Article XXI Rules and Regulations
of the Allegheny County Health Department

[SIP effective date: August 23, 2005]

[NEW] Section 2105.74 Aerospace Manufacturing And Rework
[NEW] Section 2105.75 Mobile Equipment Repair and Refinishing
[NEW] Section 2105.76 Wood Furniture Manufacturing Operations

§2105.74 AEROSPACE MANUFACTURING AND REWORK

a. **Applicability**. Except as provided in Subsection b, this section applies to the manufacture or rework of commercial, civil, or military aerospace vehicles or components at any facility which has the potential to emit 25 tons per year of VOCs or more.

b. **Exceptions**. This section does not apply to cleaning and coating of aerospace components and vehicles as follows:

1. At any source conducting research and development for the research and development activities;

2. For quality control and laboratory testing;

3. For production of electronic parts and assemblies (except for cleaning and coating of completed assemblies); and

4. For rework operations performed on antique aerospace vehicles or components.

c. **Exemption from Limits**. Subsection d does not apply to cleaning and coating of aerospace components and vehicles in the following circumstances:

1. The use of touchup, aerosol, and Department of Defense "classified" coatings;

2. The coating of space vehicles; and

3. At facilities that use separate formulations in volumes less than 50 gallons per year to a maximum exemption of 200 gallons per year of all the coatings in aggregate for these formulations.

d. **Limits**. A person may not apply to aerospace vehicles or components, aerospace specialty coatings, primers, topcoats, and chemical milling maskants including VOC-containing materials added to the original coating supplied by the manufacturer, that contain VOCs in excess of the limits specified in Table 2105.74.

1. Aerospace coatings that meet the definitions of the specific coatings in Table 2105.74 shall meet those allowable coating VOC limits.

2. All other aerospace primers, aerospace topcoats and chemical milling maskants are subject to the general coating VOC limits for aerospace primers, aerospace topcoats, and aerospace chemical milling maskants.

TABLE 2105.74
Allowable Content of VOCs in Aerospace Coatings
Allowable VOC Content
Weight of VOC Per Volume of Coating (Minus Water and Exempt Solvents)

COATING TYPE	**LIMIT POUNDS PER GALLON**	**GRAMS PER LITER**
Specialty Coatings		
1. Ablative Coating	5.0	600
2. Adhesion Promoter	7.4	890
3. Adhesive Bonding Primers:		
a. Cured at 250°F or below	7.1	850
b. Cured above 250°F	8.6	1030
4. Adhesives:		
a. Commercial interior Adhesive	6.3	760
b. Cyanoacrylate Adhesive	8.5	1020
c. Fuel Tank Adhesive	5.2	620
d. Nonstructural Adhesive	3.0	360
e. Rocket Motor Bonding Adhesive	7.4	890
f. Rubber-Based Adhesive	7.1	850
g. Structural Autoclavable Adhesive	0.5	60
h. Structural Nonautoclavable Adhesive	7.1	850
5. Antichafe Coating	5.5	660
6. Chemical Agent-Resistant Coating	4.6	550
7. Clear coating	6.0	720
8. Commercial Exterior Aerodynamic Structure Primer	5.4	650
9. Compatible Substrate Primer	6.5	780
10. Corrosion Prevention Compound	5.9	710
11. Cryogenic Flexible Primer	5.4	645
12. Cryoprotective Coating	5.0	600
13. Electric or Radiation-Effect Coating	6.7	800
14. Electrostatic Discharge and Electromagnetic		

Interference (EMI) Coating	6.7	800	
15. Elevated Temperature Skydrol Resistant Commercial Primer	6.2	740	
16. Epoxy Polyamide Topcoat	5.5	660	
17. Fire-Resistant (Interior) Coating	6.7	800	
18. Flexible Primer	5.4	640	
19. Flight-Test Coatings:			
a. Missile or Single Use Aircraft	3.5	420	
b. All Other	7.0	840	
20. Fuel-Tank Coating	6.0	720	
a. High Temperature Coating	7.1	850	
21. Insulation Covering	6.2	740	
22. Intermediate Release Coating	6.2	750	
23. Lacquer	6.9	830	
24. Maskants:			
a. Bonding Maskant	10.2	1230	
b. Critical Use and Line Sealer Maskant	8.6	1020	
c. Seal Coat Maskant	10.2	1230	
25. Metalized Epoxy Coating	6.2	740	
26. Mold Release	6.5	780	
27. Optical Anti-Reflective Coating	6.2	750	
28. Part Marking Coating	7.1	850	
29. Pretreatment Coating	6.5	780	
30. Rain Erosion-Resistant Coating	7.l	850	
31. Rocket Motor Nozzle Coating	5.5	660	
32. Scale Inhibitor	7.3	880	
33. Screen Print Ink	7.0	840	
34. Sealant:			
a. Extrudable/Rollable/Brushable Sealant	2.0	240	
b. Sprayable Sealant	5.0	600	
35. Self Priming Topcoat	3.5	420	
36. Silicone Insulation Material	7.1	850	
37. Solid Film Lubricant	7.3	880	
38. Specialized Function Coating	7.4	890	
39. Temporary Protective Coating	2.7	320	
40. Thermal Control Coating	6.7	800	
41. Wet Fastner Installation Coating	5.6	675	
42. Wing Coating	7.1	850	

