



## OFFICE OF THE SECRETARY OF STATE

JESSE WHITE • Secretary of State

August 5, 2011

POLLUTION CONTROL BOARD  
JOHN THERRIAULT ASSISTANT CLERK  
100 W RANDOLPH ST, STE 11-500  
CHICAGO, IL 60601

711-23

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CLERK'S OFFICE

AUG 11 2011

STATE OF ILLINOIS  
Pollution Control Board

Dear JOHN THERRIAULT ASSISTANT CLERK

Your rules Listed below met our codification standards and have been published in Volume 35, Issue 33 of the Illinois Register, dated 8/12/2011.

### ADOPTED RULES

|   |       |
|---|-------|
| Definitions and General Provisions  |       |
| 35 Ill. Adm. Code 211   | 13451 |
| Point of Contact: Nancy Miller  |       |
| Organic Material Emission Standards and Limitations for the Chicago Area    |       |
| 35 Ill. Adm. Code 218   | 13473 |
| Point of Contact: Nancy Miller  |       |
| Organic Material Emission Standards and Limitations for the Metro East Area |       |
| 35 Ill. Adm. Code 219   | 13676 |
| Point of Contact: Nancy Miller  |       |

If you have any questions, you may contact the Administrative Code Division at (217) 782 - 7017.

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NOTICE OF ADOPTED AMENDMENTS

- 1) Heading of the Part: Organic Material Emission Standards and Limitations for the Chicago Area
- 2) Code Citation: 35 Ill. Adm. Code 218
- 3) 

| <u>Section Numbers:</u> | <u>Adopted Action:</u> |
|-------------------------|------------------------|
| 218.105                 | Amended                |
| 218.187                 | Amended                |
| 218.204                 | Amended                |
| 218.207                 | Amended                |
| 218.211                 | Amended                |
| 218.217                 | Amended                |
| 218.401                 | Amended                |
| 218.402                 | Amended                |
| 218.404                 | Amended                |
| 218.409                 | Amended                |
| 218.411                 | Amended                |
| 218.415                 | Amended                |
| 218.417                 | Amended                |
| 218.891                 | Amended                |
| 218.892                 | Amended                |
| 218.894                 | Amended                |
| 218.901                 | Amended                |
| 218.902                 | Amended                |
| 218.903                 | Amended                |
| 218.904                 | Amended                |
- 4) Statutory Authority: Implementing Section 10 and authorized by Sections 27, 28, and 28.5 of the Environmental Protection Act [415 ILCS 5/10, 27, 28, and 28.5].
- 5) Effective Date of Amendments: JUL 27 2011
- 6) Does this rulemaking contain an automatic repeal date? No.
- 7) Do these amendments contain incorporations by reference? Yes.
- 8) The adopted amendments are on file in the Board's Chicago office at the James R. Thompson Center, 100 W. Randolph, Suite 11-500, and are available there for public inspection.

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9) Notice of Proposal Published in Illinois Register:

April 1, 2011, 35 Ill. Reg. 4910

10) Has JCAR issued a Statement of Objections to these amendments? No.

11) Differences between proposal and final version:

In proceeding from its first-notice proposal to final adoption in this docket, the Board made amended its rulemaking proposal in response to proposals by various participants.

- a) amending Section 218.187 by exempting three categories of cleaning operations from various requirements;
- b) amending Section 218.187 by adding an emission adjustment factor for specified cleaning solvents used with shop towels;
- c) amending Section 218.187 by adding recordkeeping and reporting requirements for specified exempt cleaning operations;
- d) amending Section 218.187 by clarifying monitoring requirements for subject sources relying on a carbon adsorber;
- e) amending Section 218.204 by revising VOM content limits for various coatings;
- f) amending Section 218.207 by striking an emissions averaging compliance alternative for pleasure craft surface coating operations; and
- g) amending Section 218.409 by clarifying testing requirements.

In addition, the Board opened a subdocket (A) in order to add a small container exemption to Section 218.208, which the Board had not included in its first-notice opinion and order. *See* 35 Ill. Reg. 10189 (July 1, 2011).

The Board's opinion and order adopting these rules addresses changes made by the Board in proceeding from first notice to final adoption. *See* Reasonably Available Control Technology (RACT) for Volatile Organic Material Emissions from Group IV Consumer & Commercial Products: Proposed Amendments to 35 Ill. Adm. Code 211, 218, and 219, R11-23 (July 21, 2011). Copies of the opinion and order may be requested from the Clerk at the address listed in #8 above or by calling 312-814-3620. Please refer to docket

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number R11-23 in your request. The opinion and order is also available through the Board's Web site ([www.ipcb.state.il.us](http://www.ipcb.state.il.us)).

- 12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreements letter issued by JCAR? Yes.
- 13) Will these amendments replace emergency amendments currently in effect? No.
- 14) Are there any amendments pending on this Part?

| <u>Section Number:</u> | <u>Proposed Action:</u> | <u>Illinois Register Citation:</u> |
|------------------------|-------------------------|------------------------------------|
| 218.208                | Amend                   | 35 Ill. Reg. 10189, July 1, 2011   |

- 15) Summary and Purpose of Amendments: The Agency proposed amendments to satisfy Illinois' obligation to submit a State Implementation Plan (SIP) addressing sources of volatile organic material (VOM) emissions in areas designated as nonattainment with respect to the National Ambient Air Quality Standard (NAAQS) for ozone. Nonattainment designations trigger Clean Air Act (CAA) requirements to adopt regulations that reduce emissions sufficiently to demonstrate attainment of the standard.

The Agency states that the CAA requires states to revise SIPs to include reasonably available control technology (RACT) for sources of VOM emissions covered by a control techniques guideline (CTG) issued between November 15, 1990, and the date of attainment. The Agency reports that USEPA issued final CTGs for Group II Consumer and Commercial Products on October 5, 2006 and for Group IV Consumer and Commercial Products on October 7, 2008. USEPA required submission of SIP revisions responding to the CTGs within one year.

Responding to the CTGs, the Agency proposed amendments to the VOM regulations, which the Board adopted in docket R10-8 and R10-20 in 2010. The Agency submitted the adopted rules to the USEPA on July 29, 2010, and requested that USEPA approve them as amendments to Illinois' SIP. USEPA determined that the adopted revisions were insufficient and that USEPA would not approve them without additional amendments. The Agency's proposal addressed the issues specified by USEPA and proposed additional changes to clarify and simplify some provisions.

According to the Agency, Illinois is required to submit these SIP revisions before the USEPA can re-designate the Chicago and Metro East nonattainment areas to attainment of the 1997 ozone NAAQS. The Agency submitted an attainment demonstration for the

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Metro East nonattainment area on July 2, 2007, and for the Chicago nonattainment area on March 19, 2009. The Agency stresses that these areas cannot be re-designated unless and until the it submits USEPA's required amendments as SIP revisions and USEPA approves such revisions.

- 16) Information and questions regarding these adopted amendments shall be directed to:

Timothy Fox  
Illinois Pollution Control Board  
100 W. Randolph 11-500  
Chicago, IL 60601  
312-814-6085

Copies of the Board's opinions and orders may be requested from the Clerk of the Board at the address listed in #8 above or by calling 312/814-3620. Please refer to the Docket number R11-23 in your request. The Board order is also available from the Board's Web site ([www.ipcb.state.il.us](http://www.ipcb.state.il.us)).

The full text of the Adopted Amendments begins on the next page:

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NOTICE OF ADOPTED AMENDMENTS

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE B: AIR POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD  
SUBCHAPTER c: EMISSIONS STANDARDS AND  
LIMITATIONS FOR STATIONARY SOURCES

PART 218  
ORGANIC MATERIAL EMISSION STANDARDS AND  
LIMITATIONS FOR THE CHICAGO AREA

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| 218.100 | Introduction  |
| 218.101 | Savings Clause  |
| 218.102 | Abbreviations and Conversion Factors  |
| 218.103 | Applicability   |
| 218.104 | Definitions   |
| 218.105 | Test Methods and Procedures   |
| 218.106 | Compliance Dates  |
| 218.107 | Operation of Afterburners   |
| 218.108 | Exemptions, Variations, and Alternative Means of Control or Compliance Determinations |
| 218.109 | Vapor Pressure of Volatile Organic Liquids  |
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| 218.112 | Incorporations by Reference   |
| 218.113 | Monitoring for Negligibly-Reactive Compounds  |
| 218.114 | Compliance with Permit Conditions   |

SUBPART B: ORGANIC EMISSIONS FROM STORAGE  
AND LOADING OPERATIONS

|         |  |
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| 218.119 | Applicability for VOL                              |
| 218.120 | Control Requirements for Storage Containers of VOL |
| 218.121 | Storage Containers of VPL                          |
| 218.122 | Loading Operations                                 |
| 218.123 | Petroleum Liquid Storage Tanks                     |
| 218.124 | External Floating Roofs                            |

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- 218.125 Compliance Dates
- 218.126 Compliance Plan (Repealed)
- 218.127 Testing VOL Operations
- 218.128 Monitoring VOL Operations
- 218.129 Recordkeeping and Reporting for VOL Operations

SUBPART C: ORGANIC EMISSIONS FROM MISCELLANEOUS EQUIPMENT

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- 218.141 Separation Operations
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SUBPART E: SOLVENT CLEANING

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- 218.181 Solvent Cleaning Degreasing Operations
- 218.182 Cold Cleaning
- 218.183 Open Top Vapor Degreasing
- 218.184 Conveyorized Degreasing
- 218.185 Compliance Schedule (Repealed)
- 218.186 Test Methods
- 218.187 Other Industrial Solvent Cleaning Operations

SUBPART F: COATING OPERATIONS

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- 218.204 Emission Limitations
- 218.205 Daily-Weighted Average Limitations
- 218.206 Solids Basis Calculation
- 218.207 Alternative Emission Limitations
- 218.208 Exemptions from Emission Limitations
- 218.209 Exemption from General Rule on Use of Organic Material
- 218.210 Compliance Schedule
- 218.211 Recordkeeping and Reporting
- 218.212 Cross-Line Averaging to Establish Compliance for Coating Lines
- 218.213 Recordkeeping and Reporting for Cross-Line Averaging Participating Coating Lines
- 218.214 Changing Compliance Methods

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- 218.215 Wood Furniture Coating Averaging Approach
- 218.216 Wood Furniture Coating Add-On Control Use
- 218.217 Wood Furniture Coating and Flat Wood Paneling ~~Coating~~ Work Practice Standards
- 218.218 Work Practice Standards for Paper Coatings, Metal Furniture Coatings, and Large Appliance Coatings
- 218.219 Work Practice Standards for Automobile and Light-Duty Truck Assembly Coatings and Miscellaneous Metal and Plastic Parts Coatings

SUBPART G: USE OF ORGANIC MATERIAL

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- 218.301 Use of Organic Material
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- 218.303 Fuel Combustion Emission Units
- 218.304 Operations with Compliance Program

SUBPART H: PRINTING AND PUBLISHING

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- 218.405 Lithographic Printing: Applicability
- 218.406 Provisions Applying to Heatset Web Offset Lithographic Printing Prior to March 15, 1996 (Repealed)
- 218.407 Emission Limitations and Control Requirements for Lithographic Printing Lines
- 218.408 Compliance Schedule for Lithographic Printing On and After March 15, 1996 (Repealed)
- 218.409 Testing for Lithographic Printing ~~On and After March 15, 1996~~
- 218.410 Monitoring Requirements for Lithographic Printing
- 218.411 Recordkeeping and Reporting for Lithographic Printing
- 218.412 Letterpress Printing Lines: Applicability
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| 218.422 | Inspection Program Plan for Leaks        |
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| 218.425 | Recordkeeping for Leaks                  |
| 218.426 | Report for Leaks                         |
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| 218.428 | Open-Ended Valves                        |
| 218.429 | Standards for Control Devices            |
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| 218.445 | Leaks: General Requirements           |
| 218.446 | Monitoring Program Plan for Leaks     |
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SUBPART QQ: MISCELLANEOUS FORMULATION  
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SUBPART RR: MISCELLANEOUS ORGANIC CHEMICAL  
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| 218.966 | Control Requirements         |
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| 218.APPENDIX B | VOM Measurement Techniques for Capture Efficiency (Repealed)                            |
| 218.APPENDIX C | Reference Methods and Procedures  |
| 218.APPENDIX D | Coefficients for the Total Resource Effectiveness Index (TRE) Equation                  |
| 218.APPENDIX E | List of Affected Marine Terminals   |
| 218.APPENDIX G | TRE Index Measurements for SOCOMI Reactors and Distillation Units                       |
| 218.APPENDIX H | Baseline VOM Content Limitations for Subpart F, Section 218.212<br>Cross-Line Averaging |

AUTHORITY: Implementing Section 10 and authorized by Sections 27, 28, and 28.5 of the Environmental Protection Act [415 ILCS 5/10, 27, 28, and 28.5].

SOURCE: Adopted at R91-7 at 15 Ill. Reg. 12231, effective August 16, 1991; amended in R91-24 at 16 Ill. Reg. 13564, effective August 24, 1992; amended in R91-28 and R91-30 at 16 Ill.

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Reg. 13864, effective August 24, 1992; amended in R93-9 at 17 Ill. Reg. 16636, effective September 27, 1993; amended in R93-14 at 18 Ill. Reg. 1945, effective January 24, 1994; amended in R94-12 at 18 Ill. Reg. 14973, effective September 21, 1994; amended in R94-15 at 18 Ill. Reg. 16392, effective October 25, 1994; amended in R94-16 at 18 Ill. Reg. 16950, effective November 15, 1994; amended in R94-21, R94-31 and R94-32 at 19 Ill. Reg. 6848, effective May 9, 1995; amended in R94-33 at 19 Ill. Reg. 7359, effective May 22, 1995; amended in R96-13 at 20 Ill. Reg. 14428, effective October 17, 1996; amended in R97-24 at 21 Ill. Reg. 7708, effective June 9, 1997; amended in R97-31 at 22 Ill. Reg. 3556, effective February 2, 1998; amended in R98-16 at 22 Ill. Reg. 14282, effective July 16, 1998; amended in R02-20 at 27 Ill. Reg. 7283, effective April 8, 2003; amended in R04-12/20 at 30 Ill. Reg. 9684, effective May 15, 2006; amended in R06-21 at 31 Ill. Reg. 7086, effective April 30, 2007; amended in R08-8 at 32 Ill. Reg. 14874, effective August 26, 2008; amended in R10-10 at 34 Ill. Reg. 5330, effective March 23, 2010; amended in R10-8 at 34 Ill. Reg. 9096, effective June 25, 2010; amended in R10-20 at 34 Ill. Reg. 14174, effective September 14, 2010; amended in R10-8(A) at 35 Ill. Reg. 469, effective December 21, 2010; amended in R11-23 at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_.

SUBPART A: GENERAL PROVISIONS

**Section 218.105 Test Methods and Procedures**

- a) Coatings, Inks and Fountain Solutions  
The following test methods and procedures shall be used to determine compliance of as applied coatings, inks, and fountain solutions with the limitations set forth in this Part.
  - 1) Sampling: Samples collected for analyses shall be one-liter taken into a one-liter container at a location and time such that the sample will be representative of the coating as applied (i.e., the sample shall include any dilution solvent or other VOM added during the manufacturing process). The container must be tightly sealed immediately after the sample is taken. Any solvent or other VOM added after the sample is taken must be measured and accounted for in the calculations in subsection (a)(3) of this Section. For multiple package coatings, separate samples of each component shall be obtained. A mixed sample shall not be obtained as it will cure in the container. Sampling procedures shall follow the guidelines presented in:
    - A) ASTM D 3925-81 (1985) standard practice for sampling liquid paints and related pigment coating. This practice is incorporated



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by reference in Section 218.112 of this Part.

- B) ASTM E 300-86 standard practice for sampling industrial chemicals. This practice is incorporated by reference in Section 218.112 of this Part.
- 2) Analyses: The applicable analytical methods specified below shall be used to determine the composition of coatings, inks, or fountain solutions as applied.
- A) Method 24 of 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part, shall be used to determine the VOM content and density of coatings. If it is demonstrated to the satisfaction of the Agency and the USEPA that plant coating formulation data are equivalent to Method 24 results, formulation data may be used. In the event of any inconsistency between a Method 24 test and a facility's formulation data, the Method 24 test will govern.
  - B) Method 24A of 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part, shall be used to determine the VOM content and density of rotogravure printing inks and related coatings. If it is demonstrated to the satisfaction of the Agency and USEPA that the plant coating formulation data are equivalent to Method 24A results, formulation data may be used. In the event of any inconsistency between a Method 24A test and formulation data, the Method 24A test will govern.
  - C) The following ASTM methods are the analytical procedures for determining VOM:
    - i) ASTM D 1475-85: Standard test method for density of paint, varnish, lacquer and related products. This test method is incorporated by reference in Section 218.112 of this Part.
    - ii) ASTM D 2369-87: Standard test method for volatile content of a coating. This test method is incorporated by reference in Section 218.112 of this Part.

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- iii) ASTM D 3792-86: Standard test method for water content of water-reducible paints by direct injection into a gas chromatograph. This test method is incorporated by reference in Section 218.112 of this Part.
  - iv) ASTM D 4017-81 (1987): Standard test method for water content in paints and paint materials by the Karl Fischer method. This test method is incorporated by reference in Section 218.112 of this Part.
  - v) ASTM D 4457-85: Standard test method for determination of dichloromethane and 1,1,1, trichloroethane in paints and coatings by direct injection into a gas chromatograph. (The procedure delineated above can be used to develop protocols for any compounds specifically exempted from the definition of VOM.) This test method is incorporated by reference in Section 218.112 of this Part.
  - vi) ASTM D 2697-86: Standard test method for volume non-volatile matter in clear or pigmented coatings. This test method is incorporated by reference in Section 218.112 of this Part.
  - vii) ASTM D 3980-87: Standard practice for interlaboratory testing of paint and related materials. This practice is incorporated by reference in Section 218.112 of this Part.
  - viii) ASTM E 180-85: Standard practice for determining the precision data of ASTM methods for analysis of and testing of industrial chemicals. This practice is incorporated by reference in Section 218.112 of this Part.
  - ix) ASTM D 2372-85: Standard method of separation of vehicle from solvent-reducible paints. This method is incorporated by reference in Section 218.112 of this Part.
- D) Use of an adaptation to any of the analytical methods specified in subsections (a)(2)(A), (B), and (C) of this Section may not be used unless approved by the Agency and USEPA. An owner or operator must submit sufficient documentation for the Agency and

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USEPA to find that the analytical methods specified in subsections (a)(2)(A), (B), and (C) of this Section will yield inaccurate results and that the proposed adaptation is appropriate.

- 3) Calculations: Calculations for determining the VOM content, water content and the content of any compounds which are specifically exempted from the definition of VOM of coatings, inks and fountain solutions as applied shall follow the guidance provided in the following documents:
  - A) "A Guide for Surface Coating Calculation", EPA-340/1-86-016, incorporated by reference in Section 218.112 of this Part.
  - B) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coatings" (revised June 1986), EPA-450/3-84-019, incorporated by reference in Section 218.112 of this Part.
  - C) "A Guide for Graphic Arts Calculations", August 1988, EPA-340/1-88-003, incorporated by reference in Section 218.112 of this Part.
- b) Automobile or Light-Duty Truck Test Protocol
  - 1) The protocol for testing, including determining the transfer efficiency of coating applicators, at primer surfacer operations and topcoat operations at an automobile or light-duty truck assembly source shall follow the procedures in the following:
    - A) Prior to May 1, 2012: "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations" ("topcoat protocol"), December 1988, EPA-450/3-88-018, incorporated by reference in Section 218.112 of this Part.
    - B) On and after May 1, 2012: "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat Operations" (topcoat protocol), September 2008, EPA-453/R-08-002, incorporated by reference in Section 218.112 of this Part.

