted average of VOC emissions from a coating line.

Category: miscellaneous metal parts; extreme performance coating

emission limitation of 3.5 lbs VOC/gallons coating, excluding water.

Coating usage:

<u>Coating</u>	<u>E</u> <u>(lbs VOC/gal, -H<sub>2</sub>O)</u>	<u>GPD</u> <u>(gallons/day)</u>	<u>Total GPD</u>
A	2.5	20	97
B	4.3	15	
C	3.5	45	
D	3.0	17	

General Formula:

$$E = \frac{(E_a)(GPD_a) + (E_b)(GPD_b) + \dots + (E_n)(GPD_n)}{GPD_{total}}$$

where:

- E = the daily, volume-weighted VOC content in lbs VOC/gallon of coating, excluding water
  - E<sub>a</sub>...<sub>n</sub> = the VOC content of each individual coating in lbs VOC/gallon of coating, excluding water
  - GPD<sub>a</sub>...<sub>n</sub> = gallons/day of each individual coating, excluding water
  - GPD<sub>total</sub> = total number of gallons/day (all coatings employed in the coating line)
- $$E = \frac{(2.4)(20) + (4.3)(15) + (3.5)(45) + (3.0)(17)}{97}$$
- = 3.33 lbs. VOC/gallon coating, excluding water

Therefore, the coating line is in compliance on a daily, volume-weighted average basis.

(Note: The GPD values should represent the real usage for a day and not simply an average daily usage based on the annual usage divided by the number of operating days in a year. Calculations for several days may have to be performed in order to determine the "worst case" daily, volume-weighted average).

EXAMPLE III

The following calculations are used to determine the equivalency of an alternative emission limitation based on transfer

efficiency.

Existing formulation:

- 55.0% by volume solids
- 45.0% by volume VOC
- 7.40 lbs/gal - density of VOC
- 50% transfer efficiency (TE)

Category: Automobile and light duty truck top coat line;  
emission limitation of 2.8 lbs VOC/gal, excluding  
water

Step 1: Determine lbs VOC/gal, excluding water:

$$\frac{.45 \text{ gal VOC}}{\text{gal coating}} \times \frac{7.4 \text{ lbs VOC}}{\text{gal VOC}} = 3.33 \text{ lbs VOC/gal coating, excluding water*}$$

1 - 0% water (or exempt organic compound)

\*The formulation is not a compliance coating.

Step 2: Determine the lbs VOC/gal coating (including water or exempt organic compounds)

$$\frac{.45 \text{ gal VOC}}{\text{gal coating}} \times \frac{7.4 \text{ lbs VOC}}{\text{gal VOC}} = 3.33 \text{ lbs VOC/gal coating}$$

Step 3: Determine lbs VOC/gal solids:

$$\frac{3.33 \text{ lbs VOC/gal coating}}{.55 \text{ gal solids/gal coating}} = 6.05 \text{ lbs VOC/gal solids}$$

Step 4: Determine lbs VOC/gal solids applied:

$$\frac{6.05 \text{ lbs VOC/gal solids}}{.50 \text{ transfer efficiency}} = 12.10 \text{ lbs VOC/gal solids applied}$$

Next, compare the value from Step 4 to the allowable emissions. Remember, the 2.8 lbs/gal limit is based on a TE of 30%.

Step 5: Determine complying coating formulation:

$$\frac{2.8 \text{ lbs VOC/gal coating}}{7.40 \text{ lbs VOC/gal VOC}} = .38 \text{ gal VOC/gal coating}$$

Therefore, the model (complying coating) formulation is:

38% by volume VOC  
 63% by volume solids  
 7.40 lbs/gallon - density of VOC  
 30% transfer efficiency

Step 6: Determine lbs VOC/gal solids:

2.8 lbs VOC/gal coating = 4.53 lbs VOC/gal solids  
 .62 gal solids/gal coating

Step 7: Determine lbs VOC/gal solids applied:

4.5 lbs VOC/gal solids = 15.10 lbs. VOC/gal solids applied  
 .30 transfer efficiency

The model compliance coating has 15.10 lbs VOC/gal solids applied, and the existing coating has 12.10 lbs VOC/gal solids applied. Therefore the existing coating is in compliance, based upon a higher transfer efficiency. The alternative emission limitation and corresponding coating applicator TE should be stated in the special terms and conditions of the PTO for the coating line.