Aerospace Primers, Aerospace Topcoats, and Aerospace Chemical Milling Maskants

1. Primers	2.9	350
2. Topcoats	3.5	420
3. Chemical Milling Maskants (Type I/II)	1.3	160

e. **Calculation**. The mass of VOC per combined volume of VOC and coating solids, less water and exempt compounds shall be calculated for each coating by the following equation:

$$VOC = \frac{(W_v - W_w - W_{ex})(D_c)}{100\% - (W_w)(D_c/D_w) - (W_{ex})(D_c/D_{ex})}$$

Where:

VOC = VOC content in grams per liter (g/l) of each coating less water and exempt solvents

W_v = Weight of total volatiles, % (100%-Weight % Nonvolatiles)
W_w = Weight of water, %
W_{ex} = Weight of exempt solvent, %
D_c = Density of coating, g/l at 25˚C
D_w = Density of water, 0.997×10^3 g/l at 25˚C
D_{ex} = Density of exempt solvent, g/l, at 25˚C

To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345×10^{-3} (lb/gal/g/l).

f. **Application Techniques**. Except as provided in Subsection g, a person shall use one or more of the following application techniques in applying primer or topcoat to aerospace vehicles or components:

1. Flow/curtain coat;
2. Dip coat;
3. Roll coating;
4. Brush coating;
5. Cotton-tipped swab application;
6. Electrodeposition (DIP) coating;
7. High volume low pressure (HVLP) spraying; and
8. Electrostatic spray.

g. **Exemption from Application Techniques**. The following situations are exempt from application equipment requirements listed in Subsection f:

1. Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly apply coatings to limited access spaces;

2. The application of specialty coatings;

3. The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the applicant has demonstrated and the Department has determined cannot be applied by any of the application methods specified in Subsection f;

4. The application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.) when the applicant has demonstrated and the Department has determined cannot be applied by any of the application methods specified in Subsection f;

5. The use of airbrush application methods for stenciling, lettering and other identification markings;

6. The use of hand-held spray can application methods; and

7. Touch-up and repair operations.

h. **Cleaning Solvents**. Except as provided in Subsection i, a person may not use solvents for hand-wipe cleaning of aerospace vehicles or components unless the cleaning solvents do one of the following:

1. Meet the definition of "aqueous cleaning solvent" in §2101.20 (relating to definitions);

2. Have a VOC composite vapor pressure less than or equal to 45 millimeters (mmHg) at 20˚C; or

3. Is composed of a mixture of VOCs and has a maximum vapor pressure of 7 millimeters (mmHg) at 20˚C (3.75 inches water at 68˚F) and contains no hazardous air pollutants (HAP) or ozone depleting compounds.

i. **Exemption from Cleaning Solvents**. The following aerospace vehicle and component solvent cleaning operations are exempt from Subsection h:

1. Cleaning during the manufacture, assembly, installation, maintenance or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

2. Cleaning during the manufacture, assembly, installation, maintenance or testing of parts, subassemblies or assemblies that are exposed to strong oxidizers or reducers (for example, nitrogen tetroxide, liquid oxygen, hydrazine);

3. Cleaning and surface activation prior to adhesive bonding;

4. Cleaning of electronics parts and assemblies containing electronics parts;

5. Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;

6. Cleaning of fuel cells, fuel tanks and confined spaces;

7. Surface cleaning of solar cells, coated optics and thermal control surfaces;

8. Cleaning during fabrication, assembly, installation and maintenance of upholstery, curtains, carpet and other textile materials used in or on the interior of the aircraft;

9. Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

10. Cleaning of aircraft transparencies, polycarbonate or glass substrates;

11. Cleaning and solvent usage associated with research and development, quality control or laboratory testing;

12. Cleaning operations, using nonflammable liquids, conducted within 5 feet of any alternating current (AC) or direct current (DC) electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and

13. Cleaning operations identified in an essential use waiver under section 604(d)(1) of the Clean Air Act (42 U.S.C.A. § 7671c(d)(1)) or a fire suppression or explosion prevention waiver under section 604(g)(1) of the Clean Air Act which has been reviewed and approved by the EPA and the voting parties of the International Montreal Protocol Committee.

j. **Cleaning Solvent Collection**. Cleaning solvents, except for semiaqueous cleaning solvents, used in the flush cleaning of aerospace vehicles, components, parts, and assemblies and coating unit components, shall be emptied into an enclosed container or collection system that is kept closed when not in use or captured with wipers which comply with the housekeeping requirements of Subsection l. Aqueous cleaning solvents are exempt from these requirements.