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- 2) Prior to testing pursuant to the applicable topcoat protocol, the owner or operator of a coating operation subject to the topcoat or primer surfacer limit in Section 218.204(a)(1)(B), (a)(1)(C), (a)(2)(B), (a)(2)(C), or (a)(2)(E) shall submit a detailed testing proposal specifying the method by which testing will be conducted and how compliance will be demonstrated consistent with the applicable topcoat protocol. The proposal shall include, at a minimum, a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant or pilot testing, the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the rationale for coating groupings, the method for determining the analytic VOM content of as applied coatings and the formulation solvent content of as applied coatings, and a description of the records of coating VOM content as applied and coating's usage that will be kept to demonstrate compliance. Upon approval of the proposal by the Agency and USEPA, the compliance demonstration for a coating line may proceed.
- c) Capture System Efficiency Test Protocols
- 1) Applicability  
The requirements of subsection (c)(2) of this Section shall apply to all VOM emitting process emission units employing capture equipment (e.g., hoods, ducts), except those cases noted in this subsection (c)(1).
    - A) If an emission unit is equipped with (or uses) a permanent total enclosure (PTE) that meets Agency and USEPA specifications, and which directs all VOM to a control device, then the emission unit is exempted from the requirements described in subsection (c)(2) of this Section. The Agency and USEPA specifications to determine whether a structure is considered a PTE are given in Method 204 of appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part. In this instance, the capture efficiency is assumed to be 100 percent and the emission unit is still required to measure control efficiency using appropriate test methods as specified in subsection (d) of this Section.
    - B) If an emission unit is equipped with (or uses) a control device designed to collect and recover VOM (e.g., carbon adsorber), an explicit measurement of capture efficiency is not necessary

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provided that the conditions given below are met. The overall control of the system can be determined by directly comparing the input liquid VOM to the recovered liquid VOM. The general procedure for use in this situation is given in 40 CFR 60.433, incorporated by reference in Section 218.112 of this Part, with the following additional restrictions:

- i) Unless otherwise specified in subsection (c)(1)(B)(ii), the owner or operator shall obtain data each operating day for the solvent usage and solvent recovery to permit the determination of the solvent recovery efficiency of the system each operating day using a 7-day rolling period. The recovery efficiency for each operating day is computed as the ratio of the total recovered solvent for that day and the most recent prior 6 operating days to the total solvent usage for the same 7-day period used for the recovered solvent, rather than a 30-day weighted average as given in 40 CFR 60.433 incorporated by reference at Section 218.112 of this Part. This ratio shall be expressed as a percentage. The ratio shall be computed within 72 hours following each 7-day period. A source that believes that the 7-day rolling period is not appropriate may use an alternative multi-day rolling period not to exceed 30 days, with the approval of the Agency and USEPA. In addition, the criteria in subsection (c)(1)(B)(iii) or subsection (c)(1)(B)(iv) must be met.
- ii) The owner or operator of the source engaged in printing located at 350 E. 22<sup>nd</sup> Street, Chicago, Illinois, shall obtain data each operating day for the solvent usage and solvent recovery to permit the determination of the solvent recovery efficiency of the system each operating day using a 14-day rolling period. The recovery efficiency for each operating day is computed as the ratio of the total recovered solvent for that day and the most recent prior 13 operating days to the total solvent usage for the same 14-day period used for the recovered solvent, rather than a 30-day weighted average as given in 40 CFR 60.433, incorporated by reference in Section 218.112 of this Part. This ratio shall be expressed as a percentage. The ratio shall be

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computed within 17 days following each 14-day period. In addition, the criteria in subsection (c)(1)(B)(iii) or subsection (c)(1)(B)(iv) must be met.

- iii) The solvent recovery system (i.e., capture and control system) must be dedicated to a single coating line, printing line, or other discrete activity that by itself is subject to an applicable VOM emission standard, or
- iv) If the solvent recovery system controls more than one coating line, printing line or other discrete activity that by itself is subject to an applicable VOM emission standard, the overall control (i.e., the total recovered VOM divided by the sum of liquid VOM input from all lines and other activities venting to the control system) must meet or exceed the most stringent standard applicable to any line or other discrete activity venting to the control system.

2) Capture Efficiency Protocols

The capture efficiency of an emission unit shall be measured using one of the protocols given below. Appropriate test methods to be utilized in each of the capture efficiency protocols are described in appendix M of 40 CFR 51, incorporated by reference at Section 218.112 of this Part. Any error margin associated with a test method or protocol may not be incorporated into the results of a capture efficiency test. If these techniques are not suitable for a particular process, then an alternative capture efficiency protocol may be used, pursuant to the provisions of Section 218.108(b) of this Part.

- A) Gas/gas method using temporary total enclosure (TTE). The Agency and USEPA specifications to determine whether a temporary enclosure is considered a TTE are given in Method 204 of appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part. The capture efficiency equation to be used for this protocol is:

$$CE = \frac{G_w}{G_w + F_w}$$

where:

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- CE = Capture efficiency, decimal fraction;
- G<sub>w</sub> = Mass of VOM captured and delivered to control device using a TTE;
- F<sub>w</sub> = Mass of uncaptured VOM that escapes from a TTE.

Method 204B or 204C contained in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, is used to obtain G<sub>w</sub>. Method 204D in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, is used to obtain F<sub>w</sub>.

- B) Liquid/gas method using TTE. The Agency and USEPA specifications to determine whether a temporary enclosure is considered a TTE are given in Method 204 of appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part. The capture efficiency equation to be used for this protocol is:

$$CE = \frac{L - F_w}{L}$$

where:

- CE = Capture efficiency, decimal fraction;
- L = Mass of liquid VOM input to process emission unit;
- F<sub>w</sub> = Mass of uncaptured VOM that escapes from a TTE.

Method 204A or 204F contained in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, is used to obtain L. Method 204 D in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, is used to obtain F<sub>w</sub>.

- C) Gas/gas method using the building or room (building or room enclosure), in which the affected coating line, printing line or other emission unit is located, as the enclosure as determined by Method 204 of appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, and in which "F<sub>B</sub>" and "G" are measured while operating only the affected line or emission unit. All fans and blowers in the building or room must be operated as

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they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = \frac{G}{G + F_B}$$

where:

- CE = Capture efficiency, decimal fraction;
- G = Mass of VOM captured and delivered to control device;
- F<sub>B</sub> = Mass of uncaptured VOM that escapes from building enclosure.

Method 204B or 204C contained in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part is used to obtain G. Method 204E in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part is used to obtain F<sub>B</sub>.

- D) Liquid/gas method using the building or room (building or room enclosure), in which the affected coating line, printing line or other emission unit is located, as the enclosure as determined by Method 204 of appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, and in which "F<sub>B</sub>" and "L" are measured while operating only the affected line or emission unit. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = \frac{L - F_B}{L}$$

where:

- CE = Capture efficiency, decimal fraction;
- L = Mass of liquid VOM input to process emission unit;
- F<sub>B</sub> = Mass of uncaptured VOM that escapes from building enclosure.

Method 204A or 204F contained in appendix M of 40 CFR 51,



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incorporated by reference in Section 218.112 of this Part is used to obtain L. Method 204E in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part is used to obtain F<sub>B</sub>.

- E) Mass balance using Data Quality Objective (DQO) or Lower Confidence Limit (LCL) protocol. For a liquid/gas input where an owner or operator is using the DQO/LCL protocol and not using an enclosure as described in Method 204 of appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, the VOM content of the liquid input (L) must be determined using Method 204A or 204F in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part. The VOM content of the captured gas stream (G) to the control device must be determined using Method 204B or 204C in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part. The results of capture efficiency calculations (G/L) must satisfy the DQO or LCL statistical analysis protocol as described in Section 3 of USEPA's "Guidelines for Determining Capture Efficiency," incorporated by reference at Section 218.112 of this Part. Where capture efficiency testing is done to determine emission reductions for the purpose of establishing emission credits for offsets, shutdowns, and trading, the LCL protocol cannot be used for these applications. In enforcement cases, the LCL protocol cannot confirm non-compliance; capture efficiency must be determined using a protocol under subsection (c)(2)(A), (B), (C) or (D) of this Section, the DQO protocol of this subsection (c)(2)(E), or an alternative protocol pursuant to Section 218.108(b) of this Part.

BOARD NOTE: Where LCL was used in testing emission units that are the subject of later requests for establishing emission credits for offsets, shutdowns, and trading, prior LCL results may not be relied upon to determine the appropriate amount of credits. Instead, to establish the appropriate amount of credits, additional testing may be required that would satisfy the protocol of Section 218.105(c)(2)(A), (B), (C) or (D), the DQO protocol of Section 218.105(c)(2)(E), or an alternative protocol pursuant to Section 218.108(b) of this Part.

- 3) Simultaneous testing of multiple lines or emission units with a common control device. If an owner or operator has multiple lines sharing a

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common control device, the capture efficiency of the lines may be tested simultaneously, subject to the following provisions:

- A) Multiple line testing must meet the criteria of Section 4 of USEPA's "Guidelines for Determining Capture Efficiency, " incorporated by reference at Section 218.112 of this Part;
  - B) The most stringent capture efficiency required for any individual line or unit must be met by the aggregate of lines or units; and
  - C) Testing of all the lines of emission units must be performed with the same capture efficiency test protocol.
- 4) Recordkeeping and Reporting
- A) All owners or operators affected by this subsection must maintain a copy of the capture efficiency protocol submitted to the Agency and the USEPA on file. All results of the appropriate test methods and capture efficiency protocols must be reported to the Agency within 60 days after the test date. A copy of the results must be kept on file with the source for a period of 3 years.
  - B) If any changes are made to capture or control equipment, then the source is required to notify the Agency and the USEPA of these changes and a new test may be required by the Agency or the USEPA.
  - C) The source must notify the Agency 30 days prior to performing any capture efficiency or control test. At that time, the source must notify the Agency which capture efficiency protocol and control device test methods will be used. Notification of the actual date and expected time of testing must be submitted a minimum of 5 working days prior to the actual date of the test. The Agency may at its discretion accept notification with shorter advance notice provided that such arrangements do not interfere with the Agency's ability to review the protocol or observe testing.
  - D) Sources utilizing a PTE must demonstrate that this enclosure meets the requirements given in Method 204 in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, for a

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PTE during any testing of their control device.

- E) Sources utilizing a TTE must demonstrate that their TTE meets the requirements given in Method 204 in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part, for a TTE during testing of their control device. The source must also provide documentation that the quality assurance criteria for a TTE have been achieved.
- F) Any source utilizing the DQO or LCL protocol must submit the following information to the Agency with each test report:
  - i) A copy of all test methods, Quality Assurance/Quality Control procedures, and calibration procedures to be used from those described in appendix M of 40 CFR 51, incorporated by reference in Section 218.112 of this Part;
  - ii) A table with information on each sample taken, including the sample identification and the VOM content of the sample;
  - iii) The quantity of material used for each test run;
  - iv) The quantity of captured VOM for each test run;
  - v) The capture efficiency calculations and results for each test run;
  - vi) The DQO and/or LCL calculations and results; and
  - vii) The Quality Assurance/Quality Control results, including how often the instruments were calibrated, the calibration results, and the calibration gases used.
- d) Control Device Efficiency Testing and Monitoring
  - 1) The control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified in subsection (f) of this Section.

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- 2) An owner or operator:
- A) That uses an afterburner or carbon adsorber to comply with any Section of Part 218 shall use Agency and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the control device is in use except as provided in subsection (d)(3) of this Section. The continuous monitoring equipment must monitor the following parameters:
    - i) For each afterburner which does not have a catalyst bed, the combustion chamber temperature of each afterburner.
    - ii) For each afterburner which has a catalyst bed, commonly known as a catalytic afterburner, the temperature rise across each catalytic afterburner bed or VOM concentration of exhaust.
    - iii) For each carbon adsorber, the VOM concentration of each carbon adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed.
  - B) Must install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring device, such as a strip chart, recorder or computer, having an accuracy of  $\pm 1$  percent of the temperature measured in degrees Celsius or  $\pm 0.5^{\circ}$  C, whichever is greater.
  - C) Of an automobile or light-duty truck primer surfacer operation or topcoat operation subject to subsection (d)(2)(A), shall keep a separate record of the following data for the control devices, unless alternative provisions are set forth in a permit pursuant to Title V of the Clean Air Act:
    - i) For thermal afterburners for which combustion chamber temperature is monitored, all 3-hour periods of operation in which the average combustion temperature was more than  $28^{\circ}$ C ( $50^{\circ}$ F) below the average combustion temperature measured during the most recent performance test that

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demonstrated that the operation was in compliance.

- ii) For catalytic afterburners for which temperature rise is monitored, all 3-hour periods of operation in which the average gas temperature before the catalyst bed is more than 28°C (50°F) below the average gas temperature immediately before the catalyst bed measured during the most recent performance test that demonstrated that the operation was in compliance.
  - iii) For catalytic afterburners and carbon adsorbers for which VOM concentration is monitored, all 3-hour periods of operation during which the average VOM concentration or the reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organic monitoring device during the most recent determination of the recovery efficiency of a carbon adsorber or performance test for a catalytic afterburner, which determination or test demonstrated that the operation was in compliance.
- 3) An owner or operator that uses a carbon adsorber to comply with Section 218.401 of this Part may operate the adsorber during periods of monitoring equipment malfunction, provided that:
- A) The owner or operator notifies in writing the Agency within, 10 days after the conclusion of any 72 hour period during which the adsorber is operated and the associated monitoring equipment is not operational, of such monitoring equipment failure and provides the duration of the malfunction, a description of the repairs made to the equipment, and the total to date of all hours in the calendar year during which the adsorber was operated and the associated monitoring equipment was not operational;
  - B) During such period of malfunction the adsorber is operated using timed sequences as the basis for periodic regeneration of the adsorber;
  - C) The period of such adsorber operation does not exceed 360 hours in any calendar year without the approval of the Agency and

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USEPA; and

- D) The total of all hours in the calendar year during which the adsorber was operated and the associated monitoring equipment was not operational shall be reported, in writing, to the Agency and USEPA by January 31<sup>st</sup> of the following calendar year.
- e) Overall Efficiency
- 1) The overall efficiency of the emission control system shall be determined as the product of the capture system efficiency and the control device efficiency or by the liquid/liquid test protocol as specified in 40 CFR 60.433, incorporated by reference in Section 218.112 of this Part, (and revised by subsection (c)(1)(B) of this Section) for each solvent recovery system. In those cases in which the overall efficiency is being determined for an entire line, the capture efficiency used to calculate the product of the capture and control efficiency is the total capture efficiency over the entire line.
- 2) For coating lines which are both chosen by the owner or operator to comply with Section 218.207(c), (d), (e), (f), ~~(g)~~, (m), or (n) of this Part by the alternative in Section 218.207(b)(2) of this Part and meet the criteria allowing them to comply with Section 218.207 of this Part instead of Section 218.204 of this Part, the overall efficiency of the capture system and control device, as determined by the test methods and procedures specified in subsections (c), (d) and (e)(1) of this Section, shall be no less than the equivalent overall efficiency which shall be calculated by the following equation:

$$E = \frac{VOM_a - VOM_l}{VOM_a} \times 100$$

where:

E = Equivalent overall efficiency of the capture system and control device as a percentage;

VOM<sub>a</sub> = Actual VOM content of a coating, or the daily-weighted average VOM content of two or more coatings (if more than one coating is used), as applied

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to the subject coating line as determined by the applicable test methods and procedures specified in subsection (a) of this Section in units of kg VOM/l (lb VOM/gal) of coating solids as applied;

VOM<sub>l</sub> = The VOM emission limit specified in Section 218.204 or 218.205 of this Part in units of kg VOM/l (lb VOM/gal) of coating solids as applied.

- f) Volatile Organic Material Gas Phase Source Test Methods.  
The methods in 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part delineated below shall be used to determine control device efficiencies.
- 1) 40 CFR 60, appendix A, Method 18, 25 or 25A, incorporated by reference in Section 218.112 of this Part as appropriate to the conditions at the site, shall be used to determine VOM concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. Except as indicated in subsections (f)(1)(A) and (B) below, the test shall consist of three separate runs, each lasting a minimum of 60 minutes, unless the Agency and the USEPA determine that process variables dictate shorter sampling times.
- A) When the method is to be used to determine the efficiency of a carbon adsorption system with a common exhaust stack for all the individual adsorber vessels, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all the individual adsorber vessels.
- B) When the method is to be used to determine the efficiency of a carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.
- 2) 40 CFR 60, appendix A, Method 1 or 1A, incorporated by reference in Section 218.112 of this Part, shall be used for sample and velocity traverses.

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- 3) 40 CFR 60, appendix A, Method 2, 2A, 2C or 2D, incorporated by reference in Section 218.112 of this Part, shall be used for velocity and volumetric flow rates.
  - 4) 40 CFR 60, appendix A, Method 3, incorporated by reference in Section 218.112 of this Part, shall be used for gas analysis.
  - 5) 40 CFR 60, appendix A, Method 4, incorporated by reference in Section 218.112 of this Part, shall be used for stack gas moisture.
  - 6) 40 CFR 60, appendix A, Methods 2, 2A, 2C, 2D, 3 and 4, incorporated by reference in Section 218.112 of this Part, shall be performed, as applicable, at least twice during each test run.
  - 7) Use of an adaptation to any of the test methods specified in subsections (f)(1), (2), (3), (4), (5) and (6) of this Section may not be used unless approved by the Agency and the USEPA on a case by case basis. An owner or operator must submit sufficient documentation for the Agency and the USEPA to find that the test methods specified in subsections (f)(1), (2), (3), (4), (5) and (6) of this Section will yield inaccurate results and that the proposed adaptation is appropriate.
- g) Leak Detection Methods for Volatile Organic Material  
Owners or operators required by this Part to carry out a leak detection monitoring program shall comply with the following requirements:
- 1) Leak Detection Monitoring
    - A) Monitoring shall comply with 40 CFR 60, appendix A, Method 21, incorporated by reference in Section 218.112 of this Part.
    - B) The detection instrument shall meet the performance criteria of Method 21.
    - C) The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21.
    - D) Calibration gases shall be:



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- i) Zero air (less than 10 ppm of hydrocarbon in air); and
    - ii) A mixture of methane or n-hexane and air at a concentration of approximately, but no less than, 10,000 ppm methane or n-hexane.
  - E) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.
- 2) When equipment is tested for compliance with no detectable emissions as required, the test shall comply with the following requirements:
  - A) The requirements of subsections (g)(1)(A) through (g)(1)(E) of this Section shall apply.
  - B) The background level shall be determined as set forth in Method 21.
- 3) Leak detection tests shall be performed consistent with:
  - A) "APTI Course SI 417 controlling Volatile Organic Compound Emissions from Leaking Process Equipment", EPA-450/2-82-015, incorporated by reference in Section 218.112 of this Part.
  - B) "Portable Instrument User's Manual for Monitoring VOC Sources", EPA-340/1-86-015, incorporated by reference in Section 218.112 of this Part.
  - C) "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP", EPA-450/3-88-010, incorporated by reference in Section 218.112 of this Part.
  - D) "Petroleum Refinery Enforcement Manual", EPA-340/1-80-008, incorporated by reference in Section 218.112 of this Part.
- h) Bulk Gasoline Delivery System Test Protocol
  - 1) The method for determining the emissions of gasoline from a vapor recovery system are delineated in 40 CFR 60, Subpart XX, section 60.503,

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incorporated by reference in Section 218.112 of this Part.