\*\*\*\*\*

The following equation can also be used in determining the acceptability of an alternative emission limitation based on transfer efficiency:

$$L_e = \frac{E_e L_{op}}{E_o (p - L_0) + E_e L_0}$$

where

- $E_e$  = transfer efficiency for equivalent VOC emission limit, in %
- $E_o$  = transfer efficiency for original VOC emission limit, in %
- $L_e$  = equivalent VOC emission limit, in lbs per gallon, excluding water
- $L_0$  = original VOC emission limit, in lbs per gallon, excluding water
- $p$  = density of organic solvent, in lbs per gallon

If the VOC content of the proposed coating material is less than  $L_e$  for a given transfer efficiency, the proposed coating material is in compliance.

For the above example,

$$L_e = \frac{(50)(2.8)(7.40)}{(30)(7.40-2.8) + (50)(2.8)} = 3.73 \text{ lbs VOC/gal, excluding water}$$

From Step 1 above it can be seen that the existing coating material contains 3.33 lbs VOC/gal coating, excluding water. Since 3.33 is less than 3.73, the existing coating is in compliance, based upon a 50% transfer efficiency.

#### EXAMPLE IV

The following calculations illustrate how to determine RACT equivalence for a "bubble" variance.

Existing coating formulation:

35.0% by volume solids  
55.0% by volume VOC  
10.0% by volume water  
8.1 lb/gal - density of VOC  
228 gallons coating/day maximum - per PTO application

Category: Paper coating line; emission limitation of 2.9 lbs VOC/gal, excluding water

Step 1: Determine lbs VOC/gallon of coating, excluding water:

$$\frac{.55 \text{ gal VOC} \times 8.2 \text{ lbs VOC}}{\text{gal coating} \quad \text{gal VOC}} = 4.96 \text{ lbs VOC/gal coating, excluding water*}$$

$1 - \frac{.10 \text{ gal water}}{\text{gal coating}}$

\*Note, this formulation is not a compliance coating.

Step 2: Determine the lbs VOC/gallon coating:

$$\frac{.55 \text{ gal VOC} \times 8.1 \text{ lbs VOC}}{\text{gal coating} \quad \text{gal VOC}} = 4.46 \text{ lbs VOC/gal coating}$$

Note: Do not subtract the water. This calculation is not to establish an emission factor; it is used only for determining actual emissions.

Step 3: Determine the percent solids for a complying coating

(excluding water or exempt organic compounds):

$$2.9 \text{ lbs VOC/gal coating} = \frac{X \text{ gal VOC}}{\text{gal coating}} \times \frac{8.10 \text{ lbs VOC}}{\text{gal VOC}}$$

$$\frac{X \text{ gal VOC}}{\text{gal coating}} = \frac{2.9 \text{ lbs VOC/gal coating}}{8.1 \text{ lbs VOC/gal VOC}} = \frac{.358 \text{ gal VOC}}{\text{gal coating}}$$

$$1 \text{ gal coating (solids and VOC)} - \frac{.358 \text{ gal VOC}}{\text{gal coating}} = \frac{.642 \text{ gal solids}}{\text{gal coating}}$$

Therefore, the complying coating formulation is:

35.8% VOC  
64.2% solids

Step 4: Determine the lbs VOC/gal solids for the existing (noncomplying) coating and a complying coating:

Noncomplying:

$$\frac{.55 \text{ gal VOC}}{\text{gal coating}} \times \frac{8.1 \text{ lbs VOC}}{\text{gal VOC}} = 12.73 \text{ lbs VOC/gal solids}$$
$$\frac{.35 \text{ gal solids}}{\text{gal coating}}$$

Complying:

$$\frac{.358 \text{ gal VOC}}{\text{gal coating}} \times \frac{8.1 \text{ lbs VOC}}{\text{gal VOC}} = 4.52 \text{ lbs VOC/gal solids}$$

Step 5: Determine the maximum amount of noncomplying emissions per day from the use of the existing coating:

$$\frac{(12.73 - 4.52) \text{ lbs VOC}}{\text{gal solids}} \times \frac{.35 \text{ gal solids}}{\text{gal coating}} \times \frac{228 \text{ gal coating}}{\text{day}}$$
$$= 655 \text{ lbs VOC/day}$$

Therefore, any "bubble" variance must provide offsetting emissions of 655 lbs VOC/day or more in order to meet the RACT equivalence requirement.

6732-6754

November 30, 1984