k. **Spray Guns**. Spray guns used to apply aerospace coatings shall be cleaned by one of the following:

1. An enclosed spray gun cleaning system that is kept closed when not in use. Leaks, including visible leakage, misting and clouding, shall be repaired within 14 days from when the leak is first discovered. Each owner or operator using an enclosed spray gun cleaner shall visually inspect the seals and all other potential sources of leaks at least once per month. The results of each inspection shall be recorded, and the record shall indicate the date of the inspection, the person who conducted the inspection and whether components were leaking. Records of the inspections shall be maintained for at least 2 years. Each inspection shall occur while the spray gun cleaner is in operation. If the leak is not repaired by the 15th day after detection, the solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued;

2. Unatomized discharge of solvent into a waste container that is kept closed when not in use;

3. Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use; or

4. Atomized spray into a waste container that is fitted with a device designed to capture atomized solvent emissions.

l. **Housekeeping**. The owner or operator of an affected facility shall implement the following housekeeping measures for cleaning solvents:

1. Fresh and used cleaning solvents, except aqueous and semiaqueous cleaning solvents, used in solvent cleaning operations shall be stored in nonabsorbent, nonleaking containers. The containers shall be kept closed at all times except when filling or emptying;

2. Cloth and paper, or other absorbent applicators, moistened with cleaning solvents, except aqueous cleaning solvents, shall be stored in closed, nonabsorbent, nonleaking containers. Cotton-tipped swabs used for very small cleaning operations are exempt; and

3. Handling and transfer procedures shall minimize spills during filling and transferring the cleaning solvent, except aqueous cleaning solvents, to or from enclosed systems, vats, waste containers and other cleaning operation equipment that holds or stores fresh or used cleaning solvents.

m. **Approved Equipment**. The owner or operator of an affected facility may comply with this section by using approved air pollution control equipment provided that the following exist:

1. The control system has a combined VOC emissions capture and control

equipment efficiency of at least 81% by weight and is operated and maintained in accordance with good air pollution control practices that minimize VOC emissions;

2. The owner or operator received approval from the Department of a monitoring plan that specifies the applicable operating parameter value, or range of values, to ensure ongoing compliance with this section. The monitoring device shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications, and the Department's approval; and

3. The owner or operator shall record monitoring parameters as specified in the approved monitoring plan.

n. **Records**. The owner or operator of an affected facility shall maintain records in accordance with §2105.01-2105.10, including:

1. A current list of coatings in use categorized in accordance with Table 2105.74 showing VOC content as applied and usage on an annual basis;

2. A current list of cleaning solvents used and annual usage for hand wiping solvents including the water content of aqueous and semiaqueous solvents and the vapor pressure and composite vapor pressure of all vapor pressure compliant solvents and solvent blends; and

3. A current list and annual usage information for exempt hand-wipe cleaning solvents with a vapor pressure greater than 45 millimeters of mercury (mmHg) used in exempt hand-wipe cleaning operations.

§2105.75 MOBILE EQUIPMENT REPAIR AND REFINISHING

a. **Applicability**. Except as provided in Subsection b, this section applies to a person who applies mobile equipment repair and refinishing or color-matched coatings to mobile equipment or mobile equipment components.

b. **Exception**. This section does not apply to a person who applies surface coatings to mobile equipment or mobile equipment components under one of the following circumstances:

1. The surface coating process is subject to the miscellaneous metal parts finishing requirements of §2105.10 (Surface Coating Processes);
2. The surface coating process is at an automobile assembly plant; or
3. The person applying the coatings does not receive compensation for the application of the coatings.

c. **Limits**. A person may not apply to mobile equipment or mobile equipment components any automotive pretreatment, automotive primer-surfacer, automotive primer-sealer, automotive topcoat, and automotive specialty coatings, including any VOC-containing materials added to the original coating supplied by the manufacturer, that contain VOCs in excess of the limits specified in Table 2105.75.

Table 2105.75
Allowable Content of VOCs in Mobile Equipment Repair and Refinishing Coatings
Allowable VOC Content (as applied)

Weight of VOC per Volume of Coating (minus water and non-VOC solvents)

	LIMIT	
	POUNDS PER	GRAMS PER
COATING TYPE	GALLON	LITER
Automotive pretreatment primer	6.5	780
Automotive primer-surfacer	4.8	575
Automotive primer-sealer	4.6	550
Automotive topcoat		
Single stage-topcoat	5.0	600
2 stage basecoat/clearcoat	5.0	600
3 or 4 stage basecoat/clearcoat	5.2	625
Automotive multicolored topcoat	5.7	680
Automotive specialty	7.0	840

d. **Calculation**. A person who provides mobile equipment repair and refinishing coatings subject to this section shall provide documentation concerning the VOC content of the coatings calculated in accordance with the following:

1. The mass of VOC per combined volume of VOC and coating solids, less water and exempt compounds, shall be calculated by the following equation:

$$VOC = \frac{(W_v - W_w - W_{ec})}{(V - V_w - V_{ec})}$$

where:
VOC = VOC content in grams per liter (g/l) of coating less water and non-VOC solvents
W_v = Mass of total volatiles, in grams
W_w = Mass of water, in grams
W_{ec} = Mass of exempt compounds, in grams
V = Volume of coating, in liters
V_w = Volume of water, in liters
V_{ec} = Volume of exempt compounds, in liters

To convert from grams per liter to pounds per gallon (lb/gal), multiply the result (VOC content) by
8.345×10^{-3} (lb/gal/g/l).

2. The VOC content of a multistage topcoat shall be calculated by the following equation:

$$VOC_{multi} = \frac{\mathbf{VOC_{bc}} + \sum_{i=0}^{M} \mathbf{VOC_{mci}} + \mathbf{2(VOC_{cc})}}{M + 3}$$

where:
VOC_{multi} = VOC content of multistage topcoat, g/l
VOC_{bc} = VOC content of basecoat, g/l
VOC_{mci} = VOC content of the midcoat(s), g/l
VOC_{cc} = VOC content of the clear coat, g/l
M = number of midcoats

To convert from grams per liter to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345×10^{-3} (lb/gal/g/l).

e. **Application Techniques**. A person at a facility subject to this section shall use one or more of the following application techniques to apply any finish material listed in Table 2105.75:

1. Flow/curtain coating;
2. Dip coating;
3. Roller coating;

4. Brush coating;
5. Cotton-tipped swab application;
6. Electrodeposition coating;
7. High volume low pressure (HVLP) spraying;
8. Electrostatic spray;
9. Airless spray; and
10. Other coating application method that the person demonstrates and the Department determines achieves emission reductions equivalent to HVLP or electrostatic spray application methods.

f. **Exemption from Application Techniques**. The following situations are exempt from the application equipment requirements in Subsection e:

1. The use of airbrush application methods for stenciling, lettering and other identification markings;
2. The application of coatings sold in nonrefillable aerosol containers; and
3. Automotive touch-up repair.

g. **Spray Guns**. Spray guns used to apply mobile equipment repair and refinishing coatings shall be cleaned by one of the following:

1. An enclosed spray gun cleaning system that is kept closed when not in use;
2. Unatomized discharge of solvent into a paint waste container that is kept closed when not in use;
3. Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use; and
4. Atomized spray into a paint waste container that is fitted with a device designed to capture atomized solvent emissions.

h. **Housekeeping**. The owner and operator of a facility subject to this section shall implement the following housekeeping and pollution prevention and training measures:

1. Fresh and used coatings, solvent and cleaning solvents shall be stored in nonabsorbent, non-leaking containers. The containers shall be kept closed at all times except when filling or emptying;
2. Cloth and paper, or other absorbent applicators, moistened with coatings, solvents or cleaning solvents, shall be stored in closed, nonabsorbent, nonleaking containers;
3. Handling and transfer procedures shall minimize spills during the transfer of coatings, solvents and cleaning solvents through the use of devices including pumps or spouts on larger containers; and
4. Ensure that a person who applies mobile equipment repair and refinishing coatings has completed training in the proper use and handling of the mobile equipment repair and refinishing coatings, solvents and waste products to

minimize the emission of air contaminants and to comply with this section.

§2105.76 WOOD FURNITURE MANUFACTURING OPERATIONS

a. **General Provisions and Applicability**. This section applies to each wood furniture manufacturing facility located in the county that emits or has the potential to emit 25 tons or more per year of VOCs from wood furniture manufacturing operations.

1. The owner or operator of an existing wood furniture manufacturing facility subject to this section must comply with this section by the effective date.

2. An existing wood furniture manufacturing facility that increases its actual emissions or potential to emit to 25 tons per year or more of VOCs from wood furniture manufacturing operations shall comply with this section within 1 year after becoming subject to this section.

3. At a minimum, a new source installed at an existing facility that is subject to the requirements of this section shall comply with the emission standards of Subsection b upon installation of the new source.

4. Except for Paragraph c.7 of this section, the owner or operator of a wood furniture manufacturing facility subject to this section and §2105.10 must comply with the more stringent emissions limitation or applicable requirement for wood furniture manufacturing operations in this section or §2105.10.