- 2) Other tests shall be performed consistent with:
  - A) "Inspection Manual for Control of Volatile Organic Emissions from Gasoline Marketing Operations: Appendix D", EPA-340/1-80-012, incorporated by reference in Section 218.112 of this Part.
  - B) "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals: Appendix A", EPA-450/2-77-026, incorporated by reference in Section 218.112 of this Part.
- i) Notwithstanding other requirements of this Part, upon request of the Agency where it is necessary to demonstrate compliance, an owner or operator of an emission unit which is subject to this Part shall, at his own expense, conduct tests in accordance with the applicable test methods and procedures specific in this Part. Nothing in this Section shall limit the authority of the USEPA pursuant to the Clean Air Act, as amended, to require testing.
- j) Stage II Gasoline Vapor Recovery Test Methods  
The methods for determining the acceptable performance of Stage II Gasoline Vapor Recovery System are delineated in "Technical Guidance-Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities," found at EPA 450/3-91-022b and incorporated by reference in Section 218.112 of this Part. Specifically, the test methods are as follows:
  - 1) Dynamic Backpressure Test is a test procedure used to determine the pressure drop (flow resistance) through balance vapor collection and control systems (including nozzles, vapor hoses, swivels, dispenser piping and underground piping) at prescribed flow rates.
  - 2) Pressure Decay/Leak Test is a test procedure used to quantify the vapor tightness of a vapor collection and control system installed at gasoline dispensing facilities.
  - 3) Liquid Blockage Test is a test procedure used to detect low points in any vapor collection and control system where condensate may accumulate.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

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SUBPART E: SOLVENT CLEANING

**Section 218.187 Other Industrial Solvent Cleaning Operations**

- a) Applicability. On and after ~~January 1, 2012~~April 1, 2011:
- 1) Except as provided in subsection (a)(2) of this Section, the requirements of this Section shall apply to all cleaning operations that use organic materials at sources that emit a total of 226.8 kg per calendar month (500 lbs per calendar month)~~6.8 kg/day (15 lbs/day)~~ or more of VOM ~~from cleaning operations at the source~~, in the absence of air pollution control equipment, from cleaning operations at the source other than cleaning operations identified in subsection (a)(2) of this Section. For purposes of this Section, "cleaning operation" means the process of cleaning products, product components, tools, equipment, or general work areas during production, repair, maintenance, or servicing, including but not limited to spray gun cleaning, spray booth cleaning, large and small manufactured components cleaning, parts cleaning, equipment cleaning, line cleaning, floor cleaning, and tank cleaning, at sources with emission units;
  - 2) Notwithstanding subsection (a)(1) of this Section:
    - A) The following cleaning operations shall be exempt from the requirements of subsections (b), (c), (d), ~~(e)~~, (f), and (g) of this Section:
      - i) Cleaning operations subject to the limitations in Sections 218.182, 218.183, or 218.184;
      - ii) Janitorial cleaning;
      - iii) Stripping of cured coatings, inks, or adhesives, ~~including screen reclamation activities~~;
      - iv) Cleaning operations in printing pre-press areas, including the cleaning of film processors, color scanners, plate processors, film cleaning, and plate cleaning;

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- B) Cleaning operations for emission units within the following ~~source~~ categories shall be exempt from the requirements of subsections (b), (c), (d), ~~(e)~~, (f), and (g) of this Section:
- ~~i)~~ Aerospace coating;
  - ~~ii)~~ Flexible package printing;
  - ~~iii)~~ Lithographic printing;
  - ~~iiii)~~ Letterpress printing;
  - ~~v)~~ Flat wood paneling coating;
  - ~~vi)~~ Large appliance coating;
  - ~~vii)~~ Metal furniture coating;
  - ~~viii)~~ Paper, film, and foil coating;
  - ~~ix)~~ Wood furniture coating;
  - ~~x)~~ Shipbuilding and repair coating;
  - ~~xi)~~ Plastic parts coating;
  - ~~xii)~~ Miscellaneous metal parts coating;
  - ~~xiii)~~ Fiberglass boat manufacturing;
  - ~~xiv)~~ Miscellaneous industrial adhesives; and
  - ~~xv)~~ Auto and light-duty truck assembly coating;
- C) The following cleaning operations shall be exempt from the requirements of subsections (b), (c), (f), and (g) of this Section:
- i) Cleaning of solar cells, laser hardware, scientific instruments, and high-precision optics;

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- ii) Cleaning conducted as part of performance laboratory tests on coatings, adhesives, or inks; research and development operations; or laboratory tests in quality assurance laboratories;
- iii) Cleaning of paper-based gaskets and clutch assemblies where rubber is bonded to metal by means of an adhesive;
- iv) Cleaning of cotton swabs to remove cottonseed oil before cleaning of high-precision optics;
- v) Cleaning of medical device and pharmaceutical manufacturing operations if the facility uses facilities using no more than 5.7 liters (1.5 gallons) per day of solvents for such cleaning;
- vi) Cleaning of adhesive application equipment used for thin metal laminating;
- vii) Cleaning of electronic or electrical cables;
- viii) Touch-up cleaning performed on printed circuit boards where surface mounted devices have already been attached;
- ix) Cleaning of coating and adhesive application processes utilized to manufacture transdermal drug delivery products using no more than three gallons per day of ethyl acetate;
- x) Cleaning of application equipment used to apply coatings on satellites and radiation effect coatings;
- xi) Cleaning of application equipment used to apply solvent-borne fluoropolymer coatings;
- xii) Cleaning of ultraviolet or electron beam adhesive application;
- xiii) Cleaning of sterilization indicating ink application equipment if the facility uses no more than 5.7 liters (1.5 gallons) per day of solvents for such cleaning;

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- xiv) Cleaning of metering rollers, dampening rollers, and printing plates;
  - xv) Cleaning of numismatic dies; ~~and~~
  - xvi) Cleaning operations associated with digital printing;:-
  - xvii) Cleaning with aerosol products if the facility uses no more than 4.7 liters (1.25 gallons) per day of such products;
  - xviii) Cleaning of plastic-based or vinyl-based substrates for use in the screen printing process when using UV curable ink and coating systems;
  - xix) Cleaning conducted as part of performance tests on coatings, adhesives, or inks that are in research and development and that are not yet commercially used for the applications for which they are being tested. This exemption is limited to the use of up to a total of 90.9 liters (24 gallons) of cleaning solvent per calendar month and 416.3 liters (110 gallons) per calendar year for such cleaning.
- b) Material and Control Requirements. No owner or operator of a source subject to this Section, other than manufacturers of coatings, inks, adhesives, or resins, shall perform any cleaning operation subject to this Section unless the owner or operator meets the requirements in subsection (b)(1), (b)(2), or (b)(3). No owner or operator of a source that manufactures coatings, inks, adhesives, or resins shall perform any cleaning operation subject to this Section unless the owner or operator meets the requirements in at least one of the following subsections: (b)(1), (b)(2), (b)(3), (b)(4), or (b)(5):
- 1) The VOM content of the as-used cleaning solutions does not exceed the following emissions limitations:
    - A) Product cleaning during manufacturing process or surface preparation for coating, adhesive, or ink application:

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|      |   |                     |                       |
|------|---|---------------------|-----------------------|
|      |   | kg/l                | lb/gal                |
| i)   | Electrical apparatus components and electronic components                           | 0.10                | 0.83                  |
| ii)  | Medical device and pharmaceutical manufacturing                                     | 0.80                | 6.7                   |
| B)   | Repair and maintenance cleaning:  |                     |                       |
|      |   | kg/l                | lb/gal                |
| i)   | Electrical apparatus components and electronic components                           | 0.10                | 0.83                  |
| ii)  | Medical device and pharmaceutical manufacturing tools, equipment, and machinery     | 0.80                | 6.7                   |
| iii) | Medical device and pharmaceutical manufacturing general work surfaces               | 0.60                | 5.0                   |
| C)   | Cleaning of ink application equipment:  |                     |                       |
|      |   | kg/l                | lb/gal                |
| i)   | Rotogravure printing that does not print flexible packaging                         | 0.10                | 0.83                  |
| ii)  | Screen printing, <u>including screen reclamation activities</u>                     | 0.50                | 4.2                   |
| iii) | Ultraviolet ink and electron beam ink application equipment, except screen printing | 0.65                | 5.4                   |
| iv)  | Flexographic printing that does not print flexible packaging                        | 0.10                | 0.83                  |
| D)   | <u>Cleaning of equipment used in the</u>  | <u>kg/l</u><br>0.20 | <u>lb/gal</u><br>1.67 |

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manufacture of coatings, inks,  
adhesives, or resins

- |   | kg/l  | lb/gal |
|---|-------|--------|
| <u>E</u> ) All other cleaning operations not subject to a specific limitation in subsections (b)(1)(A) through (b)(1)( <u>D</u> ) of this Section | 0.050 | 0.42   |
- 2) The VOM composite vapor pressure of each as-used cleaning solution used does not exceed 8.0 mmHg measured at 20°C (68°F); ~~or~~
- 3) An afterburner or carbon adsorber is installed and operated that reduces VOM emissions from the subject cleaning operation by at least 85 percent overall, or for sources that manufacture coatings, inks, adhesives, or resins, an afterburner or carbon adsorber is installed and operated that reduces VOM emissions from the subject cleaning operation by at least 80 percent overall and has a 90 percent efficiency. The owner or operator may use an emissions control system other than an afterburner or carbon adsorber if such device reduces VOM emissions from the subject cleaning operation in accordance with the applicable capture and control requirements of this subsection (b)(3) by at least 85 percent overall, the owner or operator submits a plan to the Agency detailing appropriate monitoring devices, test methods, recordkeeping requirements, and operating parameters for such control device, and such plan is approved by the Agency and USEPA within federally enforceable permit conditions; ~~or~~
- 4) For sources that manufacture coatings, inks, adhesives, or resins, the owner or operator complies with the following work practices:
- A) Equipment being cleaned is maintained leak-free;
- B) VOM-containing cleaning materials are drained from the cleaned equipment upon completion of cleaning;
- C) VOM-containing cleaning materials, including waste solvent, are not stored or disposed of in such a manner that will cause or allow evaporation into the atmosphere; and



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- D) VOM-containing cleaning materials are stored in closed containers;
- 5) Sources that manufacture coatings, inks, adhesives, or resins may utilize solvents that do not comply with subsection (b)(1) or (b)(2) of this Section provided that all of the following requirements are met:
  - A) No more than 228 l (60 gal) of fresh solvent is used per calendar month. Solvent that is reused or recycled, either onsite or offsite, for further use in equipment cleaning or in the manufacture of coatings, inks, adhesives, or resins, shall not be included in this limit;
  - B) Solvents, including cleanup solvents, are collected and stored in closed containers; and
  - C) Records are maintained in accordance with subsection (e)(6).
- c) The owner or operator of a subject source shall demonstrate compliance with this Section by using the applicable test methods and procedures specified in subsection (g) of this Section and by complying with the recordkeeping and reporting requirements specified in subsection (e) of this Section.
- d) Operating Requirements. The owner or operator of a source subject to the requirements of this Section shall comply with the following for each subject cleaning operation. Such requirements are in addition to work practices set forth in subsections (b)(4) and (b)(5) of this Section, as applicable:
  - 1) Cover open containers and properly cover and store applicators used to apply cleaning solvents;
  - 2) Minimize air circulation around the cleaning operation;
  - 3) Dispose of all used cleaning solutions, cleaning towels, and applicators used to apply cleaning solvents in closed containers;
  - 4) Utilize equipment practices that minimize emissions;:-
  - 5) When using cleaning solvent for wipe cleaning, sources that manufacture coatings, inks, adhesives, or resins shall:

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- A) Cover open containers used for the storage of spent or fresh organic compounds used for cleanup or coating, ink, adhesive, or resin removal; and
  - B) Cover open containers used for the storage or disposal of cloth or paper impregnated with organic compounds that are used for cleanup or coating, ink, adhesive, or resin removal.
- e) Recordkeeping and Reporting Requirements
- 1) The owner or operator of a source exempt from the limitations of this Section because of the criteria in subsection Section 218.187(a)(1) of this Section~~Subpart~~ shall comply with the following:
    - A) By January 1, 2012~~April 1, 2011~~, or upon initial start-up of the source, whichever is later, submit a certification to the Agency that includes:
      - i) A declaration that the source is exempt from the requirements of this Section because of the criteria in subsection Section 218.187(a)(1);
      - ii) Calculations that demonstrate that combined emissions of VOM from cleaning operations at the source, other than cleaning operations identified in subsection (a)(2) of this Section, never equal or exceed 226.8 kg/month (500 lbs/month) 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment. An emission adjustment factor of 0.50 shall be used in calculating emissions from used shop towels if the VOM composite vapor pressure of each associated cleaning solution is demonstrated to be less than 10 mmHg at 20°C (68°F) and the used shop towels are kept in closed containers. For cleaning solutions with VOM composite vapor pressures of equal to or greater than 10 mmHG measured at 20°C (68°F) and for shop towels that are not kept in closed containers, no emission adjustment factor shall be used;

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- B) On and after January 1, 2012, collect and record the following information each month for each cleaning operation, other than cleaning operations identified in subsection (a)(2) of this Section:
- i) The name and identification of each VOM-containing cleaning solution as applied in each cleaning operation;
  - ii) The VOM content of each cleaning solution as applied in each cleaning operation;
  - iii) The weight of VOM per volume and the volume of each as-used cleaning solution; and
  - iv) The total monthly VOM emissions from cleaning operations at the source;
- CB) Notify the Agency of any record that shows that the combined emissions of VOM from cleaning operations at the source, other than cleaning operations identified in subsection (a)(2) of this Section, ever equal or exceed 226.8 kg/month (500 lbs/month) ~~6.8 kg/day (15 lbs/day)~~, in the absence of air pollution control equipment, within 30 days after the event occurs.
- 2) All sources subject to the requirements of this Section shall:
- A) By January 1, 2012, April 1, 2011, or upon initial start-up of the source, whichever is later, submit a certification to the Agency that includes:
- i) A declaration that all subject cleaning operations are in compliance with the requirements of this Section;
  - ii) Identification of each subject cleaning operation and each VOM-containing cleaning solution used as of the date of certification in such operation;
  - iii) If complying with the emissions control system requirement, what type of emissions control system will be used;

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- iv) Initial documentation that each subject cleaning operation will comply with the applicable limitation, including copies of manufacturer's specifications, test results (if any), formulation data, and calculations;
  - v) Identification of the methods that will be used to demonstrate continuing compliance with the applicable limitations;
  - vi) A description of the practices and procedures that the source will follow to ensure compliance with the limitations in subsection Section 218.187(d), and, if applicable, subsection (b)(4); and
  - vii) A description of each cleaning operation exempt pursuant to subsection Section 218.187(a)(2), if any, and a listing of the emission units on which the exempt cleaning operation is performed;
- B) At least 30 calendar days before changing the method of compliance between subsections (b)(1), ~~or (b)(2), (b)(4), or (b)(5)~~ and subsection (b)(3) of this Section, notify the Agency in writing of such change. The notification shall include a demonstration of compliance with the newly applicable subsection;
- 3) All sources complying with this Section pursuant to the requirements of subsection (b)(1) of this Section shall collect and record the following information for each cleaning solution used:
- A) For each cleaning solution that is prepared at the source with automatic equipment:
    - i) The name and identification of each cleaning solution;
    - ii) The VOM content of each cleaning solvent in the cleaning solution;
    - iii) Each change to the setting of the automatic equipment, with date, time, description of changes in the cleaning solution constituents (e.g., cleaning solvents), and a description of

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- changes to the proportion of cleaning solvent and water (or other non-VOM);
  - iv) The proportion of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution;
  - v) The VOM content of the as-used cleaning solution, with supporting calculations; and
  - vi) A calibration log for the automatic equipment, detailing periodic checks;
- B) For each batch of cleaning solution that is not prepared at the source with automatic equipment:
- i) The name and identification of each cleaning solution;
  - ii) Date, time of preparation, and each subsequent modification of the batch;
  - iii) The VOM content of each cleaning solvent in the cleaning solution;
  - iv) The total amount of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution; and
  - v) The VOM content of the as-used cleaning solution, with supporting calculations. For cleaning solutions that are not prepared at the site but are used as purchased, the manufacturer's specifications for VOM content may be used if such manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in Section 218.105(a) of this Part;
- 4) All sources complying with this Section pursuant to the requirements of subsection (b)(2) of this Section shall collect and record the following information for each cleaning solution used:

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- A) The name and identification of each cleaning solution;
  - B) Date, time of preparation, and each subsequent modification of the batch;
  - C) The molecular weight, density, and VOM composite partial vapor pressure of each cleaning solvent, as determined in accordance with the applicable methods and procedures specified in Section 218.110 of this Part;
  - D) The total amount of each cleaning solvent used to prepare the as-used cleaning solution; and
  - E) The VOM composite partial vapor pressure of each as-used cleaning solution, as determined in accordance with the applicable methods and procedures specified in Section 218.110 of this Part;
- 5) All sources complying with this Section pursuant to the requirements of subsection (b)(3) of this Section shall comply with the following:
- A) By ~~January 1, 2012~~ April 1, 2011, or upon initial start-up of the source, whichever is later, and upon initial start-up of a new emissions control system, include in the certification required by subsection (e)(3) of this Section a declaration that the monitoring equipment required under ~~subsection Section 218.187(f)~~ subsection Section 218.187(f) of this ~~Section~~ Subpart has been properly installed and calibrated according to manufacturer's specifications;
  - B) If testing of an emissions control system is conducted pursuant to ~~subsection Section 218.187(g)~~ subsection Section 218.187(g) of this ~~Section~~ Subpart, the owner or operator shall, within 90 days after conducting such testing, submit a copy of all test results to the Agency and shall submit a certification to the Agency that includes the following:
    - i) A declaration that all tests and calculations necessary to demonstrate compliance with ~~subsection Section 218.187(b)(3)~~ subsection Section 218.187(b)(3) of this ~~Section~~ Subpart have been properly performed;

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- ii) A statement whether the subject cleaning operation is or is not in compliance with subsection Section 218.187(b)(3) of this SectionSubpart; and
  - iii) The operating parameters of the emissions control system during testing, as monitored in accordance with subsection Section 218.187(f) of this SectionSubpart;
- C) Collect and record daily the following information for each cleaning operation subject to the requirements of subsection Section 218.187(b)(3) of this SectionSubpart:
- i) Emissions control system monitoring data in accordance with subsection Section 218.187(f) of this SectionSubpart, as applicable;
  - ii) A log of operating time for the emissions control system, monitoring equipment, and the associated cleaning equipment;
  - iii) A maintenance log for the emissions control system and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages;
- D) Maintain records documenting the use of good operating practices consistent with the equipment manufacturer's specifications for the cleaning equipment being used and the emissions control system equipment. At a minimum, these records shall include:
- i) Records for periodic inspection of the cleaning equipment and emissions control system equipment with date of inspection, individual performing the inspection, and nature of inspection;
  - ii) Records for repair of malfunctions and breakdowns with identification and description of incident, date identified, date repaired, nature of repair, and the amount of VOM released into the atmosphere as a result of the incident;

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- 6) All sources complying with this Section pursuant to the requirements of subsection (b)(5) of this Section shall collect and record monthly the following information for each cleaning operation subject to the requirements of subsection (b)(5) of this Section:
- A) The name, identification, and volume of each VOM-containing cleaning solution as applied in each cleaning operation;
  - B) The volume of each fresh cleaning solvent used for cleaning coating, ink, adhesive, or resin manufacturing equipment;
  - C) The volume of cleaning solvent recovered for either offsite or onsite reuse or recycling for further use in the cleaning of coating, ink, adhesive, or resin manufacturing equipment;
- 7) The owner or operator of a source with cleaning operations that fall under one or more of the exclusions set forth in subsection (a)(2)(C)(v), (a)(2)(C)(xiii), or (a)(2)(C)(xvii) including sources exempt from the limitations of this Section because of the criteria in subsection (a)(1), shall:
- A) By January 1, 2012, or upon initial start-up of the source, whichever is later, submit a certification to the Agency that includes a declaration that the source has cleaning operations that fall under one or more of the exclusions set forth in subsection (a)(2)(C)(v), (a)(2)(C)(xiii), or (a)(2)(C)(xvii) and a statement identifying each such cleaning operation and the exclusion applicable to each cleaning operation;
  - B) Collect and record the name, identification, and volume of each cleaning solvent as applied each day in each cleaning operation that falls under one or more of the exclusions set forth in subsection (a)(2)(C)(v), (a)(2)(C)(xiii), or (a)(2)(C)(xvii); and
  - C) Notify the Agency in writing if the amount of cleaning solvent used in the cleaning of medical device and pharmaceutical manufacturing operations or of sterilization indicating ink application equipment at the source ever exceeds 5.7 liters (1.5 gallons) per day, or if the amount of aerosol cleaning products used



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at the source ever exceeds 4.7 liters (1.25 gallons) per day, within 30 days after the exceedance occurs;

- 8) The owner or operator of a source with cleaning operations that fall under one or more of the exclusions set forth in subsection (a)(2)(C)(xviii) or (a)(2)(C)(xix), including sources exempt from the limitations of this Section because of the criteria in subsection (a)(1), shall:
- A) By January 1, 2012, or upon initial start-up of the source, whichever is later, submit a certification to the Agency that includes a declaration that the source has cleaning operations that fall under one or more of the exclusions set forth in subsection (a)(2)(C)(xviii) or (a)(2)(C)(xix), and a statement identifying each such cleaning operation and the exclusion applicable to each cleaning operation;
  - B) Collect and record the name, identification, volume, and VOM content of each cleaning solvent as applied each month in each cleaning operation that falls under one or more of the exclusions set forth in subsection (a)(2)(C)(xviii) or (a)(2)(C)(xix);
  - C) For cleaning operations that fall under the exclusion set forth in subsection (a)(2)(C)(xviii), collect and record each month information demonstrating that the exempt cleaning solvent is being used exclusively for the cleaning of plastic-based or vinyl-based substrates for use in the screen printing process when using UV curable ink and coating systems; and
  - D) For cleaning operations that fall under the exclusion set forth in subsection (a)(2)(C)(xix), collect and record each month information demonstrating that the exempt cleaning solvent is being used exclusively for production line performance testing of coatings that are in research and development and are not yet commercially used for the applications for which they are being tested;
- 96) All sources subject to the requirements of subsections (b) and (d) of this Section shall notify the Agency of any violation of subsection (b) or (d) by providing a description of the violation and copies of records documenting

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the violation to the Agency within 30 days following the occurrence of the violation;

107) All records required by this subsection (e) shall be retained by the source for at least three years and shall be made available to the Agency upon request.

f) Monitoring Requirements

1) If an afterburner ~~or carbon adsorber~~ is used to demonstrate compliance, the owner or operator of a source subject to subsection Section 218.187(b)(3) of this SectionSubpart shall:

A) Install, calibrate, operate, and maintain temperature monitoring devices with an accuracy of 3°C or 5°F on the emissions control system in accordance with Section 218.105(d)(2) of this Part and in accordance with the manufacturer's specifications. Monitoring shall be performed at all times when the emissions control system is operating; and

B) Install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring devices, such as a strip chart, recorder or computer, with at least the same accuracy as the temperature monitor;

2) If a carbon adsorber is used to demonstrate compliance, the owner or operator of a source subject to subsection (b)(3) shall use Agency and USEPA approved continuous monitoring equipment that is installed, calibrated, maintained, and operated according to vendor specifications at all times the control device is in use. The continuous monitoring equipment shall monitor the VOM concentration of each carbon adsorption bed or the exhaust of the bed next in sequence to be desorbed;

32) If an emissions control system other than an afterburner or carbon adsorber is used to demonstrate compliance, the owner or operator of a source subject to subsection Section 218.187(b)(3) of this SectionSubpart shall install, maintain, calibrate, and operate such monitoring equipment as set forth in the owner's or operator's plan approved by the Agency and USEPA pursuant to subsection Section 218.187(b)(3).