5. The VOC standards in Table 2105.76 do not apply to a coating used exclusively for determining product quality and commercial acceptance, touch-up and repair, and other small quantity coatings if the coating meets the following criteria:

A. The quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility.

B. The owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

b. **Emission Standards**. An owner or operator of a facility subject to this section shall limit VOC emissions from wood furniture manufacturing operations by:

1. Applying either waterborne topcoats or a combination of sealers and topcoats and strippable spray booth coatings with a VOC content equal to or less than the standards specified in Table 2105.76:

Table 2105.76
Emission Limits of VOC for Wood Furniture Manufacturing Sealers, Topcoats and Strippable Spray Booth Coatings As Applied, in Pounds of VOC Per Pound of Coating Solids (kg VOC/kg of Coating Solids), by Category

1) Waterborne Topcoats	0.8	
2) High solids coating systems		
Sealer	1.9	
Topcoat	1.8	
3) Acid-cured alkyd amino systems		
i. Acid-cured alkyd amino sealer	2.3	
Acid-cured alkyd amino conversion varnish topcoat		2.0
ii. Other sealer	1.9	
Acid-cured alkyd amino conversion varnish topcoat	2.0	
iii. Acid-cured alkyd amino sealer	2.3	
Other topcoat	1.8	
4) Waterborne strippable spray booth coating	0.8	

2. Using an emissions averaging program which meets the requirements in Subsection g (relating to special provisions for facilities using an emissions averaging approach).

3. Using a control system that will achieve a reduction in emissions equivalent to 0.8 lb VOC/lb solids for topcoats or 1.8 lbs VOC/lb solids for topcoats and 1.9 lbs VOC/lb solids for sealers.

4. Using a combination of the methods specified in Paragraphs b.1-3 above.

c. **Work practice standards**.

1. Work practice implementation plan. Within 60 days after the compliance date specified in Subsection a, an owner or operator of a facility subject to the requirements in this section must:

A. Prepare and maintain a written work practice implementation plan that defines work practices for each wood furniture manufacturing operation and addresses the provisions in Paragraphs c.2-10 below. The owner or operator of the facility shall comply with the work practice implementation plan.

B. Make available the written work practice implementation plan for inspection by the Department upon request. If the Department determines

that the work practice implementation plan does not adequately address the criteria specified in Paragraphs c.2-10 below, the Department may require that the facility owner or operator modify the plan.

2. Operator training program. New and existing personnel, including contract personnel, who are involved in coating, cleaning or washoff operations, or implementation of the requirements of this section must complete an operator training program.

   A. New personnel must be trained upon hiring.

   B. Existing personnel must be trained at least 6 months before the compliance date specified in Subsection a.

   C. Personnel shall be given refresher training annually.

   D. A copy of the written operator training program shall be maintained with the work practice implementation plan. The operator training program shall include the following:

      i. A list of all current personnel by name and job description that are required to be trained.

      ii. An outline of the subjects to be covered in the initial and annual refresher training sessions for each position or group of personnel.

      iii. Lesson plans for courses to be given at the initial and annual refresher training sessions that include, at a minimum, appropriate application techniques, appropriate cleaning and washoff procedures, appropriate equipment setup and adjustment to minimize coating usage and overspray and appropriate management of cleanup wastes.

      iv. A description of the methods to be used at the completion of the initial or annual refresher training sessions to demonstrate and document successful completion.

      v. A record of the date each employee is trained.

3. Leak inspection and maintenance plan. An owner or operator of a facility shall prepare and maintain with the work practice implementation plan a written leak inspection and maintenance plan which shall include the following:

   A. A minimum visual inspection frequency of once per month for all

equipment used to transfer or apply coatings or solvents.

B. An inspection schedule.

C. The methods for documenting the date and results of each inspection and any repairs that were made.

D. The time frame between identifying a leak and making the repair, which shall adhere to the following schedule:

i. A first attempt at repairs, including tightening of packing glands, shall be made within 5 working days after the leak is detected.

ii. Final repairs shall be made within 15 working days, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within 3 months.

4. Cleaning and washoff solvent accounting system. A solvent accounting form shall be developed to account for solvents used in cleaning and washoff operations. The information recorded on the form shall include the following:

A. The total number of pieces processed through washoff operations each month and the reason for the washoff operations.

B. The name and total quantity of each solvent used each month for:

i. Cleaning activities.
ii. Washoff operations.

C. The name and total quantity of each solvent evaporated to the atmosphere each month from:

i. Cleaning activities.
ii. Washoff operations.

5. Spray booth cleaning. An owner or operator of a facility may not use compounds containing more than 8.0% by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, the facility shall use no more than 1.0 gallon of solvent to prepare the booth prior to applying the booth coating.

6. Storage requirements. An owner or operator of a facility shall use normally closed containers for storing coating, cleaning and washoff materials.

7. Application equipment requirements. An owner or operator of a facility may not use conventional air spray guns to apply coatings except under any of the following circumstances:

   A. To apply coatings that have a VOC content no greater than 1.0 lb VOC/lb solids (1.0 kg VOC/kg solids), as applied.

   B. For touch-up and repair coatings under one of the following circumstances:

      i. The coatings are applied after completion of the wood furniture manufacturing operation.

      ii. The coatings are applied after the stain and before any other type of coating is applied, and the coatings are applied from a container that has a volume of no more than 2.0 gallons.