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- g) Testing Requirements
- 1) Testing to demonstrate compliance with the requirements of this Section shall be conducted by the owner or operator within 90 days after a request by the Agency, or as otherwise specified in this Section. Such testing shall be conducted at the expense of the owner or operator and the owner or operator shall notify the Agency in writing 30 days in advance of conducting the testing to allow the Agency to be present during the testing;
  - 2) Testing to demonstrate compliance with the VOM content limitations in subsection Section 218.187(b)(1) of this SectionSubpart, and to determine the VOM content of cleaning solvents and cleaning solutions, shall be conducted as follows:
    - A) The applicable test methods and procedures specified in Section 218.105(a) of this Part shall be used, provided; however, Method 24, incorporated by reference in Section 218.112 of this Part, shall be used to demonstrate compliance; or
    - B) The manufacturer's specifications for VOM content for cleaning solvents may be used if such manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in Section 218.105(a) of this Part; provided, however, Method 24 shall be used to determine compliance. In the event of any inconsistency between a Method 24 test and the manufacturer's specifications, the Method 24 test shall govern;
  - 3) Testing to determine the VOM composite partial vapor pressure of cleaning solvents, cleaning solvent concentrates, and as-used cleaning solutions shall be conducted in accordance with the applicable methods and procedures specified in Section 218.110 of this Part;
  - 4) For afterburners and carbon adsorbers, the methods and procedures of Section 218.105(d) through (f) shall be used for testing to demonstrate compliance with the requirements of subsection Section 218.187(b)(3) of this SectionSubpart, as follows:

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- A) To select the sampling sites, Method 1 or 1A, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part;
- B) To determine the volumetric flow rate of the exhaust stream, Method 2, 2A, 2C, or 2D, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part;
- C) To determine the VOM concentration of the exhaust stream entering and exiting the emissions control system, Method 25 or 25A, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part. For thermal and catalytic afterburners, Method 25 must be used except under the following circumstances, in which case Method 25A must be used:
  - i) The allowable outlet concentration of VOM from the emissions control system is less than 50 ppmv, as carbon;
  - ii) The VOM concentration at the inlet of the emissions control system and the required level of control result in exhaust concentrations of VOM of 50 ppmv, or less, as carbon; and
  - iii) Due to the high efficiency of the emissions control system, the anticipated VOM concentration at the emissions control system exhaust is 50 ppmv or less, as carbon, regardless of inlet concentration. If the source elects to use Method 25A under this option, the exhaust VOM concentration must be 50 ppmv or less, as carbon, and the required destruction efficiency must be met for the source to have demonstrated compliance. If the Method 25A test results show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, a retest is required. The retest shall be conducted using either Method 25 or Method 25A. If the retest is conducted using Method 25A and the test results again show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, the source must retest using Method 25;

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- D) During testing, the cleaning equipment shall be operated at representative operating conditions and flow rates;
- 5) An owner or operator using an emissions control system other than an afterburner or carbon adsorber shall conduct testing to demonstrate compliance with the requirements of subsection Section 218.187(b)(3) of this SectionSubpart as set forth in the owner's or operator's plan approved by the Agency and USEPA as federally enforceable permit conditions pursuant to subsection Section 218.187(b)(3) of this Subpart.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

SUBPART F: COATING OPERATIONS

**Section 218.204 Emission Limitations**

Except as provided in Sections 218.205, 218.207, 218.208, 218.212, 218.215 and 218.216 of this Subpart, no owner or operator of a coating line shall apply at any time any coating in which the VOM content exceeds the following emission limitations for the specified coating. Except as otherwise provided in subsections (a), (c), (g), (h), (j), (l), (n), (p), and (q) of this Section, compliance with the emission limitations marked with an asterisk in this Section is required on and after March 15, 1996, and compliance with emission limitations not marked with an asterisk is required until March 15, 1996. The following emission limitations are expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating applicator, except where noted. Compounds which are specifically exempted from the definition of VOM should be treated as water for the purpose of calculating the "less water" part of the coating composition. Compliance with this Subpart must be demonstrated through the applicable coating analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.211(c) of this Subpart except where noted. (Note: The equation presented in Section 218.206 of this Part shall be used to calculate emission limitations for determining compliance by add-on controls, credits for transfer efficiency, emissions trades and cross-line averaging.) The emission limitations are as follows:

|    |  |       |        |
|----|--|-------|--------|
| a) | Automobile or Light-Duty Truck Coating | kg/l  | lb/gal |
| 1) | Prior to May 1, 2012:                  |       |        |
|    | A) Prime coat                          | 0.14  | (1.2)  |
|    |  | 0.14* | (1.2)* |

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|    |                     |       |         |
|----|---------------------|-------|---------|
| B) | Primer surface coat | 1.81  | (15.1)  |
|    |                     | 1.81* | (15.1)* |

BOARD NOTE: The primer surface coat limitation is in units of kg (lbs) of VOM per l (gal) of coating solids deposited. Compliance with the limitation shall be based on the daily-weighted average from an entire primer surfacer operation. Compliance shall be demonstrated in accordance with the topcoat protocol referenced in Section 218.105(b)(1)(A) and the recordkeeping and reporting requirements specified in Section 218.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. Section 218.205 does not apply to the primer surfacer limitation.

|    |         |       |         |
|----|---------|-------|---------|
| C) | Topcoat | kg/l  | lb/gal  |
|    |         | 1.81  | (15.1)  |
|    |         | 1.81* | (15.1)* |

BOARD NOTE: The topcoat limitation is in units of kg (lbs) of VOM per l (gal) of coating solids deposited. Compliance with the limitation shall be based on the daily-weighted average from an entire topcoat operation. Compliance shall be demonstrated in accordance with the topcoat protocol referenced in Section 218.105(b)(1)(A) of this Part and the recordkeeping and reporting requirements specified in Section 218.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. Section 218.205 of this Part does not apply to the topcoat limitation.

|    |                   |       |        |
|----|-------------------|-------|--------|
| D) | Final repair coat | kg/l  | lb/gal |
|    |                   | 0.58  | (4.8)  |
|    |                   | 0.58* | (4.8)* |

- 2) On and after May 1, ~~2012~~2014, subject automobile and light-duty truck coating lines shall comply with the following limitations. These limitations shall not apply to materials supplied in containers with a net

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volume of 0.47 liters (16 oz) or less, or a net weight of 0.45 kg (1 lb) or less:

A) Electrodeposition primer (EDP) operations. For purposes of this subsection (a)(2)(A), "electrodeposition" means a water-borne dip coating process in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the substrate due to the electrochemical potential difference that is created.

|   | kg VOM/l<br>coating<br>solids<br>applied | lb VOM/gal<br>coating solids<br>applied      |
|---|--|--|
| i) When solids turnover ratio ( $R_T$ ) is greater than or equal to 0.160 | 0.084                                    | (0.7)  |
| ii) When $R_T$ is greater than or equal to 0.040 and less than 0.160      | $0.084 \times 350^{0.160-R_T}$           | $(0.084 \times 350^{0.160-R_T} \times 8.34)$ |

|   |  |   |
|---|--|---|
| B) Primer surfacer operations   | kg VOM/l<br>coating<br>solids<br>deposited | lb VOM/gal<br>coating solids<br>deposited |
| i) VOM content limitation   | 1.44                                       | (12.0)                                    |
| ii) Compliance with the limitation set forth in subsection (a)(2)(B)(i) shall be based on the daily-weighted average from an entire primer surfacer operation. Compliance shall be demonstrated in accordance with the topcoat protocol referenced in Section 218.105(b)(1)(B) and the recordkeeping and reporting requirements specified in Section 218.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. |  |   |

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Section 218.205 does not apply to the primer surfacer limitation.

- |    |   |  |   |
|----|---|--|---|
| C) | Topcoat operations                              | kg VOM/l<br>coating<br>solids<br>deposited   | lb VOM/gal<br>coating solids<br>deposited |
|    | i)  | VOM content limitation   | 1.44 (12.0)                               |
|    | ii)   | Compliance with the limitation set forth in subsection (a)(2)(C)(i) shall be based on the daily-weighted average from an entire topcoat operation. Compliance shall be demonstrated in accordance with the topcoat protocol referenced in Section 218.105(b)(1)(B) and the recordkeeping and reporting requirements specified in Section 218.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. Section 218.205 does not apply to the topcoat limitation.              |   |
| D) | Combined primer surfacer and topcoat operations | kg VOM/l<br>coating<br>solids<br>deposited   | lb VOM/gal<br>coating solids<br>deposited |
|    | i)  | VOM content limitation   | 1.44 (12.0)                               |
|    | ii)   | Compliance with the limitation set forth in subsection (a)(2)(D)(i) shall be based on the daily-weighted average from the combined primer surfacer and topcoat operations. Compliance shall be demonstrated in accordance with the topcoat protocol referenced in Section 218.105(b)(1)(B) and the recordkeeping and reporting requirements specified in Section 218.211(f). Testing to demonstrate compliance shall be performed in accordance with the topcoat protocol and a detailed testing proposal approved by the Agency and USEPA specifying the method of demonstrating compliance with the protocol. Section 218.205 does not apply to the combined |   |



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primer surfacer and topcoat limitation.

- |    |                              |  |                    |
|----|------------------------------|--|--------------------|
| E) | Final repair coat operations | kg/l<br>coatings   | lb/gal<br>coatings |
|    | i)                           | VOM content limitation   | 0.58 (4.8)         |
|    | ii)                          | Compliance with the final repair operations limitation set forth in subsection (a)(2)(E)(i) shall be on an occurrence-weighted average basis, calculated in accordance with the equation below, in which clear coatings shall have a weighting factor of 2 and all other coatings shall have a weighting factor of 1. <u>For purposes of this subsection (a)(2)(E)(ii), an "occurrence" is the application of the combination of coatings that constitute a final repair coat for a single automobile or light-duty truck. Section 218.205 does not apply to the final repair coat limitation.</u> |                    |

$$VOM_{tot} = \frac{2VOM_{cc} + \sum_{i=1}^n VOM_i}{n + 2}$$

where:

- VOM<sub>tot</sub> = Total VOM content of all coatings, as applied, on an occurrence weighted average basis, and used to determine compliance with this subsection (a)(2)(E).
- i = Subscript denoting a specific coating applied.
- n = Total number of coatings applied in the final repair operation, other than clear coatings.
- VOM<sub>cc</sub> = The VOM content, as applied, of the clear coat used in the final repair operation.
- VOM<sub>i</sub> = The VOM content of each coating used in the final repair operation, as applied, other than clear coatings.

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F) Miscellaneous Materials. For reactive adhesives subject to this subsection (a)(2)(F), compliance shall be demonstrated in accordance with the methods and procedures set forth in appendix A to Subpart PPPP of 40 CFR 63, incorporated by reference in Section 218.112 of this Part.

|       |                                |               |                 |
|-------|--------------------------------|---------------|-----------------|
|       |                                | kg/l          | lb/gal          |
| i)    | Glass bonding primer           | 0.90          | (7.51)          |
| ii)   | Adhesive                       | 0.25          | (2.09)          |
| iii)  | Cavity wax                     | 0.65          | (5.42)          |
| iv)   | Trunk sealer                   | 0.65          | (5.42)          |
| v)    | Deadener                       | 0.65          | (5.42)          |
| vi)   | Gasket/gasket sealing material | 0.20          | (1.67)          |
| vii)  | Underbody coating              | 0.65          | (5.42)          |
| viii) | Trunk interior coating         | 0.65          | (5.42)          |
| ix)   | Bedliner                       | 0.20          | (1.67)          |
| x)    | Weatherstrip adhesive          | 0.75          | (6.26)          |
| xi)   | Lubricating wax/compound       | 0.70          | (5.84)          |
| b)    | Can Coating                    | kg/l          | lb/gal          |
| 1)    | Sheet basecoat and overvarnish |               |                 |
| A)    | Sheet basecoat                 | 0.34<br>0.26* | (2.8)<br>(2.2)* |
| B)    | Overvarnish                    | 0.34<br>0.34  | (2.8)<br>(2.8)* |

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|    |  |   |   |
|----|--|---|---|
| 2) | Exterior basecoat and overvarnish  | 0.34<br>0.25*                                 | (2.8)<br>(2.1)*                                 |
| 3) | Interior body spray coat   |   |   |
|    | A) Two piece   | 0.51<br>0.44*                                 | (4.2)<br>(3.7)*                                 |
|    | B) Three piece   | 0.51<br>0.51*                                 | (4.2)<br>(4.2)*                                 |
| 4) | Exterior end coat  | 0.51<br>0.51*                                 | (4.2)<br>(4.2)*                                 |
| 5) | Side seam spray coat   | 0.66<br>0.66*                                 | (5.5)<br>(5.5)*                                 |
| 6) | End sealing compound coat  | 0.44<br>0.44*                                 | (3.7)<br>(3.7)*                                 |
| c) | Paper Coating  |   |   |
| 1) | Prior to May 1, 2011:  | kg/l<br>0.28                                  | lb/gal<br>(2.3)                                 |
| 2) | On and after May 1, 2011:  | kg VOM/kg<br>(lb VOM/lb)<br>solids<br>applied | kg VOM/kg<br>(lb VOM/lb)<br>coatings<br>applied |
|    | A) Pressure sensitive tape and<br>label surface coatings   | 0.20  | (0.067)   |
|    | B) All other paper coatings  | 0.40  | (0.08)  |
| 3) | The paper coating limitation set forth in this subsection (c) shall not apply to any owner or operator of any paper coating line on which flexographic, rotogravure, lithographic, or letterpress printing is performed if the paper coating line complies with the applicable |   |   |

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emissions limitations in Subpart H of this Part. In addition, screen printing on paper is not regulated as paper coating, but is regulated under Subpart TT of this Part. On and after May 1, 2011, the paper coating limitation shall also not apply to coating performed on or in-line with any digital printing press, or to size presses and on-machine coaters on papermaking machines applying sizing or water-based clays.

|    |                             |                                    |  |
|----|-----------------------------|------------------------------------|--|
| d) | Coil Coating                | kg/l<br>0.31<br>0.20*              | lb/gal<br>(2.6)<br>(1.7)*                        |
| e) | Fabric Coating              | 0.35<br>0.28*                      | (2.9)<br>(2.3)*                                  |
| f) | Vinyl Coating               | 0.45<br>0.28*                      | (3.8)<br>(2.3)*                                  |
| g) | Metal Furniture Coating     |                                    |  |
| 1) | Prior to May 1, 2011:       |                                    |  |
|    | A) Air dried                | kg/l<br>0.34                       | lb/gal<br>(2.8)                                  |
|    | B) Baked                    | 0.28                               | (2.3)  |
| 2) | On and after May 1, 2011:   |                                    |  |
|    | A) General, One-Component   | kg/l<br>(lb/gal)<br>0.275<br>(2.3) | kg/l (lb/gal)<br>solids applied<br>0.40<br>(3.3) |
|    | B) General, Multi-Component |                                    |  |
|    | i) Air dried                | 0.340<br>(2.8)                     | 0.55<br>(4.5)                                    |
|    | ii) Baked                   | 0.275<br>(2.3)                     | 0.40<br>(3.3)                                    |
|    | C) Extreme High Gloss       |                                    |  |

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|    |  |                |               |
|----|--|----------------|---------------|
|    | i) Air dried   | 0.340<br>(2.8) | 0.55<br>(4.5) |
|    | ii) Baked  | 0.360<br>(3.0) | 0.61<br>(5.1) |
| D) | Extreme Performance  |                |               |
|    | i) Air dried   | 0.420<br>(3.5) | 0.80<br>(6.7) |
|    | ii) Baked  | 0.360<br>(3.0) | 0.61<br>(5.1) |
| E) | Heat Resistant   |                |               |
|    | i) Air dried   | 0.420<br>(3.5) | 0.80<br>(6.7) |
|    | ii) Baked  | 0.360<br>(3.0) | 0.61<br>(5.1) |
| F) | Metallic   | 0.420<br>(3.5) | 0.80<br>(6.7) |
| G) | Pretreatment Coatings  | 0.420<br>(3.5) | 0.80<br>(6.7) |
| H) | Solar Absorbent  |                |               |
|    | i) Air dried   | 0.420<br>(3.5) | 0.80<br>(6.7) |
|    | ii) Baked  | 0.360<br>(3.0) | 0.61<br>(5.1) |
| 3) | On and after May 1, 2011, the limitations set forth in this subsection (g) shall not apply to stencil coatings, safety-indicating coatings, solid-film lubricants, electric-insulating and thermal-conducting coatings, touch-up |                |               |

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and repair coatings, or coating applications utilizing hand-held aerosol cans.

|    |                           |          |                |
|----|---------------------------|----------|----------------|
| h) | Large Appliance Coating   |          |                |
| 1) | Prior to May 1, 2011:     |          |                |
|    |                           | kg/l     | lb/gal         |
| A) | Air dried                 | 0.34     | (2.8)          |
| B) | Baked                     | 0.28     | (2.3)          |
| 2) | On and after May 1, 2011: | kg/l     | kg/l (lb/gal)  |
|    |                           | (lb/gal) | solids applied |
| A) | General, One Component    | 0.275    | 0.40           |
|    |                           | (2.3)    | (3.3)          |
| B) | General, Multi-Component  |          |                |
|    | i) Air dried              | 0.340    | 0.55           |
|    |                           | (2.8)    | (4.5)          |
|    | ii) Baked                 | 0.275    | 0.40           |
|    |                           | (2.3)    | (3.3)          |
| C) | Extreme High Gloss        |          |                |
|    | i) Air dried              | 0.340    | 0.55           |
|    |                           | (2.8)    | (4.5)          |
|    | ii) Baked                 | 0.360    | 0.61           |
|    |                           | (3.0)    | (5.1)          |
| D) | Extreme Performance       |          |                |
|    | i) Air dried              | 0.420    | 0.80           |
|    |                           | (3.5)    | (6.7)          |
|    | ii) Baked                 | 0.360    | 0.61           |
|    |                           | (3.0)    | (5.1)          |
| E) | Heat Resistant            |          |                |
|    | i) Air dried              | 0.420    | 0.80           |

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|    |  |                       |                           |
|----|--|-----------------------|---------------------------|
|    |  | (3.5)                 | (6.7)                     |
|    | ii) Baked  | 0.360<br>(3.0)        | 0.61<br>(5.1)             |
| F) | Metallic   | 0.420<br>(3.5)        | 0.80<br>(6.7)             |
| G) | Pretreatment Coatings  | 0.420<br>(3.5)        | 0.80<br>(6.7)             |
| H) | Solar Absorbent  |                       |                           |
|    | i) Air dried   | 0.420<br>(3.5)        | 0.80<br>(6.7)             |
|    | ii) Baked  | 0.360<br>(3.0)        | 0.61<br>(5.1)             |
| 3) | <p>The limitations set forth in this subsection (h) shall not apply to the use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 0.95 l (1 quart) in any one rolling eight-hour period. On and after May 1, 2011, these limitations shall also not apply to stencil coatings, safety-indicating coatings, solid-film lubricants, electric-insulating and thermal-conducting coatings, touch-up and repair coatings, or coating applications utilizing hand-held aerosol cans.</p> |                       |                           |
| i) | Magnet Wire Coating  | kg/l<br>0.20<br>0.20* | lb/gal<br>(1.7)<br>(1.7)* |
| j) | Prior to May 1, 2012: Miscellaneous Metal Parts and Products Coating   |                       |                           |
|    | 1) Clear coating   | 0.52<br>0.52*         | (4.3)<br>(4.3)*           |
|    | 2) Extreme performance coating   |                       |                           |
|    | A) Air dried   | 0.42<br>0.42*         | (3.5)<br>(3.5)*           |

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|    |                                      |               |                 |
|----|--------------------------------------|---------------|-----------------|
|    | B) Baked                             | 0.42<br>0.40* | (3.5)<br>(3.3)* |
| 3) | Steel pail and drum interior coating | 0.52<br>0.52* | (4.3)<br>(4.3)* |
| 4) | All other coatings                   |               |                 |
|    | A) Air dried                         | 0.42<br>0.40* | (3.5)<br>(3.3)* |
|    | B) Baked                             | 0.36<br>0.34* | (3.0)<br>(2.8)* |
| 5) | Marine engine coating                |               |                 |
|    | A) Air dried                         | 0.42<br>0.42* | (3.5)<br>(3.5)* |
|    | B) Baked                             |               |                 |
|    | i) Primer/Topcoat                    | 0.42<br>0.42* | (3.5)<br>(3.5)* |
|    | ii) Corrosion resistant basecoat     | 0.42<br>0.28* | (3.5)<br>(2.3)* |
|    | C) Clear Coating                     | 0.52<br>0.52* | (4.3)<br>(4.3)* |
| 6) | Metallic Coating                     |               |                 |
|    | A) Air dried                         | 0.42<br>0.42* | (3.5)<br>(3.5)* |
|    | B) Baked                             | 0.36<br>0.36  | (3.0)<br>(3.0)* |
| 7) | Definitions                          |               |                 |



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- A) For purposes of subsection (j)(5) of this Section, the following terms are defined:
- i) "Corrosion resistant basecoat" means, for purposes of subsection (j)(5)(B)(ii) of this Section, a water-borne epoxy coating applied via an electrodeposition process to a metal surface prior to spray coating, for the purpose of enhancing corrosion resistance.
  - ii) "Electrodeposition process" means, for purposes of subsection (j)(5) of this Section, a water-borne dip coating process in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the substrate due to the electrochemical potential difference that is created.
  - iii) "Marine engine coating" means, for purposes of subsection (j)(5) of this Section, any extreme performance protective, decorative or functional coating applied to an engine that is used to propel watercraft.
- B) For purposes of subsection (j)(6) of this Section, "metallic coating" means a coating which contains more than ¼ lb/gal of metal particles, as applied.

BOARD NOTE: On and after May 1, 2012, the limitations in Section 218.204(q) shall apply to this category of coating.

|    |  |       |        |
|----|--|-------|--------|
| k) | Heavy Off-Highway Vehicle Products Coating | kg/l  | lb/gal |
| 1) | Extreme performance prime coat             | 0.42  | (3.5)  |
|    |  | 0.42* | (3.5)* |
| 2) | Extreme performance topcoat (air dried)    | 0.42  | (3.5)  |
|    |  | 0.42* | (3.5)* |
| 3) | Final repair coat (air dried)              | 0.42  | (3.5)  |
|    |  | 0.42* | (3.5)* |

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- 4) All other coatings are subject to the emission limitations for miscellaneous metal parts and products coatings in subsection (j).

1) Wood Furniture Coating

| 1) | Limitations before March 15, 1998: | kg/l | lb/gal |
|----|------------------------------------|------|--------|
| A) | Clear topcoat                      | 0.67 | (5.6)  |
| B) | Opaque stain                       | 0.56 | (4.7)  |
| C) | Pigmented coat                     | 0.60 | (5.0)  |
| D) | Repair coat                        | 0.67 | (5.6)  |
| E) | Sealer                             | 0.67 | (5.6)  |
| F) | Semi-transparent stain             | 0.79 | (6.6)  |
| G) | Wash coat                          | 0.73 | (6.1)  |

BOARD NOTE: Prior to March 15, 1998, an owner or operator of a wood furniture coating operation subject to this Section shall apply all coatings, with the exception of no more than 37.8 l (10 gal) of coating per day used for touch-up and repair operations, using one or more of the following application systems: airless spray application system, air-assisted airless spray application system, electrostatic spray application system, electrostatic bell or disc spray application system, heated airless spray application system, roller coating, brush or wipe coating application system, dip coating application system or high volume low pressure (HVLP) application system.

- 2) On and after March 15, 1998, wood furniture sealers and topcoats must comply with one of the limitations specified in subsections (1)(2)(A) through (E):

|            | kg VOM/<br>kg solids | lb VOM/<br>lb solids |
|------------|----------------------|----------------------|
| A) Topcoat | 0.8                  | (0.8)                |

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- B) Sealers and topcoats with the following limits:
- |      |  |     |       |
|------|--|-----|-------|
| i)   | Sealer other than acid-cured alkyd amino vinyl sealer                | 1.9 | (1.9) |
| ii)  | Topcoat other than acid-cured alkyd amino conversion varnish topcoat | 1.8 | (1.8) |
| iii) | Acid-cured alkyd amino vinyl sealer                                  | 2.3 | (2.3) |
| iv)  | Acid-cured alkyd amino conversion varnish topcoat                    | 2.0 | (2.0) |
- C) Meet the provisions of Section 218.215 of this Subpart for use of an averaging approach;
- D) Achieve a reduction in emissions equivalent to the requirements of subsection (1)(2)(A) or (B) of this Section, as calculated using Section 218.216 of this Subpart; or
- E) Use a combination of the methods specified in subsections (1)(2)(A) through (D) of this Section.
- 3) Other wood furniture coating limitations on and after March 15, 1998:
- |                               | kg/l | lb/gal |
|-------------------------------|------|--------|
| A) Opaque stain               | 0.56 | (4.7)  |
| B) Non-topcoat pigmented coat | 0.60 | (5.0)  |
| C) Repair coat                | 0.67 | (5.6)  |
| D) Semi-transparent stain     | 0.79 | (6.6)  |
| E) Wash coat                  | 0.73 | (6.1)  |

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- 4) Other wood furniture coating requirements on and after March 15, 1998:
- A) No source subject to the limitations of subsection (1)(2) or (3) of this Section and utilizing one or more wood furniture coating spray booths shall use strippable spray booth coatings containing more than 0.8 kg VOM/kg solids (0.8 lb VOM/lb solids), as applied.
  - B) Any source subject to the limitations of subsection (1)(2) or (3) of this Section shall comply with the requirements of Section 218.217 of this Subpart.
  - C) Any source subject to the limitations of subsection (1)(2)(A) or (B) of this Section and utilizing one or more continuous coaters shall, for each continuous coater, use an initial coating which complies with the limitations of subsection (1)(2)(A) or (B) of this Section. The viscosity of the coating in each reservoir shall always be greater than or equal to the viscosity of the initial coating in the reservoir. The owner or operator shall:
    - i) Monitor the viscosity of the coating in the reservoir with a viscosity meter or by testing the viscosity of the initial coating and retesting the coating in the reservoir each time solvent is added;
    - ii) Collect and record the reservoir viscosity and the amount and weight of VOM per weight of solids of coating and solvent each time coating or solvent is added; and
    - iii) Maintain these records at the source for a period of three years.

|    |  |               |                 |
|----|--|---------------|-----------------|
| m) | Existing Diesel-Electric Locomotive Coating Lines in Cook County | kg/l          | lb/gal          |
| 1) | Extreme performance prime coat                                   | 0.42<br>0.42* | (3.5)<br>(3.5)* |
| 2) | Extreme performance top-coat (air dried)                         | 0.42<br>0.42* | (3.5)<br>(3.5)* |

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|    |   |               |                 |
|----|---|---------------|-----------------|
| 3) | Final repair coat (air dried)   | 0.42<br>0.42* | (3.5)<br>(3.5)* |
| 4) | High-temperature aluminum coating   | 0.72<br>0.72* | (6.0)<br>(6.0)* |
| 5) | All other coatings  | 0.36<br>0.36* | (3.0)<br>(3.0)* |
| n) | Prior to May 1, 2012: Plastic Parts Coating:<br>Automotive/Transportation | kg/l          | lb/gal          |
| 1) | Interiors   |               |                 |
|    | A) Baked  |               |                 |
|    | i) Color coat   | 0.49*         | (4.1)*          |
|    | ii) Primer  | 0.46*         | (3.8)*          |
|    | B) Air dried  |               |                 |
|    | i) Color coat   | 0.38*         | (3.2)*          |
|    | ii) Primer  | 0.42*         | (3.5)*          |
| 2) | Exteriors (flexible and non-flexible)                                     |               |                 |
|    | A) Baked  |               |                 |
|    | i) Primer   | 0.60*         | (5.0)*          |
|    | ii) Primer non-flexible   | 0.54*         | (4.5)*          |
|    | iii) Clear coat   | 0.52*         | (4.3)*          |
|    | iv) Color coat  | 0.55*         | (4.6)*          |
|    | B) Air dried  |               |                 |

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|    |      |  |       |        |
|----|------|--|-------|--------|
|    | i)   | Primer   | 0.66* | (5.5)* |
|    | ii)  | Clear coat   | 0.54* | (4.5)* |
|    | iii) | Color coat (red & black)   | 0.67* | (5.6)* |
|    | iv)  | Color coat (others)  | 0.61* | (5.1)* |
| 3) |      | Specialty  |       |        |
|    | A)   | Vacuum metallizing basecoats,<br>texture base coats  | 0.66* | (5.5)* |
|    | B)   | Black coatings, reflective argent<br>coatings, air bag cover coatings,<br>and soft coatings                  | 0.71* | (5.9)* |
|    | C)   | Gloss reducers, vacuum metallizing<br>topcoats, and texture topcoats   | 0.77* | (6.4)* |
|    | D)   | Stencil coatings, adhesion primers,<br>ink pad coatings, electrostatic prep<br>coatings, and resist coatings | 0.82* | (6.8)* |
|    | E)   | Headlamp lens coatings   | 0.89* | (7.4)* |

BOARD NOTE: On and after May 1, 2012, the limitations in Section 218.240(q) shall apply to this category of coating.

|    |    |  |       |        |
|----|----|--|-------|--------|
| o) |    | Prior to May 1, 2012: Plastic Parts Coating:<br>Business Machine | kg/l  | lb/gal |
|    | 1) | Primer   | 0.14* | (1.2)* |
|    | 2) | Color coat (non-texture coat)                                    | 0.28* | (2.3)* |
|    | 3) | Color coat (texture coat)  | 0.28* | (2.3)* |
|    | 4) | Electromagnetic interference/radio                               | 0.48* | (4.0)* |

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frequency interference (EMI/RFI)  
shielding coatings

- 5) Specialty coatings
  - A) Soft coat 0.52\* (4.3)\*
  - B) Plating resist 0.71\* (5.9)\*
  - C) Plating sensitizer 0.85\* (7.1)\*

BOARD NOTE: On and after May 1, 2012, the limitations in Section 218.204(q) shall apply to this category of coating.

- p) Flat Wood Paneling Coatings. On and after August 1, 2010, flat wood paneling coatings shall comply with one of the following limitations:
  - 1) 0.25 kg VOM/1 of coatings (2.1 lb VOM/gal coatings); or
  - 2) 0.35 kg VOM/1 solids (2.9 lb VOM/gal solids).
- q) Miscellaneous Metal Parts and Products Coatings and Plastic Parts and Products Coatings On and After May 1, 2012. On and after May 1, 2012, the owner or operator of a miscellaneous metal or plastic parts coating line shall comply with the limitations in this subsection (q). The limitations in this subsection (q) shall not apply to aerosol coating products, powder coatings, or primer sealants and ejection cartridge sealants used in ammunition manufacturing. Primer sealants and ejection cartridge sealants shall instead be regulated under Subpart TT of this Part.
  - 1) Metal Parts and Products. For purposes of this subsection (q)(1), "corrosion resistant basecoat" means a water-borne epoxy coating applied via an electrodeposition process to a metal surface prior to spray coating, for the purpose of enhancing corrosion resistance. ~~Also for purposes of this subsection (q)(1), "marine engine coating" means any extreme performance protective, decorative, or functional coating applied to an engine that is used to propel watercraft.~~ The limitations in this subsection (q)(1) shall not apply to stencil coats, safety-indicating coatings, solid-film lubricants, electric-insulating and thermal-conducting coatings, magnetic data storage disk coatings, and plastic extruded onto metal parts to form a

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coating. The limitations in Section 218.219, however, shall apply to these coatings unless specifically excluded in Section 218.219.

|    |                                 | kg/l<br>(lb/gal)<br>coatings | kg/l<br>(lb/gal)<br>solids  |
|----|---------------------------------|------------------------------|-----------------------------|
| A) | General one component coating   |                              |                             |
|    | i) Air dried                    | 0.34<br>(2.8)                | 0.54<br>(4.52)              |
|    | ii) Baked                       | 0.28<br>(2.3)                | 0.40<br>(3.35)              |
|    | iii) <del>Clear coating</del>   | <del>0.52<br/>(4.3)</del>    | <del>1.24<br/>(10.34)</del> |
| B) | General multi-component coating |                              |                             |
|    | i) Air dried                    | 0.34<br>(2.8)                | 0.54<br>(4.52)              |
|    | ii) Baked                       | 0.28<br>(2.3)                | 0.40<br>(3.35)              |
| C) | Camouflage coating              | 0.42<br>(3.5)                | 0.80<br>(6.67)              |
| D) | Electric-insulating varnish     | 0.42<br>(3.5)                | 0.80<br>(6.67)              |
| E) | Etching filler                  | 0.42<br>(3.5)                | 0.80<br>(6.67)              |
| F) | Extreme high-gloss coating      |                              |                             |
|    | i) Air dried                    | 0.42<br>(3.5)                | 0.80<br>(6.67)              |
|    | ii) Baked                       | 0.36                         | 0.61                        |



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|----|--|---|--|
|    |  | (3.0)                                     | (5.06)                                       |
| G) | Extreme performance coating            |   |  |
|    | i) Air dried                           | 0.42<br>(3.5)                             | 0.80<br>(6.67)                               |
|    | ii) Baked                              | 0.36<br>(3.0)                             | 0.61<br>(5.06)                               |
| H) | Heat-resistant coating                 | <del>0.66*</del>                          | <del>(5.5)*</del>                            |
|    | i) Air dried                           | 0.42<br>(3.5)                             | 0.80<br>(6.67)                               |
|    | ii) Baked                              | 0.36<br>(3.0)                             | 0.61<br>(5.06)                               |
| I) | High performance architectural coating | <del>0.4274</del><br>( <del>3.562</del> ) | <del>0.80456</del><br>( <del>6.67380</del> ) |
| J) | High temperature coating               | 0.42<br>(3.5)                             | 0.80<br>(6.67)                               |
| K) | Metallic coating                       |   |  |
|    | i) Air dried                           | 0.42<br>(3.5)                             | 0.80<br>(6.67)                               |
|    | ii) Baked                              | 0.36<br>(3.0)                             | 0.61<br>(5.06)                               |
| L) | Military specification coating         |   |  |
|    | i) Air dried                           | 0.34<br>(2.8)                             | 0.54<br>(4.52)                               |
|    | ii) Baked                              | 0.28<br>(2.3)                             | 0.40<br>(3.35)                               |

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|    |  |                |                |
|----|--|----------------|----------------|
| M) | Mold-seal coating                                    | 0.42<br>(3.5)  | 0.80<br>(6.67) |
| N) | Pan backing coating                                  | 0.42<br>(3.5)  | 0.80<br>(6.67) |
| O) | Prefabricated architectural coating: multi-component |                |                |
|    | i) Air dried   | 0.42<br>(3.5)  | 0.80<br>(6.67) |
|    | ii) Baked  | 0.28<br>(2.3)  | 0.40<br>(3.35) |
| P) | Prefabricated architectural coating: one-component   |                |                |
|    | i) Air dried   | 0.42<br>(3.5)  | 0.80<br>(6.67) |
|    | ii) Baked  | 0.28<br>(2.3)  | 0.40<br>(3.35) |
| Q) | Pretreatment coating                                 | 0.42<br>(3.5)  | 0.80<br>(6.67) |
| R) | Repair coats and touch-up coatings                   |                |                |
|    | i) Air dried   | 0.42<br>(3.5)  |                |
|    | ii) Baked  | 0.36<br>(3.01) |                |
| S) | Silicone release coating                             | 0.42<br>(3.5)  | 0.80<br>(6.67) |
| T) | Solar-absorbent coating                              |                |                |

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|      |      |                                       |               |                 |
|------|------|---------------------------------------|---------------|-----------------|
|      | i)   | Air dried                             | 0.42<br>(3.5) | 0.80<br>(6.67)  |
|      | ii)  | Baked                                 | 0.36<br>(3.0) | 0.61<br>(5.06)  |
| U)   |      | Vacuum-metalizing coating             | 0.42<br>(3.5) | 0.80<br>(6.67)  |
| V)   |      | Drum coating, new, exterior           | 0.34<br>(2.8) | 0.54<br>(4.52)  |
| W)   |      | Drum coating, new, interior           | 0.42<br>(3.5) | 0.80<br>(6.67)  |
| X)   |      | Drum coating, reconditioned, exterior | 0.42<br>(3.5) | 0.80<br>(6.67)  |
| Y)   |      | Drum coating, reconditioned, interior | 0.50<br>(4.2) | 1.17<br>(9.78)  |
| Z)   |      | Steel pail and drum interior coating  | 0.52<br>(4.3) | 1.24<br>(10.34) |
| AA)  |      | Marine engine coating                 |               |                 |
|      | i)   | Air dried                             | 0.42<br>(3.5) | 0.80<br>(6.67)  |
|      | ii)  | Baked: primer/topcoat                 | 0.42<br>(3.5) | 0.80<br>(6.67)  |
|      | iii) | Baked: corrosion resistant basecoat   | 0.28<br>(2.3) | 0.40<br>(3.35)  |
|      | iv)  | Clear coating                         | 0.52<br>(4.3) | 1.24<br>(10.34) |
| ZBB) |      | Ammunition Sealants                   |               |                 |

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|                 |     |  |               |                |
|-----------------|-----|--|---------------|----------------|
|                 | i)  | Air dried  | 0.42<br>(3.5) | 0.80<br>(6.67) |
|                 | ii) | Baked  | 0.36<br>(3.0) | 0.61<br>(5.06) |
| <del>AACG</del> |     | Electrical switchgear compartment coatings   |               |                |
|                 | i)  | Air dried  | 0.42<br>(3.5) | 0.80<br>(6.67) |
|                 | ii) | Baked  | 0.36<br>(3.0) | 0.61<br>(5.06) |
| <del>BBDD</del> |     | All other coatings   |               |                |
|                 | i)  | Air dried  | 0.40<br>(3.3) | 0.73<br>(5.98) |
|                 | ii) | Baked  | 0.34<br>(2.8) | 0.54<br>(4.52) |
| 2)              |     | Plastic Parts and Products: Miscellaneous. For purposes of this subsection (q)(2), miscellaneous plastic parts and products are plastic parts and products that are not subject to subsection (q)(3), (q)(4), (q)(5), or (q)(6) of this Section. The limitations in subsection (q)(2) shall not apply to touch-up and repair coatings; stencil coats applied on clear or transparent substrates; clear or translucent coatings; coatings applied at a paint manufacturing facility while conducting performance tests on the coatings; any individual coating category used in volumes less than 189.2 liters (50 gallons) in any one calendar year, if the total usage of all such coatings does not exceed 756.9 liters (200 gallons) per calendar year per source and substitute compliant coatings are not available; reflective coatings applied to highway cones; mask coatings that are less than 0.5 mm thick (dried) if the area coated is less than 25 square inches; electromagnetic interference/radio frequency interference (EMI/RFI) shielding coatings; and heparin-benzalkonium chloride (HBAC)-containing coatings applied to medical devices if the total usage of all such coatings does not exceed 378.4 liters (100 gallons) per calendar year per |               |                |