   C. The spray is automated, that is, the spray gun is aimed and triggered automatically, not manually.

   D. The emissions from the surface coating process are directed to a VOC control system.

   E. The conventional air spray gun is used to apply coatings and the cumulative total usage of those coatings is no more than 5.0% of the total gallons of coating used during each semiannual reporting period.

   F. The conventional air spray gun is used to apply stain on a part for which the Department notifies the operator, in writing, of its determination that it is technically or economically infeasible to use any other spray application technology. To support the facility's claim of technical or economic infeasibility, a video tape, a technical report, or other documentation shall be submitted to the Department showing either independently or in combination, the following:

      i. The production speed is too high or the part shape is too complex for one operator to coat the part, and the application station is not large enough to accommodate an additional operator.

      ii. The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

8. Line cleaning. The solvent used for line cleaning shall be pumped or drained into a normally closed container.

9. Spray gun cleaning. The solvent used to clean spray guns shall be collected into a normally closed container.

10. Washoff operations. The emissions from washoff operations shall be controlled by the following:

A. Using normally closed containers for washoff operations.

B. Minimizing dripping by tilting or rotating the part to drain as much solvent as possible.

d. **Compliance procedures and monitoring requirements**.

1. Compliance methods. An owner or operator of a facility subject to the emission standards in Subsection b shall demonstrate compliance with those provisions by using one or more of the following methods:

A. To support that each sealer, topcoat and strippable spray booth coating meets the requirements of Paragraph b.1 of this section:

i. Maintain CPDSs for each of the coatings.

ii. Maintain documentation showing the VOC content of the as applied coating in lbs VOC/lb solids, if solvent or other VOC is added to the coating before application.

iii. Perform sampling and testing in accordance with the procedures and test methods in Part G.

B. To comply through the use of a control system as described in Paragraph b.3:

i. Calculate the required overall control efficiency needed to demonstrate compliance using the following equation:

$$O = (1 - E/C) \times 100$$

Where:

C = the VOC content of the as applied coating, lbs VOC/lb solids

E = the Table 2105.76 emission limit which shall be achieved by the affected emission point(s), lbs VOC/lb solids

O = the overall control efficiency of the control system,

expressed as a percentage

ii. Document that the value of C in the equation in Subparagraph d.1.B.i above is obtained from the VOC and solids content of the as applied coating.

iii. Determine the overall control efficiency of the control system using the procedures and test methods in Part G and demonstrate that the value of O calculated by the following equation is equal to or greater than the value of O calculated by the equation Subparagraph d.1.B.i above:

$$O = (F \times N)\ (100)$$

Where:
F = the control device efficiency, expressed as a fraction
N = the capture device efficiency, expressed as a fraction

2. Initial compliance.

A. Compliant coatings. An owner or operator of a facility subject to Paragraph b.1 that is complying through the procedures in Subparagraph d.1.A shall submit an initial compliance status report as required by Paragraph f.1 (relating to reporting requirements), stating that compliant sealers, top coats, and strippable spray booth coatings are being used by the facility.

B. Continuous coaters. An owner or operator of a facility subject to Paragraph b.1 that is complying through the procedures in Subparagraph d.1.A and is applying sealers, topcoats, or both, using continuous coaters shall demonstrate initial compliance by either:

i. Submitting an initial compliance status report as required by Paragraph f.1 stating that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir and as calculated from records, are being used.

ii. Submitting an initial compliance status report as required by Paragraph f.1 stating that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir, are being used and the viscosity of the coating in the reservoir is being monitored. The facility shall also provide data that demonstrates the correlation between the viscosity and the VOC content of the coating in the reservoir.

C. Control systems. An owner or operator of a facility using a control system to comply with this section shall demonstrate initial compliance by submitting a report to the Department that:

i. Identifies the operating parameter value to be monitored for the capture device and discusses why the parameter is appropriate for demonstrating ongoing compliance.

ii. Includes the results of the initial performance testing using the procedures and test methods specified in Part G.

iii. Includes calculations of the overall control efficiency (O) using the equation in Subparagraph d.1.B.iii.

iv. Defines those operating conditions of the control system critical to determining compliance and establishes operating parameter values that will ensure compliance with the standard:

(a) For compliance with a thermal incinerator, minimum combustion temperature shall be the operating parameter value.

(b) For compliance with another control system, the operating parameter value shall be established using the procedures identified in Subparagraph d.3.C.iv.

v. An owner or operator of a facility complying with this subparagraph shall calculate the site-specific operating parameter value as the arithmetic average of the maximum or minimum operating parameter values, as appropriate, that demonstrate compliance with the standards, using the procedures in Part G.