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source. The limitations in Section 218.219, however, shall apply to such coatings unless specifically excluded in Section 218.219.

|    |  | kg/l<br>(lb/gal)<br>coatings | kg/l<br>(lb/gal)<br>solids |
|----|--|------------------------------|----------------------------|
| A) | General one component coating                            | 0.28<br>(2.3)                | 0.40<br>(3.35)             |
| B) | General multi-component                                  | 0.42<br>(3.5)                | 0.80<br>(6.67)             |
| C) | Electric dissipating coatings<br>and shock-free coatings | 0.80<br>(6.7)                | 8.96<br>(74.7)             |
| D) | Extreme performance<br>(2-pack coatings)                 | 0.42<br>(3.5)                | 0.80<br>(6.67)             |
| E) | Metallic coating   | 0.42<br>(3.5)                | 0.80<br>(6.67)             |
| F) | Military specification coating                           |                              |                            |
|    | i) 1-pack coatings                                       | 0.28<br>(2.3)                | 0.54<br>(4.52)             |
|    | ii) 2-pack coatings                                      | 0.42<br>(3.5)                | 0.80<br>(6.67)             |
| G) | Mold-seal coating  | 0.76<br>(6.3)                | 5.24<br>(43.7)             |
| H) | Multi-colored coating                                    | 0.68<br>(5.7)                | 3.04<br>(25.3)             |
| I) | Optical coating  | 0.80<br>(6.7)                | 8.96<br>(74.7)             |
| J) | Vacuum-metalizing coating                                | 0.80                         | 8.96                       |

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|   | (6.7)                        | (74.7)                     |
|---|------------------------------|----------------------------|
| 3) Plastic Parts and Products:<br>Automotive/Transportation |                              |                            |
|   | kg/l<br>(lb/gal)<br>coatings | kg/l<br>(lb/gal)<br>solids |
| A) High bake coatings – interior and<br>exterior parts      |                              |                            |
| i) Flexible primer  | 0.54<br>(4.5)                | 1.39<br>(11.58)            |
| ii) Non-flexible primer                                     | 0.42<br>(3.5)                | 0.80<br>(6.67)             |
| iii) Basecoats  | 0.52<br>(4.3)                | 1.24<br>(10.34)            |
| iv) Clear coat  | 0.48<br>(4.0)                | 1.05<br>(8.76)             |
| v) Non-basecoat/clear coat                                  | 0.52<br>(4.3)                | 1.24<br>(10.34)            |
| B) Low bake/air dried coatings –<br>exterior parts          |                              |                            |
| i) Primers  | 0.58<br>(4.8)                | 1.66<br>(13.80)            |
| ii) Basecoat  | 0.60<br>(5.0)                | 1.87<br>(15.59)            |
| iii) Clear coats  | 0.54<br>(4.5)                | 1.39<br>(11.58)            |
| iv) Non-basecoat/clear coat                                 | 0.60                         | 1.87                       |

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|    |  |               |                   |
|----|--|---------------|-------------------|
|    |  | (5.0)         | (15.59)           |
| C) | Low bake/air dried coatings – interior parts   |               |                   |
|    | i) Color coat  | 0.38<br>(3.2) | 0.67<br>(5.66)    |
|    | ii) Primer   | 0.42<br>(3.5) | 0.80<br>(6.67)    |
| D) | Touchup and repair coatings  | 0.62<br>(5.2) | 2.13<br>(17.72)   |
| E) | Specialty  |               |                   |
|    | i) Vacuum metallizing basecoats, texture basecoats   | 0.66<br>(5.5) | 2.62<br>(21.8)    |
|    | ii) Reflective argent coatings, air bag cover coatings, and soft coatings  | 0.71<br>(5.9) | 3.64<br>(29.7)    |
|    | iii) <del>Vacuum</del> Gloss reducers, <del>vacuum</del> metallizing topcoats, and <del>texture</del> topcoats   | 0.77<br>(6.4) | 6.06<br>(49.1)    |
|    | iv) <del>Stencil</del> coats, <del>adhesion</del> primers, <del>ink pad</del> coatings, <del>electrostatic prep</del> coats, and <del>resist</del> coats   | 0.82<br>(6.8) | (11.67)<br>(89.4) |
|    | v) Head lamp lens coating  | 0.89<br>(7.4) |                   |
| F) | Red, yellow, and black coatings: Subject coating lines shall comply with a limit determined by multiplying the appropriate limit in subsections (q)(3)(A) through (q)(3)( <del>CE</del> ) of this Section by 1.15. |               |                   |

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- 4) Plastic Parts and Products: Business Machine. The limitations of this subsection (q)(4) shall not apply to vacuum metallizing coatings, gloss reducers, texture topcoats, adhesion primers, electrostatic preparation coatings, stencil coats, and resist coats other than plating resist coats. The limitations in Section 218.219, however, shall apply to such coatings unless specifically excluded in Section 218.219.

|    |  | kg/l<br>(lb/gal)<br>coatings | kg/l<br>(lb/gal)<br>solids |
|----|--|------------------------------|----------------------------|
| A) | Primers                                      | 0.3514<br>(2.912)            | 0.5717<br>(4.8014)         |
| B) | Topcoat                                      | 0.35<br>(2.9)                | 0.57<br>(4.80)             |
| C) | Color coat (texture coat)                    | 0.28<br>(2.3)                | 0.40<br>(4.80)             |
| D) | Color coat (non-texture coat)                | 0.28<br>(2.3)                | 0.40<br>(4.80)             |
| E) | Texture coats other than color texture coats | 0.35<br>(2.9)                | 0.57<br>(4.80)             |
| F) | EMI/RFI shielding coatings                   | 0.48<br>(4.0)                | 1.05<br>(8.76)             |
| G) | Fog coat                                     | 0.26<br>(2.2)                | 0.38<br>(3.14)             |
| H) | Touchup and repair                           | 0.35<br>(2.9)                | 0.57<br>(4.80)             |
| I) | Specialty coatings                           |                              |                            |
|    | i) Soft coat                                 | 0.52<br>(4.3)                | 1.24<br>(10.34)            |



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|      |  |   |  |
|------|--|---|--|
| ii)  | Plating resist                         | 0.71<br>(5.9)                             | 3.64<br>(29.7)                             |
| iii) | Plating sensitizer                     | 0.85<br>(7.1)                             | (23.4)<br>(201.0)                          |
| 5)   | Pleasure Craft Surface Coatings        |   |  |
|      |  | kg/l<br>(lb/gal)<br>coatings              | kg/l<br>(lb/gal)<br>solids                 |
| A)   | Extreme high gloss coating – topcoat   | <u>0.60</u> <del>0.49</del><br>(5.0)(4.1) | <u>1.88</u> <del>1.10</del><br>(15.6)(9.2) |
| B)   | High gloss coating – topcoat           | 0.42<br>(3.5)                             | 0.80<br>(6.7)                              |
| C)   | Pretreatment wash primer               | 0.78<br>(6.5)                             | 6.67<br>(55.6)                             |
| D)   | Finish primer/surfacer                 | <del>0.42</del><br>(3.5)                  | <del>0.80</del><br>(6.7)                   |
|      | <u>Prior to January 1, 2014</u>        | <u>0.60</u><br>(5.0)                      | <u>1.88</u><br>(15.6)                      |
|      | <u>On and after January 1, 2014</u>    | <u>0.42</u><br>(3.5)                      | <u>0.80</u><br>(6.7)                       |
| E)   | High build primer/surfacer             | 0.34<br>(2.8)                             | 0.55<br>(4.6)                              |
| F)   | Aluminum substrate antifoulant coating | 0.56<br>(4.7)                             | 1.53<br>(12.8)                             |
| G)   | Other substrate antifoulant coating    | <u>0.40</u> <del>0.33</del><br>(3.3)(2.8) | <u>0.73</u> <del>0.53</del><br>(5.8)(4.4)  |
| H)   | <u>Antifouling Sealer/Tie Coat</u>     | <u>0.42</u>                               | <u>0.80</u>                                |

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|    |  | <u>(3.5)</u>                 | <u>(6.7)</u>  |
|----|--|------------------------------|---------------|
|    | IH) All other pleasure craft surface coatings for metal or plastic | 0.42<br>(3.5)                | 0.80<br>(6.7) |
| 6) | Motor Vehicle Materials  |                              |               |
|    |  | kg/l<br>(lb/gal)<br>coatings |               |
|    | A) Cavity wax  | 0.65<br>(5.42)               |               |
|    | B) Sealer  | 0.65<br>(5.42)               |               |
|    | C) Deadener  | 0.65<br>(5.42)               |               |
|    | D) Gasket/gasket sealing material                                  | 0.20<br>(1.67)               |               |
|    | E) Underbody coating   | 0.65<br>(5.42)               |               |
|    | F) Trunk interior coating  | 0.65<br>(5.42)               |               |
|    | G) Bedliner  | 0.20<br>(1.67)               |               |
|    | H) Lubricating wax/compound  | 0.70<br>(5.84)               |               |

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.207 Alternative Emission Limitations**

- a) Any owner or operator of a coating line subject to Section 218.204 of this Subpart, except coating lines subject to Section 218.204(q)(6), may comply with

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this Section, rather than with Section 218.204 of this Subpart, if a capture system and control device are operated at all times the coating line is in operation and the owner or operator demonstrates compliance with subsections (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m), or (n) of this Section (depending upon the source category) through the applicable coating analysis and capture system and control device efficiency test methods and procedures specified in Section 218.105 of this Part and the recordkeeping and reporting requirements specified in Section 218.211(e) of this Subpart; and the control device is equipped with the applicable monitoring equipment specified in Section 218.105(d) of this Part and the monitoring equipment is installed, calibrated, operated and maintained according to vendor specifications at all times the control device is in use. A capture system and control device, which does not demonstrate compliance with subsection (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m), or (n) of this Section may be used as an alternative to compliance with Section 218.204 of this Subpart only if the alternative is approved by the Agency and approved by the USEPA as a SIP revision. ~~The owner or operator of a pleasure craft surface coating operation subject to Section 218.204(q)(5)(A) through (G) of this Subpart may also comply with subsection (o) of this Section, rather than with Section 218.204 of this Subpart.~~

- b) Alternative Add-On Control Methodologies
  - 1) The coating line is equipped with a capture system and control device that provides 81 percent reduction in the overall emissions of VOM from the coating line and the control device has a 90 percent efficiency; or
  - 2) The system used to control VOM from the coating line is demonstrated to have an overall efficiency sufficient to limit VOM emissions to no more than what is allowed under Section 218.204 of this Subpart. Use of any control system other than an afterburner, carbon adsorption, condensation, or absorption scrubber system can be allowed only if approved by the Agency and approved by the USEPA as a SIP revision. The use of transfer efficiency credits can be allowed only if approved by the Agency and approved by the USEPA as a SIP revision. Baseline transfer efficiencies and transfer efficiency test methods must be approved by the Agency and the USEPA. Such overall efficiency is to be determined as follows:
    - A) Obtain the emission limitation from the appropriate subsection in Section 218.204 of this Subpart;

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- B) Unless complying with an emission limitation in Section 218.204 that is already expressed in terms of weight of VOM per volume of solids, calculate "S" according to the equation in Section 218.206 of this Subpart. For coating lines subject to an emission limitation in Section 218.204 that is already expressed in terms of weight of VOM per volume of solids, "S" is equal to such emission limitation;
- C) Calculate the overall efficiency required according to Section 218.105(e) of this Part. For the purposes of calculating this value, according to the equation in Section 218.105(e)(2) of this Part,  $VOM_1$  is equal to the value of "S" as determined in subsection (b)(2)(B) of this Section. If the coating line is subject to complying with an emission limitation in Section 218.204 of this Subpart that is already expressed in terms of weight of VOM per volume of solids,  $VOM_1$  is equal to that emission limitation.
- c) No owner or operator of a coating line subject to only one of the emission limitations from among Section 218.204(a)(1)(A), (a)(1)(D), (a)(2)(A), (a)(2)(E), (a)(2)(F), (c)(1), (d), (e), (f), or (i) of this Subpart and equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met. No owner or operator of a coating line subject to Section 218.204(a)(1)(B),r (a)(1)(C), (a)(2)(B), (a)(2)(C), or (a)(2)(D) of this Subpart and equipped with a capture system and control device shall operate the coating line unless the owner or operator demonstrates compliance with such limitation in accordance with the topcoat protocol referenced in Section 218.105(b)(1)(A) or (b)(1)(B), as applicable.
- d) No owner or operator of a miscellaneous metal parts and products coating line that applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(j) of this Subpart (e.g., all coatings used on the line are subject to 0.42 kg/l (3.5 lbs/gal), and that is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met.
- e) No owner or operator of a heavy off-highway vehicle products coating line that applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(k) of this Subpart

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(e.g., all coatings used on the line are subject to 0.42 kg/1 (3.5 lbs/gal)), and that is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met.

- f) No owner or operator of an existing diesel-electric locomotive coating line in Cook County that applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(m) of this Subpart (e.g., all coatings used on the line are subject to 0.42 kg/1 (3.5 lbs/gal)), and that is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met.
- g) No owner or operator of a wood furniture coating line that applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(l) of this Subpart (e.g., all coatings used on the line are subject to 0.67 kg/1 (5.6 lbs/gal)), and that is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met. If compliance is achieved by meeting the requirements in subsection (b)(2) of this Section, then the provisions in the note to Section 218.204(l) of this Subpart must also be met.
- h) No owner or operator of a can coating line that is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (h)(1) or (h)(2) of this Section are met.
  - 1) An alternative daily emission limitation shall be determined for the can coating operation, i.e., for all of the can coating lines at the source, according to Section 218.205(c)(2) of this Subpart. Actual daily emissions shall never exceed the alternative daily emission limitation and shall be calculated by use of the following equation:

$$E_d = \sum_{i=1}^n V_i C_i (1 - F_i)$$

where:

$E_d$  = Actual VOM emissions for the day in units of kg/day (lbs/day);

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- i = Subscript denoting the specific coating applied;
- n = Total number of surface coatings as applied in the can coating operation;
- $V_i$  = Volume of each coating as applied for the day in units of l/day (gal/day) of coating (minus water and any compounds that are specifically exempted from the definition of VOM);
- $C_i$  = The VOM content of each coating as applied in units of kg VOM/l (lbs VOM/gal) of coating (minus water and any compounds that are specifically exempted from the definition of VOM); and
- $F_i$  = Fraction, by weight, of VOM emissions from the surface coating, reduced or prevented from being emitted to the ambient air. This is the overall efficiency of the capture system and control device.
- 2) The coating line is equipped with a capture system and control device that provide 75 percent reduction in the overall emissions of VOM from the coating line and the control device has a 90 percent efficiency.
- i) No owner or operator of a plastic parts coating line, that applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(n) or (o) of this Subpart (e.g., all coatings used on the line are subject to 0.42 kg/l (3.5 lbs/gal)), and that is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met.
- j) Prior to May 1, 2011, no owner or operator of a metal furniture coating line that applies one or more coatings during the same day, all of which are subject to the same numerical emission limitation within Section 218.204(g) of this Subpart (e.g., all coatings used on the line are subject to 0.34 kg/l (2.8 lbs/gal)), and that is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met.
- k) Prior to May 1, 2011, no owner or operator of a large appliance coating line that applies one or more coatings during the same day, all of which are subject to the

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same numerical emission limitation within Section 218.204(h) of this Subpart (e.g., all coatings used on the line are subject to 0.34 kg/l (2.8 lbs/gal)), and that is equipped with a capture system and control device shall operate the subject coating line unless the requirements in subsection (b)(1) or (b)(2) of this Section are met.

- l) On and after May 1, 2011, no owner or operator of a paper coating line, metal furniture coating line, or large appliance coating line that is equipped with a capture system and control device shall operate the subject coating line unless either:
  - 1) The capture system and control device provide at least 90 percent reduction in the overall emissions of VOM from the coating line; or
  - 2) The owner or operator complies with the applicable limitation set forth in Section 218.204 of this Subpart by utilizing a combination of low-VOM coatings and a capture system and control device.
  
- m) No owner or operator of a flat wood paneling coating line that is equipped with a capture system and control device shall operate the subject coating line unless either:
  - 1) The capture system and control device provide at least 90 percent reduction in the overall emissions of VOM from the coating line; or
  - 2) The owner or operator of the flat wood paneling coating line complies with all requirements set forth in subsection (b)(2) of this Section.
  
- n) On and after May 1, 2012, no owner or operator of a miscellaneous metal parts and products coating line, plastic parts and products coating line, or pleasure craft surface coating line that is equipped with a capture system and control device shall operate the subject coating line unless:
  - 1) The capture system and control device provide at least 90 percent reduction in the overall emissions of VOM from the coating line; or
  - 2) The owner or operator of the coating line complies with all requirements set forth in subsection (b)(2) of this Section.

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- o) ~~Emissions Averaging Alternative for Pleasure Craft Surface Coating Operations. The owner or operator of a source with coating operations subject to the requirements of Section 218.204(q)(5)(A) through (G) may elect to include such operations in the emissions averaging alternative. Coating operations utilizing this alternative shall comply with a source specific VOM emission limit on a 12-month rolling average basis, calculated at the end of each calendar month. Subject coating operations that do not utilize the emissions averaging alternative, and coating operations subject to Section 218.204(q)(5)(H), shall comply with the requirements in Section 218.204(q)(5) or 218.205, or subsection (n) of this Section, as applicable, as well as with all other applicable requirements in this Subpart.~~
- 1) ~~The total actual VOM emissions determined by Equation 2 shall be equal to or less than the total allowable VOM emissions determined by Equation 1. The owner or operator of a source subject to this subsection (o) shall use Equation 1 to determine the total allowable source specific VOM mass emission limit for pleasure craft coatings included in the emissions average:~~

Equation 1:

$$VOM_{Allowable} = \sum_{i=A}^G LIM_i V_i$$

where:

$VOM_{Allowable}$  = Total allowable mass of VOM that can be emitted from the pleasure craft coating operations included in the average, expressed in kilograms per 12-month period.

$LIM_i$  = The applicable VOM content limit for a specified pleasure craft coating category from Section 218.204(q)(5)(A) through (G), expressed in kilograms per liter.

$V_i$  = Volume of specified pleasure craft coating category from Section 218.204(q)(5)(A) through (G) used in the past 12 months, excluding water and any compounds that are exempt, expressed in liters.



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$i$  = Subscript denoting a specific pleasure craft coating category from Section 218.204(q)(5)(A) through (G).

- 2) ~~At the end of the first 12-month averaging period, and at the end of each subsequent month, the owner or operator of a source subject to this subsection (o) shall use Equation 2 to calculate the total actual VOM emissions from the pleasure craft coating operations included in the emissions average.~~

Equation 2:

$$VOM_{Actual} = \sum_{i=A}^G VOM_i V_i$$

where:

$VOM_{Actual}$  = ~~VOM emissions calculated using the VOM content for all coatings from Section 218.204(q)(5)(A) through (G) that are included in the average and the volume of those coatings used, expressed in kilograms.~~

$VOM_i$  = ~~Weighted average of actual VOM content for a specified pleasure craft coating category from Section 218.204(q)(5)(A) through (G), expressed in kilograms per liter.~~

$V_i$  = ~~Total volume of specified pleasure craft coating category from Section 218.204(q)(5)(A) through (G) used in the past 12 months, excluding water and any compounds that are exempt, expressed in liters.~~

$i$  = Subscript denoting a specific pleasure craft coating category from Section 218.204(q)(5)(A) through (G).

- 3) ~~For purposes of Equation 2, the owner or operator of a source subject to this subsection (o) shall use Equation 3 to calculate the weighted average VOM content for each coating included in the emissions average for the previous 12 months.~~

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Equation 3:

$$VOM_i = \frac{\sum_{j=i}^n VOM_j V_j}{\sum_{j=i}^n V_j}$$

where:

- $VOM_i$  = Weighted average of actual VOM content for a specified pleasure craft coating category from Section 218.204(q)(5)(A) through (G), expressed in kilograms per liter.
- $VOM_j$  = VOM content of each pleasure craft coating used over the previous 12 months within a specific pleasure craft coating category, i.
- $V_j$  = Volume of each pleasure craft coating used in the previous 12 months, excluding water and any compounds that are exempt, within a specific pleasure craft coating category, i.
- $i$  = Subscript denoting a specific pleasure craft coating category from Section 218.204(q)(5)(A) through (G).
- $j$  = Subscript denoting a specific pleasure craft coating within a specified coating category, i.
- $n$  = Number of coatings applied within a specific coating category, i.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.211 Recordkeeping and Reporting**

- a) The VOM content of each coating and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in Section 218.105 of this Part to establish the records required under this Section.

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- b) Any owner or operator of a coating line that is exempted from the limitations of Section 218.204 of this Subpart because of Section 218.208(a) or (b) of this Subpart shall comply with the following:
- 1) For sources exempt under Section 218.208(a) of this Subpart, by a date consistent with Section 218.106 of this Part, the owner or operator of a coating line or a group of coating lines referenced in subsection (b) of this Section shall certify to the Agency that the coating line or group of coating lines is exempt under the provisions of Section 218.208(a) of this Subpart. Such certification shall include:
- A) A declaration that the coating line or group of coating lines is exempt from the limitations of Section 218.204 of this Subpart because of Section 218.208(a) of this Subpart; and
- B) Calculations that demonstrate that the combined VOM emissions from the coating lines or group of coating lines never exceed 6.8 kg (15 lbs) per day before the application of capture systems and control devices. The following equation shall be used to calculate total VOM emissions:

$$T_e = \sum_{j=1}^m \sum_{i=1}^n (A_i B_i)_j$$

where:

- $T_e$  = Total VOM emissions from coating lines each day before the application of capture systems and control devices in units of kg/day (lbs/day);
- $m$  = Number of coating lines at the source that otherwise would be subject to the same subsection of Section 218.104 of this Part (because they belong to the same category, e.g., can coating);
- $j$  = Subscript denoting an individual coating line;
- $n$  = Number of different coatings as applied each day on each coating line;

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- i = Subscript denoting an individual coating;
  - $A_i$  = Weight of VOM per volume of each coating (minus water and any compounds that are specifically exempted from the definition of VOM) as applied each day on each coating line in units of kg VOM/l (lbs VOM/gal); and
  - $B_i$  = Volume of each coating (minus water and any compounds that are specifically exempted from the definition of VOM) as applied each day on each coating line in units of l/day (gal/day). The instrument or method by which the owner or operator accurately measured or calculated the volume of each coating as applied on each coating line each day shall be described in the certification to the Agency.
- 2) For sources exempt under Section 218.208(b) of this Subpart, by March 15, 1998, or upon initial start-up, the owner or operator of a coating line or a group of coating lines referenced in subsection (b) of this Section shall certify to the Agency that the source is exempt under the provisions of Section 218.208(b) of this Subpart. Such certification shall include:
- A) A declaration that the source is exempt from the limitations of Section 218.204(l) of this Subpart because of Section 218.208(b) of this Subpart; and
  - B) Calculations that demonstrate that the source meets the criteria for exemption because of Section 218.208(b) of this Subpart.
- 3) For sources exempt under Section 218.208(a) of this Subpart, on and after a date consistent with Section 218.106 of this Part, the owner or operator of a coating line or group of coating lines referenced in this subsection shall collect and record all of the following information each day for each coating line and maintain the information at the source for a period of three years:
- A) The name and identification number of each coating as applied on each coating line; and
  - B) The weight of VOM per volume and the volume of each coating

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(minus water and any compounds that are specifically exempted from the definition of VOM) as applied each day on each coating line.

- 4) For sources exempt under Section 218.208(b) of this Subpart, on and after March 15, 1998, the owner or operator of a coating line or group of coating lines referenced in this subsection (b) shall collect and record all of the following information for each coating line and maintain the information at the source for a period of three years:
    - A) The name and identification number of each coating as applied on each coating line; and
    - B) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied on each coating line on a monthly basis.
  - 5) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a coating line or group of coating lines exempted from the limitations of Section 218.204 of this Subpart because of Section 218.208(a) of this Subpart shall notify the Agency of any record showing that total VOM emissions from the coating line or group of coating lines exceed 6.8 kg (15 lbs) in any day before the application of capture systems and control devices by sending a copy of such record to the Agency within 30 days after the exceedance occurs.
  - 6) On and after March 15, 1998, any owner or operator of a source exempt from the limitations of Section 218.204(l) of this Subpart because of Section 218.208(b) of this Subpart shall notify the Agency if the source's VOM emissions exceed the limitations of Section 218.208(b) of this Subpart by sending a copy of calculations showing such an exceedance within 30 days after the change occurs.
- c) Any owner or operator of a coating line subject to the limitations of Section 218.204 of this Subpart other than Section 218.204(a)(1)(B), (a)(1)(C), (a)(2)(B), (a)(2)(C), or (a)(2)(D) of this Subpart and complying by means of Section 218.204 of this Subpart shall comply with the following:
- 1) By a date consistent with Section 218.106 of this Part, or upon initial start-

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up of a new coating line, or upon changing the method of compliance from an existing subject coating line from Section 218.205, Section 218.207, Section 218.215, or Section 218.216 of this Subpart to Section 218.204 of this Subpart; the owner or operator of a subject coating line shall certify to the Agency that the coating line will be in compliance with Section 218.204 of this Subpart on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date. The certification shall include:

- A) The name and identification number of each coating as applied on each coating line;
- B) The weight of VOM per volume of each coating (minus water and any compounds that are specifically exempted from the definition of VOM) as applied each day on each coating line;
- C) On and after March 15, 1998, for coating lines subject to the limitations of Section 218.204(l)(2)(A) or (B) of this Subpart, the weight of VOM per weight of solids in each coating as applied each day on each coating line;
- D) For coating lines subject to the limitations of Section 218.204(c)(2) of this Subpart, the weight of VOM per weight of solids (or the weight of VOM per weight of coatings, as applicable) in each coating as applied each day on each coating line;
- E) For coating lines subject to the limitations of Section 218.204(g)(2) or (h)(2) of this Subpart, the application methods used to apply coatings on the subject coating line and the weight of VOM per volume of each coating (or the weight of VOM per volume of solids in each coating, as applicable) as applied each day on each coating line;
- F) For coating lines subject to the limitations of Section 218.204(p) of this Subpart, the weight of VOM per volume of coatings or solids, as applicable, for each coating, as applied each day on each coating line;
- G) For coating lines subject to the limitations of Section 218.204(a)(2)(A) of this Subpart, the weight of VOM per volume

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of solids in each coating as applied each day on each coating line, and the solids turnover ratio of the EDP operation, with supporting calculations;

- H) For coating lines subject to the limitations of Section 218.204(a)(2)(E), the weight of VOM per volume and volume of each coating used in the final repair coat operation, and the weight of VOM per volume of the final repair coat as applied each day on each coating line, calculated on an occurrence weighted average basis;
  - I) For coating lines subject to the limitations of Section 218.204(q) of this Subpart, the weight of VOM per volume of each coating, or the weight of VOM per volume of solids in each coating, as applicable, as applied each day on each coating line.
- 2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating line shall collect and record all of the following information each day, unless otherwise specified, for each coating line and maintain the information at the source for a period of three years:
- A) The name and identification number of each coating as applied on each coating line;
  - B) The weight of VOM per volume of each coating (minus water and any compounds that are specifically exempted from the definition of VOM) as applied each day on each coating line;
  - C) On and after March 15, 1998, for coating lines subject to the limitations of Section 218.204(l)(2)(A) or (B) of this Subpart, the weight of VOM per weight of solids in each coating as applied each day on each coating line and certified product data sheets for each coating;
  - D) On and after March 15, 1998, for wood furniture coating spray booths subject to the limitations of Section 218.204(l)(4)(A) of this Subpart, the weight of VOM per weight of solids in each strippable spray booth coating as applied each day on each spray booth and certified product data sheets for each coating;

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- E) For coating lines subject to the limitations of Section 218.204(c)(2) of this Subpart, the weight of VOM per weight of solids (or the weight of VOM per weight of coatings, as applicable) in each coating as applied each day on each coating line, and certified product data sheets for each coating;
  - F) For coating lines subject to the limitations of Section 218.204(g)(2) or 218.204(h)(2) of this Subpart, the weight of VOM per volume of each coating (or the weight of VOM per volume of solids in each coating, as applicable) as applied each day on each coating line, and certified product data sheets for each coating;
  - G) For coating lines subject to the limitations of Section 218.204(p) of this Subpart, the weight of VOM per volume of coatings or solids, as applicable, for each coating, as applied each day on each coating line;
  - H) For coating lines subject to the limitations of Section 218.204(a)(2)(A) of this Subpart, the weight of VOM per volume of solids in each coating as applied each day on each coating line, certified product data sheets for each coating, and the solid turnover ratio for the EDP operation, calculated on a calendar monthly basis, with supporting calculations;
  - I) For coating lines subject to the limitations of Section 218.204(a)(2)(E), the weight of VOM per volume and volume of each coating used in the final repair coat operation, the weight of VOM per volume of the final repair coat as applied, calculated on an occurrence weighted average basis~~as applied each day on each coating line, calculated on an occurrence weighted average basis,~~ and certified product data sheets for each coating;
  - J) For coating lines subject to the limitations of Section 218.204(q) of this Subpart, the weight of VOM per volume of each coating, or the weight of VOM per volume of solids in each coating, as applicable, as applied each day on each coating line, and certified product data sheets for each coating.
- 3) On and after a date consistent with Section 218.106 of this Part, the owner



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or operator of a subject coating line shall notify the Agency in the following instances:

- A) Any record showing violation of Section 218.204 of this Subpart shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.
  - B) At least 30 calendar days before changing the method of compliance from Section 218.204 of this Subpart to Section 218.205 or Section 218.207 of this Subpart, the owner or operator shall comply with all requirements of subsection (d)(1) or; (e)(1); ~~or (i)(1)~~ of this Section, as applicable. Upon changing the method of compliance from Section 218.204 of this Subpart to Section 218.205 of this Subpart or Section 218.207 of this Subpart, the owner or operator shall comply with all requirements of subsection (d) or; (e); ~~or (i)~~ of this Section, as applicable.
- d) Any owner or operator of a coating line subject to the limitations of Section 218.204 of this Subpart and complying by means of Section 218.205 of this Subpart shall comply with the following:
- 1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new coating line, or upon changing the method of compliance for an existing subject coating line from Section 218.204 or Section 218.207 of this Subpart to Section 218.205 of this Subpart; the owner or operator of the subject coating line shall certify to the Agency that the coating line will be in compliance with Section 218.205 of this Subpart on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date. The certification shall include:
    - A) The name and identification number of each coating line which will comply by means of Section 218.205 of this Subpart.
    - B) The name and identification number of each coating as applied on each coating line.
    - C) The weight of VOM per volume and the volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.

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- D) On and after March 15, 1998, for coating lines subject to the limitations of Section 218.204(l)(2)(A) or (B) of this Subpart, the weight of VOM per weight of solids in each coating as applied each day on each coating line.
- E) For coating lines subject to the limitations of Section 218.204(a)(2)(A) of this Subpart, the weight of VOM per volume of solids in each coating as applied each day on each coating line.
- F) For coating lines subject to the limitations of Section 218.204(c)(2) of this Subpart, the weight of VOM per weight of solids (or the weight of VOM per weight of coatings, as applicable) in each coating as applied each day on each coating line.
- G) For coating lines subject to the limitations of Section 218.204(g)(2) or (h)(2) of this Subpart, the weight of VOM per volume of each coating (or the weight of VOM per volume of solids in each coating, as applicable) as applied each day on each coating line.
- H) For coating lines subject to the limitations of Section 218.204(p) of this Subpart, the weight of VOM per volume of coatings or solids, as applicable, for each coating, as applied each day on each coating line.
- I) For coating lines subject to the limitations of Section 218.204(q) of this Subpart, the weight of VOM per volume of each coating, or the weight of VOM per volume of solids in each coating, as applicable, as applied each day on each coating line.
- J) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line.
- K) The method by which the owner or operator will create and maintain records each day as required in subsection (d)(2) of this Section.
- L) An example of the format in which the records required in subsection (d)(2) of this Section will be kept.

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- 2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating line shall collect and record all of the following information each day for each coating line and maintain the information at the source for a period of three years:
- A) The name and identification number of each coating as applied on each coating line.
  - B) The weight of VOM per volume and the volume of each coating (minus water and any compounds that are specifically exempted from the definition of VOM) as applied each day on each coating line.
  - C) On and after March 15, 1998, for coating lines subject to the limitations of Section 218.204(l)(2)(A) or (B) of this Subpart, the weight of VOM per weight of solids in each coating as applied each day on each coating line.
  - D) For coating lines subject to the limitations of Section 218.204(a)(2)(A) of this Subpart, the weight of VOM per volume of solids in each coating as applied each day on each coating line.
  - E) For coating lines subject to the limitations of Section 218.204(c)(2) of this Subpart, the weight of VOM per weight of solids (or the weight of VOM per weight of coatings, as applicable) in each coating as applied each day on each coating line.
  - F) For coating lines subject to the limitations of Section 218.204(g)(2) or (h)(2) of this Subpart, the weight of VOM per volume of each coating (or the weight of VOM per volume of solids in each coating, as applicable) as applied each day on each coating line.
  - G) For coating lines subject to the limitations of Section 218.204(p) of this Subpart, the weight of VOM per volume of coatings or solids, as applicable, for each coating, as applied each day on each coating line.

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- H) For coating lines subject to the limitations of Section 218.204(q) of this Subpart, the weight of VOM per volume of each coating, or the weight of VOM per volume of solids in each coating, as applicable, as applied each day on each coating line.
  - I) The daily-weighted average VOM content of all coatings as applied on each coating line as defined in Section 218.104 of this Part.
- 3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject coating line shall notify the Agency in the following instances:
- A) Any record showing violation of Section 218.205 of this Subpart shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.
  - B) At least 30 calendar days before changing the method of compliance with this Subpart from Section 218.205 of this Subpart to Section 218.204 or Section 218.207 of this Subpart, the owner or operator shall comply with all requirements of subsection (c)(1) or, (e)(1), ~~or (i)(1)~~ of this Section, as applicable. Upon changing the method of compliance with this Subpart from Section 218.205 to Section 218.204 or Section 218.207 of this Subpart, the owner or operator shall comply with all requirements of subsection (c) or, (e), ~~or (i)~~ of this Section, as applicable.
- e) Any owner or operator of a coating line subject to the limitations of Section 218.207 of this Subpart and complying by means of Section 218.207(c), (d), (e), (f), (g), (h), (l), (m), or (n) of this Subpart shall comply with the following:
- 1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new coating line, or upon changing the method of compliance for an existing coating line from Section 218.204 or Section 218.205 of this Subpart to Section 218.207 of this Subpart, the owner or operator of the subject coating line shall perform all tests and submit to the Agency the results of all tests and calculations necessary to demonstrate that the subject coating line will be in compliance with Section 218.207 of this Subpart on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date.

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- 2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating line shall collect and record all of the following information each day for each coating line and maintain the information at the source for a period of three years:
  - A) The weight of VOM per volume of coating solids as applied each day on each coating line, if complying pursuant to Section 218.207(b)(2) of this Subpart.
  - B) Control device monitoring data.
  - C) A log of operating time for the capture system, control device, monitoring equipment and the associated coating line.
  - D) A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
  
- 3) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject coating line shall notify the Agency in the following instances:
  - A) Any record showing violation of Section 218.207 of this Subpart shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.
  - B) At least 30 calendar days before changing the method of compliance with this Subpart from Section 218.207 of this Subpart to Section 218.204 or Section 218.205 of this Subpart, the owner or operator shall comply with all requirements of subsection (c)(1) or (d)(1) of this Section, respectively. Upon changing the method of compliance with this Subpart from Section 218.207 of this Subpart to Section 218.204 or Section 218.205 of this Subpart, the owner or operator shall comply with all requirements of subsection (c) or (d) of this Section, respectively.
  
- f) Any owner or operator of a primer surfacer operation or topcoat operation, or

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combined primer surfacer and topcoat operation, subject to the limitations of Section 218.204(a)(1)(B), (a)(1)(C), (a)(2)(B), (a)(2)(C), or (a)(2)(D) of this Subpart shall comply with the following:

- 1) By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new coating operation, the owner or operator of a subject coating operation shall certify to the Agency that the operation will be in compliance with Section 218.204 of this Subpart on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date. The certification shall include:
  - A) The name and identification number of each coating operation that will comply by means of Section 218.204(a)(1)(B), (a)(1)(C), (a)(2)(B), (a)(2)(C), or (a)(2)(D) of this Subpart and the name and identification number of each coating line in each coating operation.
  - B) The name and identification number of each coating as applied on each coating line in the coating operation.
  - C) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line.
  - D) The transfer efficiency and control efficiency measured for each coating line.
  - E) Test reports, including raw data and calculations documenting the testing performed to measure transfer efficiency and control efficiency.
  - F) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating as applied each day on each coating line.
  - G) The method by which the owner or operator will create and maintain records each day as required in subsection (f)(2) of this Section.
  - H) An example format for presenting the records required in

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subsection (f)(2) of this Section.

- 2) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, the owner or operator of a subject coating operation shall collect and record all of the following information each day for each operation and maintain the information at the source for a period of three years:
    - A) All information necessary to demonstrate compliance with the topcoat protocol referenced in Section 218.105(b)(1)(B) and to calculate the daily-weighted average VOM emissions from the coating operations in kg/l (lbs/gal) of coating solids deposited in accordance with the proposal submitted, and approved pursuant to Section 218.204(a)(1)(B), (a)(1)(C), (a)(2)(B), (a)(2)(C), or (a)(2)(D) of this Subpart including:
    - i) The name and identification number of each coating as applied on each coating operation.
    - ii) The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating operation.
  - B) If a control device or devices are used to control VOM emissions, control device monitoring data; a log of operating time for the capture system, control device, monitoring equipment and the associated coating operation; and a maintenance log for the capture system, control device and monitoring equipment, detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- 3) On and after a date consistent with Section 218.106 of this Part or on and after the initial start-up date, the owner or operator of a subject coating operation shall determine and record the daily VOM emissions in kg/l (lbs/gal) of coating solids deposited in accordance with the proposal submitted and approved pursuant to Section 218.204(a)(1)(B), (a)(1)(C), (a)(2)(B), (a)(2)(C), or (a)(2)(D) of this Subpart within 10 days from the end of the month and maintain this information at the source for a period of three years.

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- 4) On and after a date consistent with Section 218.106 of this Part, the owner or operator of a subject coating operation shall notify the Agency in the following instances:
  - A) Any record showing a violation of Section 218.204(a)(1)(B), (a)(1)(C), (a)(2)(B), (a)(2)(C), or (a)(2)(D) of this Subpart shall be reported by sending a copy of such record to the Agency within 15 days from the end of the month in which the violation occurred.
  - B) The owner or operator shall notify the Agency of any change to the operation at least 30 days before the change is effected. The Agency shall determine whether or not compliance testing is required. If the Agency determines that compliance testing is required, then the owner or operator shall submit a testing proposal to the Agency within 30 days and test within 30 days after the approval of the proposal by the Agency and USEPA.
- g) On and after a date consistent with Section 218.106(e) of this Part, or on and after the initial startup date, whichever is later, the owner or operator of a coating line subject to the requirements of Section 218.218 of this Subpart shall comply with the following:
  - 1) By May 1, 2011, or upon initial startup, whichever is later, submit a certification to the Agency that includes a description of the practices and procedures that the source will follow to ensure compliance with the applicable requirements in Section 218.218 of this Subpart;
  - 2) Notify the Agency of any violation of Section 218.218 of this Subpart by providing a description of the violation and copies of records documenting the violation to the Agency within 30 days following the occurrence of the violation; and
  - 3) Maintain at the source all records required by this subsection (g) for a minimum of three years from the date the document was created and make those records available to the Agency upon request.
- h) On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, whichever is later, the owner or operator of a coating line



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subject to the requirements of Section 218.219 of this Subpart shall comply with the following:

- 1) By May 1, 2012, or upon initial start-up, whichever is later, submit a certification to the Agency that includes:
    - A) A description of the practices and procedures that the source will follow to ensure compliance with the applicable requirements in Section 218.219 of this Subpart;
    - B) For sources subject to Section 218.219(a)(6), the work practices plan specified in that Section;
    - C) For sources subject to Section 218.219(b)(6), the application methods used to apply coatings on the subject coating line;
  - 2) Notify the Agency of any violation of Section 218.219 of this Subpart by providing a description of the violation and copies of records documenting the violation to the Agency within 30 days following the occurrence of the violation; and
  - 3) Maintain at the source all records required by this subsection (h) for a minimum of three years from the date the document was created and make those records available to the Agency upon request.
- i) On and after a date consistent with Section 218.106(f) of this Part, or on and after the initial start-up date, whichever is later, the owner or operator of a flat wood paneling coating line subject to the requirements in Section 218.217 of this Subpart shall comply with the following:
- 1) By August 1, 2010, or upon initial start-up, whichever is later, submit a certification to the Agency that includes a description of the practices and procedures that the source will follow to ensure compliance with the applicable requirements in Section 218.217(c) and (d) of this Subpart; and
  - 2) Notify the Agency of any violation of Section 218.217 of this Subpart by providing a description of the violation and copies of records documenting such violation to the Agency within 30 days following the occurrence of the violation.