D. Work practice implementation plan. An owner or operator of a facility subject to the work practice standards of Subsection c shall submit an initial compliance status report as required by Paragraph f.1, stating that the work practice implementation plan has been developed and procedures have been established for implementing the provisions of the plan.

3. Continuous compliance demonstrations. An owner or operator of a facility subject to the requirements of this section shall submit, in writing, to the Department a compliance certification with the semiannual report required by Paragraph f.2.

A. Compliant coatings. An owner or operator of a facility subject to

Subsection b that is complying through the procedures specified in Subparagraph d.1.A shall demonstrate continuous compliance by the following:

i. Using compliant coatings.

ii. Maintaining records that demonstrate the coatings are compliant.

iii. Submitting a compliance certification which states that compliant sealers, topcoats, or both, and strippable spray booth coatings have been used each day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

B. Continuous coaters. An owner or operator of a facility subject to Subsection b that is complying through the procedures specified in Subparagraph d.1.A and is applying sealers, topcoats, or both, using continuous coaters shall demonstrate continuous compliance by either:

i. Using compliant coatings as determined by the VOC content of the coating in the reservoir and as calculated from records, and submitting a compliance certification which states that compliant sealers, topcoats, or both, have been used each day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

ii. Using compliant coatings, as determined by the VOC content of the coating in the reservoir, maintaining a viscosity of the coating in the reservoir that is no less than the viscosity of the initial coating by monitoring the viscosity with a viscosity meter or by testing the viscosity of the initial coating and retesting the viscosity of the coating in the reservoir each time solvent is added, maintaining records of solvent additions and submitting a compliance certification which states that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir, have been used each day in the semiannual reporting period. Additionally, the certification shall state that the viscosity of the coating in the reservoir has not been less than the viscosity of the initial coating, that is, the coating that is initially mixed and placed in the reservoir, for any day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

C. Control systems. An owner or operator of a facility subject to Subsection b

that is complying through the use of a control system shall demonstrate continuous compliance by the following:

i. Installing, calibrating, maintaining and operating monitoring equipment approved, in writing, by the Department.

ii. Using a device to monitor the site-specific operating parameter value established in accordance with Subparagraph d.2.C.i.

iii. When a thermal incinerator is used, a temperature monitoring device equipped with a continuous recorder is required and shall be installed in the firebox or in the ductwork immediately downstream of the firebox at a location before any substantial heat exchange occurs.

iv. An owner or operator using a control system not listed in this section shall submit, in writing, to the Department a description of the system, test data verifying the performance of the system, the appropriate operating parameter values that will be monitored and the monitoring device that will be used to demonstrate continuous compliance with the standard and receive, in writing, the Department's approval prior to use.

v. An owner or operator of a facility may not operate the control system at a daily average value greater than or less than (as appropriate) the operating parameter value. The daily average value shall be calculated as the average of all values for a monitored parameter recorded during the operating day.

vi. Submitting a compliance certification which states that the control system has not been operated at a daily average value greater than or less than (as appropriate) the operating parameter value for each day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

D. Work practice implementation plan. An owner or operator of a facility subject to the work practice standards of Subsection c shall demonstrate continuous compliance by following the work practice implementation plan and submitting a compliance certification which states that the work practice implementation plan is being followed, or should otherwise identify the periods of noncompliance with the work practice standards and the reasons for noncompliance.

4. Compliance certification requirements. The compliance certification shall be signed by a responsible official of the company that owns or operates the facility. In addition to the certification requirements of this section, the certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the documents are true, accurate and complete.

e. **Recordkeeping requirements**.

1. Requirement. The owner or operator of a wood furniture manufacturing operation shall keep records to demonstrate compliance with this section. The records shall be maintained for at least 5 years.

2. Compliant coatings. The following records shall be maintained to demonstrate compliance with Subsection b (relating to emission standards).

A. A certified product data sheet for each coating and strippable spray booth coating subject to the emission limits of Subsection b.

B. The VOC content as applied, lbs VOC/lb solids (kg VOC/kg solids), of each coating and strippable spray booth coating subject to the emission limits of Subsection b, and copies of data sheets documenting how the as applied values were determined.

3. Continuous coaters. The owner or operator of a facility subject to the emission limits of Subsection b that is complying through the procedures specified in Subparagraph d.1.A and is applying sealers, topcoats, or both, using continuous coaters shall maintain the records required by Paragraphs e.1 and e.2 and records of the following:

A. Solvent and coating additions to the continuous coater reservoir.

B. Viscosity measurements.

4. Control systems. The owner or operator of a facility complying through the procedures in Subparagraph d.1.B by using a control system shall maintain the following records:

A. Copies of the calculations to support the equivalency of using a control system, as well as the data that are necessary to support the calculation of C and E in Subparagraph d.1.B.i and O in Subparagraph d.1.B.iii.

B. Records of the daily average value of each continuously monitored parameter for each operating day. If all recorded values for a monitored parameter are within the range established during the initial performance

test, the owner or operator may record that all values were within the range rather than calculating and recording an average for that day.

5. Work practice implementation plan. The owner or operator of a facility subject to the work practice standards of Subsection c shall maintain onsite copies of the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including:

   A. Records demonstrating that the operator training program is in place.

   B. Records maintained in accordance with the leak inspection and maintenance plan.

   C. Records associated with the cleaning and washoff solvent accounting system.

   D. Records associated with the limitation on the use of conventional air spray guns showing total coating usage and the percentage of coatings applied with conventional air spray guns for each semiannual reporting period.

   E. Records showing the VOC content of compounds used for cleaning booth components, except for solvent used to clean conveyors, continuous coaters and their enclosures or metal filters.

   F. Copies of logs and other documentation developed to demonstrate that the other provisions of the work practice implementation plan are followed.

6. In addition to the recordkeeping requirements of Paragraph e.1, the owner or operator of a facility that complies with Subsection c or Subparagraph d.1.A shall maintain a copy of the compliance certifications submitted in accordance with Paragraph f.2 for each semiannual period following the compliance date.

7. The owner or operator of a facility shall maintain a copy of the other information submitted with the initial status report required by Paragraph f.1 and the semiannual reports required by Paragraph f.2.

f. **Reporting requirements**.

1. Initial compliance report date. The initial compliance report must be submitted to the Department within 60 days after the compliance date specified in Subsection a. The report shall include the items required by Paragraph d.2.

2. Semiannual compliance report dates. When demonstrating compliance in accordance with Subparagraphs d.1.A or d.1.B, a semiannual report covering the

previous 6 months of wood furniture manufacturing operations shall be submitted to the Department according to the following schedule:

A. The first report shall be submitted within 30 calendar days after the end of the first 6-month period following the compliance date specified in Subsection a.

B. Subsequent reports shall be submitted within 30 calendar days after the end of each 6-month period following the first report.

C. Each semiannual report shall include the information required by Paragraphs d.3 and d.4, a statement of whether the facility was in compliance or noncompliance and, if the facility was in noncompliance, the measures taken to bring the facility into compliance.

g. **Special provisions for facilities using an emissions averaging approach**.

1. Emissions averaging approach. An owner or operator of a facility subject to the emission limitations in Subsection b may use an emissions averaging approach which meets the equivalency requirements in §2105.01 (relating to equivalent compliance techniques) to achieve compliance with §2105.10 (relating to surface coating processes) or this section.

2. Additional requirement. When complying with the requirements of §2105.10 or this section through emissions averaging, an additional 10% reduction in emissions shall be achieved when compared to a facility using a compliant coatings approach to meet the requirements of this section.

3. Program goals and rationale. When using an emissions averaging program, the following shall be submitted to the Department in writing:

A. A summary of the reasons why the facility would like to comply with the emission limitations through an equivalency determination using emissions averaging procedures.

B. A summary of how averaging can be used to meet the emission limitations.

4. Program scope. A description of the types of coatings that will be included in the facility's emissions averaging program shall also be submitted to the Department in writing:

A. Stains, basecoats, washcoats, sealers and topcoats may all be used in the emissions averaging program.

B. The owner or operator of the facility may choose other coatings for its emissions averaging program, if the program meets the equivalency requirements in §2105.01.

C. Coatings that are applied using continuous coaters may only be used in an emissions averaging program if the owner or operator of the facility can determine the amount of coating used each day.

D. A daily averaging period shall be used, except under the following conditions:

i. A longer averaging period may be used if the owner or operator of the facility demonstrates in writing to the satisfaction of the Department that the emissions do not fluctuate significantly on a day-to-day basis.

ii. The owner or operator of the facility requests in writing and the Department approves in writing the longer averaging period.

5. Program baseline. The baseline for each coating included in the emissions averaging program shall be the lower of the actual or allowable emission rate as of the effective date. The facility baseline emission rate may not be higher than what was presumed in the 1990 emissions inventory for the facility unless the Department has accounted for the increase in emissions as growth.

6. Quantification procedures. The emissions averaging program shall specify methods and procedures for quantifying emissions. Quantification procedures for VOC content are included in Part G (relating to sampling and testing). The quantification procedures shall also include methods to determine the usage of each coating and shall be accurate enough to ensure that the facility's actual emissions are less than the allowable emissions.

7. Monitoring, recordkeeping and reporting. A written summary of the monitoring, recordkeeping, and reporting procedures that will be used to demonstrate compliance on a daily basis, when using an emissions averaging approach, shall be submitted to the Department.

A. The monitoring, recordkeeping, and reporting procedures shall be structured so that inspectors and facility owners or operators can determine a facility's compliance status for any day.

B. The monitoring, recordkeeping, and reporting procedures shall include methods for determining required data when monitoring, recordkeeping, and reporting violations result in missing, inadequate, or erroneous

monitoring and recordkeeping.