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- j) Each owner or operator of a pleasure craft surface coating operation subject to the limitations in Section 218.204(q)(5)(A) through (G) of this Subpart and complying by means of Section 218.207(o) of this Subpart shall comply with the following:
- 1) ~~By a date consistent with Section 218.106 of this Part, or upon initial start-up of a new pleasure craft surface coating operation, whichever is later, or upon changing the method of compliance for an existing subject coating operation from Section 218.204, 218.205, or 218.207(n) of this Subpart to Section 218.207(o) of this Subpart, the owner or operator of a subject coating operation shall perform all tests and calculations necessary to demonstrate that the subject coating line will be in compliance with Section 218.207(o) on and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date.~~
  - 2) ~~On and after a date consistent with Section 218.106 of this Part, or on and after the initial start-up date, whichever is later, the owner or operator of a subject pleasure craft coating operation shall:~~
    - A) ~~Collect and record the following information each month:~~
      - i) ~~The amount of each pleasure craft surface coating used in each subject coating operation;~~
      - ii) ~~The VOM content of each pleasure craft surface coating used in each subject coating operation;~~
      - iii) ~~Total monthly VOM emissions for all subject pleasure craft surface coating operations;~~
    - B) ~~At the end of the first 12-month averaging period, and at the end of each subsequent month, collect and record the following information:~~
      - i) ~~The VOM mass emission limit for all subject pleasure craft surface coating operations for the applicable 12-month averaging period, with supporting calculations;~~

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- ii) ~~The total actual emissions of VOM from all subject pleasure craft surface coating operations for the applicable 12-month averaging period;~~
- C) ~~Notify the Agency in writing of any violation of the requirements of Section 218.207(o) within 30 days following the occurrence of the violation and provide records documenting the violation upon request by the Agency;~~
- D) ~~Notify the Agency in writing at least 30 calendar days before changing the method of compliance with this Subpart from Section 218.207(o) to Section 218.204, 218.205, or 218.207(n). Upon changing the method of compliance, the owner or operator shall comply with all requirements set forth in subsection (c), (d), or (e) of this Section, as applicable;~~
- E) ~~Maintain at the source all records required by this subsection (j) for a minimum of three years from the date the document was created, and provide such records to the Agency upon request.~~

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.217 Wood Furniture Coating and Flat Wood Paneling Coating Work Practice Standards**

- a) Spray booth cleaning. Each owner or operator of a source subject to the limitations of Section 218.204(l) of this Subpart shall not use compounds containing more than 8.0 percent, by weight, of VOM for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, and 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 affected source shall use no more than 1.0 gallon of organic solvent to prepare the booth prior to applying the booth coating.
- b) Application equipment requirements. No owner or operator of a source subject to the limitations of Section 218.204(l) of this Subpart shall use conventional air spray guns to apply coating materials to wood furniture under the circumstances specified in subsections (b)(1) through (4) of this Section:

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- 1) To apply coating materials that have a VOM content no greater than 1.0 kg VOM/kg solids (1.0 lb VOM/lb solids), as applied;
  - 2) For repair coating under the following circumstances:
    - A) The coating materials are applied after the completion of the coating operation; or
    - B) The coating materials are applied after the stain and before any other type of coating material is applied, and the coating materials are applied from a container that has a volume of no more than 2.0 gallons;
  - 3) If the spray gun is aimed and triggered automatically, rather than manually; or
  - 4) If emissions from the finishing application station are directed to a control device pursuant to Section 218.216 of this Subpart
- c) Cleaning and storage requirements. Each owner or operator of a source subject to the limitations of Section 218.204(l) or (p) of this Subpart shall:
- 1) Keep, store, and dispose of all coating, cleaning, and washoff materials in closed containers;
  - 2) Pump or drain all organic solvent used for line cleaning into closed containers;
  - 3) Collect all organic solvent used to clean spray guns in closed containers; and
  - 4) Control emissions from washoff operations by using closed tanks.
- d) Additional cleaning and storage requirements for flat wood paneling coating lines. Every owner or operator of a source subject to the limitations of Section 218.204(p) of this Subpart shall:
- 1) Minimize spills of VOM-containing coatings, thinners, and cleaning materials and clean up spills immediately;

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- 2) Minimize emissions of VOM during the cleaning of storage, mixing, and conveying equipment;~~and~~
- 3) Keep mixing vessels that contain VOM-containing coatings and other VOM-containing materials closed except when specifically in use;:-
- 4) On and after January 1, 2012, convey VOM-containing coatings, thinners, and cleaning materials in closed containers or pipes.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

SUBPART H: PRINTING AND PUBLISHING

**Section 218.401 Flexographic and Rotogravure Printing**

- a) No owner or operator of a subject flexographic or rotogravure printing line shall apply at any time any coating or ink unless the VOM content does not exceed the limitation specified in either subsection (a)(1) or (a)(2), as applicable. Compliance with this Section must be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.404(c) of this Part. As an alternative to compliance with this subsection, a subject printing line may meet the requirements of subsection (b) or (c).
  - 1) Prior to August 1, 2010, either:
    - A Forty percent VOM by volume of the coating and ink (minus water and any compounds which are specifically exempted from the definition of VOM); or
    - B) Twenty-five percent VOM by volume of the volatile content in the coating and ink; and
  - 2) On and after August 1, 2010:
    - A) For owners operators of flexographic or rotogravure printing lines that do not print flexible packaging, either:
      - i) Forty percent VOM by volume of the coating and ink

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(minus water and any compounds that are specifically exempted from the definition of VOM); or

- ii) Twenty-five percent VOM by volume of the volatile content in the coating and ink;

B) For owners or operators of flexographic or rotogravure printing lines that print flexible packaging, or that print flexible packaging and non-flexible packaging on the same line, either:

- i) 0.8 kg VOM/kg (0.8 lbs VOM/lb) solids applied; or
- ii) 0.16 kg VOM/kg (0.16 lbs VOM/lb) inks and coatings applied.

b) Weighted Averaging Alternative

1) Prior to August 1, 2010, no owner or operator of a subject flexographic or rotogravure printing line shall apply coatings or inks on the subject printing line unless the weighted average, by volume, VOM content of all coatings and inks as applied each day on the subject printing line does not exceed the limitation specified in either subsection (a)(1)(A) (as determined by subsection (b)(1)(A)) or subsection (a)(1)(B) (as determined by subsection (b)(1)(B)). Compliance with this subsection must be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.404(d) of this Part.

A) The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(1)(A) of this Section.

$$VOM_{(i)(A)} = \frac{\sum_{i=1}^n C_i L_i (V_{si} + V_{VOMi})}{\sum_{i=1}^n L_i (V_{si} + V_{VOMi})}$$

where:

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$VOM_{(i)(A)}$  = The weighted average VOM content in units of percent VOM by volume of all coatings and inks (minus water and any compounds that are specifically exempted from the definition of VOM) used each day;

$i$  = Subscript denoting a specific coating or ink as applied;

$n$  = The number of different coatings and/or inks as applied each day on a printing line;

$C_i$  = The VOM content in units of percent VOM by volume of each coating or ink as applied (minus water and any compounds that are specifically exempted from the definition of VOM);

$L_i$  = The liquid volume of each coating or ink as applied in units of l (gal);

$V_{si}$  = The volume fraction of solids in each coating or ink as applied; and

$V_{VOMi}$  = The volume fraction of VOM in each coating or ink as applied.

B) The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(1)(B) of this Section.

$$VOM_{(i)(B)} = \frac{\sum_{i=1}^n C_i L_i V_{VOMi}}{\sum_{i=1}^n L_i V_{VOMi}}$$

where:

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$VOM_{(i)(B)}$  = The weighted average VOM content in units of percent VOM by volume of the volatile content of all coatings and inks used each day;

$i$  = Subscript denoting a specific coating or ink as applied;

$n$  = The number of different coatings and/or inks as applied each day on each printing line;

$C_i$  = The VOM content in units of percent VOM by volume of the volatile matter in each coating or ink as applied;

$L_i$  = The liquid volume of each coating or ink as applied in units of l (gal) and

$V_{VMi}$  = The volume fraction of volatile matter in each coating or ink as applied.

- 2) On and after August 1, 2010, no owner or operator of a subject flexographic or rotogravure printing line that does not print flexible packaging shall apply coatings or inks on the subject printing line unless the weighted average, by weight, VOM content of all coatings and inks as applied each day on the subject printing line does not exceed the limitation specified in either subsection (a)(2)(A)(i) (calculated in accordance with the equation in subsection (b)(1)(A)) or (a)(2)(A)(ii) (calculated in accordance with the equation in subsection (b)(1)(B)) of this Section. Compliance with this subsection (b)(2) shall be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.404(d) of this Subpart.
- 3) On and after August 1, 2010, no owner or operator of a subject flexographic or rotogravure printing line that prints flexible packaging, or that prints flexible packaging and non-flexible packaging on the same line, shall apply coatings or inks on the subject printing line unless the weighted average, by weight, VOM content of all coatings and inks as applied each day on the subject printing line does not exceed the limitation specified in either subsection (a)(2)(B)(i) (calculated in accordance with the equation in subsection (b)(3)(A)) or subsection (a)(2)(B)(ii) (calculated in accordance with the equation in subsection (b)(3)(B)) of this Section.



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Compliance with this subsection (b)(3) shall be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.404(d) of this Subpart.

- A) The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(2)(B)(i) of this Section.

$$VOM_{(A)} = \frac{\sum_{i=1}^n C_i W_i}{\sum_{i=1}^n W_i}$$

where:

- $VOM_{(A)}$  = The weighted average VOM content in units of kg VOM per kg (lbs VOM per lb) solids of all coatings and inks used each day;
- $i$  = Subscript denoting a specific coating or ink as applied;
- $n$  = The number of different coatings and/or inks as applied each day on a printing line;
- $C_i$  = The VOM content in units of kg VOM per kg (lbs VOM per lb) solids of each coating or ink as applied;
- $W_i$  = Weight of solids in each coating or ink, as applied, in units of kg/l (lb/gal).

- B) The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(2)(B)(ii) of this Section.

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$$VOM_{(B)} = \frac{\sum_{i=1}^n C_i L_i}{\sum_{i=1}^n L_i}$$

where:

$VOM_{(B)}$  = The weighted average VOM content in units of kg (lbs) VOM per weight in kg (lbs) of all coatings or inks as applied each day;

$i$  = Subscript denoting a specific coating or ink as applied;

$n$  = The number of different coatings and/or inks as applied each day on each printing line;

$C_i$  = The VOM content in units of kg (lbs) VOM per weight in kg (lbs) of each coating or ink as applied;

$L_i$  = The weight of each coating or ink, as applied, in units of kg/lb (lb/gal).

c) Capture System and Control Device Requirements

1) Prior to August 1, 2010, no owner or operator of a subject flexographic or rotogravure printing line equipped with a capture system and control device shall operate the subject printing line unless the owner or operator meets the requirements in subsection (c)(1)(A)(i), (c)(1)(A)(ii), or (c)(1)(A)(iii), as well as subsections (c)(1)(D), (c)(5), and (c)(6).

A One of:

i) A carbon adsorption system is used that reduces the captured VOM emissions by at least 90 percent by weight; or

ii) An incineration system is used that reduces the captured VOM emissions by at least 90 percent by weight; or

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- iii) An alternative VOM emission reduction system is used that is demonstrated to have at least a 90 percent control device efficiency, approved by the Agency and approved by USEPA as a SIP revision; and
- B) The printing line is equipped with a capture system and control device that provides an overall reduction in VOM emissions of at least:
  - i) 75 percent where a publication rotogravure printing line is employed; or
  - ii) 65 percent where a packaging rotogravure printing line is employed; or
  - iii) 60 percent where a flexographic printing line is employed;
- 2) On and after August 1, 2010, no owner or operator of a flexographic or rotogravure printing line that does not print flexible packaging and that is equipped with a capture system and control device shall operate the subject printing line unless the owner or operator meets the requirements in subsection (c)(1)(A)(i), (c)(1)(A)(ii), or (c)(1)(A)(iii), as well as subsections (c)(1)(B), (c)(5), and (c)(6) of this Section;
- 3) On and after August 1, 2010, no owner or operator of a flexographic or rotogravure printing line that prints flexible packaging and that is equipped with a capture system and control device shall operate the subject printing line unless the owner or operator meets the requirements in subsections (c)(5) and (c)(6) of this Section and the capture system and control device provides an overall reduction in VOM emissions of at least:
  - A) 65 percent in cases in which a subject printing line was first constructed at the subject source prior to March 14, 1995 and utilizes a control device that was first constructed at the subject source prior to January 1, 2010; or
  - B) 70 percent when a subject printing line was first constructed at the subject source prior to March 14, 1995 and utilizes a control device that was first constructed at the subject source on or after January 1, 2010; or

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- C) 75 percent when a subject printing line was first constructed at the subject source on or after March 14, 1995 and utilizes a control device that was first constructed at the subject source prior to January 1, 2010; or
  - D) 80 percent when a subject printing line was first constructed at the subject source on or after March 14, 1995 and utilizes a control device that was first constructed at the subject source on or after January 1, 2010;
- 4) On and after August 1, 2010, the owner or operator of a flexographic or rotogravure printing line that prints flexible packaging and non-flexible packaging on the same line and that is equipped with a control device shall be subject to the requirements of either subsection (c)(1)(B) or (c)(3) of this Section, whichever is more stringent, as well as subsections (c)(5) and (c)(6) of this Section;
  - 5) The control device is equipped with the applicable monitoring equipment specified in Section 218.105(d)(2) of this Part and except as provided in Section 218.105(d)(3) of this Part, the monitoring equipment is installed, calibrated, operated and maintained according to vendor specifications at all times the control device is in use; and
  - 6) The capture system and control device are operated at all times when the subject printing line is in operation. The owner or operator shall demonstrate compliance with this subsection by using the applicable capture system and control device test methods and procedures specified in Section 218.105(c) through Section 218.105(f) of this Part and by complying with the recordkeeping and reporting requirements specified in Section 218.404(e) of this Part. The owner or operator of a printing line subject to the requirements in subsection (c)(1)(B) or (c)(2) of this Section that performed all testing necessary to demonstrate compliance with subsection (c)(1)(B) prior to August 1, 2010 is not required to retest pursuant to this subsection (c)(6). The owner or operator of a printing line subject to the requirements in subsection (c)(3) shall perform testing in compliance with this subsection (c)(6), even if the owner or operator already performed such testing prior to August 1, 2010, unless the following conditions are met. Nothing in this subsection (c)(6), however,

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shall limit the Agency's ability to require that the owner or operator perform testing pursuant to 35 Ill. Adm. Code 201.282:

- A) On or after May 1, 2000, the owner or operator of the subject printing line performed all testing necessary to demonstrate compliance with subsection (c)(1)(B);
  - B) Such testing also demonstrated an overall control efficiency equal to or greater than the applicable control efficiency requirements in subsection (c)(3);
  - C) The owner or operator submitted the results of such tests to the Agency, and the tests were not rejected by the Agency;
  - D) The same capture system and control device subject to the tests referenced in subsection (c)(6)(A) of this Section is still being used by the subject printing line; and
  - E) The owner or operator complies with all recordkeeping and reporting requirements in Section 218.404(e)(1)(B).
- d) No owner or operator of subject flexographic or rotogravure printing lines that print flexible packaging or print flexible packaging and non-flexible packaging on the same line shall cause or allow VOM containing cleaning materials, including used cleaning towels, associated with the subject flexographic or rotogravure printing lines to be kept, stored, or disposed of in any manner other than in closed containers, or conveyed from one location to another in any manner other than in closed containers or pipes, except when specifically in use.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.402 Applicability**

- a) Except as otherwise provided in Section 218.401, the limitations of Section 218.401 of this Subpart apply to all flexographic and rotogravure printing lines at a subject source. Sources with flexographic and/or rotogravure printing lines are subject sources if:
  - 1) Total maximum theoretical emissions of VOM from all flexographic and rotogravure printing lines (including solvents used for cleanup operations

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associated with flexographic and rotogravure printing lines) at the source ever exceed 90.7 Mg (100 tons) per calendar year and the flexographic and rotogravure printing lines (including solvents used for cleanup operations associated with flexographic and rotogravure printing lines) at the source are not limited to less than 90.7 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment through production or capacity limitations contained in a federally enforceable permit or a SIP revision; or

- 2) The flexographic and rotogravure printing lines (including solvents used for cleanup operations associated with flexographic and rotogravure printing lines) at the source have a combined potential to emit 22.7 Mg (25 tons) or more of VOM per year.
- b) The limitations of Section 218.401(d) shall apply to all owners or operators of flexographic or rotogravure printing lines that print flexible packaging, or that print flexible packaging and non-flexible packaging on the same line, at a source where the combined emissions of VOM from all flexographic and rotogravure printing lines total 6.8 kg/day (15 lbs/day) or more (including solvents used for cleanup operations associated with flexographic and rotogravure printing lines), in the absence of air pollution control equipment.
- c) Upon achieving compliance with this Subpart, the flexographic and rotogravure printing lines are not required to meet Subpart G (Section 218.301 or 218.302 of this Part). Flexographic and rotogravure printing lines exempt from this Subpart are subject to Subpart G (Section 218.301 or 218.302 of this Part). Rotogravure or flexographic equipment used for both roll printing and paper coating is subject to this Subpart.
- d) Once subject to the limitations of Section 218.401, a flexographic or rotogravure printing line is always subject to the limitations of Section 218.401 of this Part.
- e) Any owner or operator of any flexographic or rotogravure printing line that is exempt from any of the limitations of Section 218.401 of this Part because of the criteria in this Section is subject to the recordkeeping and reporting requirements specified in Section 218.404(b) and (f) of this Part, as applicable.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.404 Recordkeeping and Reporting**

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- a) The VOM content of each coating and ink and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in Section 218.105 of this Part to establish the records required under this Section.
- b) Any owner or operator of a printing line which is exempted from any of the limitations of Section 218.401 of this Part because of the criteria in Section 218.402(a) of this Part shall comply with the following:
- 1) By a date consistent with Section 218.106 of this Part or, for flexographic or rotogravure printing lines that print flexible packaging or that print flexible packaging and non-flexible packaging on the same line, by January 1, 2012, ~~August 1, 2010~~, the owner or operator of a flexographic or rotogravure printing line to which this subsection (b) is applicable shall certify to the Agency that the flexographic and rotogravure printing line is exempt under the provisions of Section 218.402(a) of this Part. Such certification shall include:
- A) A declaration that the flexographic and rotogravure printing line is exempt from the limitations of the criteria in Section 218.401 of this Part because of Section 218.402(a) of this Part; and
- B) Calculations ~~that~~which demonstrate that the combined potential to emit of all flexographic and rotogravure printing lines at the source never equals or exceeds 22.7 Mg (25 tons) of VOM per year, and that total maximum theoretical emissions of VOM from all flexographic and rotogravure printing lines at the source never exceed 90.7 Mg (100 tons) per calendar year before the application of capture systems and control devices. Total maximum theoretical emissions of VOM for a flexographic or rotogravure printing source is the sum of maximum theoretical emissions of VOM from each flexographic and rotogravure printing line at the source. The following equation shall be used to calculate total maximum theoretical emissions of VOM per calendar year before the application of capture systems and control devices for each flexographic and rotogravure printing line at the source:

$$E_p = A \times B + 1095 (C \times D \times F)$$

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where:

$E_p$  = Total maximum theoretical emissions of VOM from one flexographic or rotogravure printing line in units of kg/year (lbs/year);

A = Weight of VOM per volume of solids of the coating or ink with the highest VOM content as applied each year on the printing line in units of kg VOM/l (lbs VOM/gal) of coating or ink solids;

B = Total volume of solids for all coatings and inks that can potentially be applied each year on the printing line in units of l/year (gal/year). The method by which the owner or operator accurately calculated the volume of each coating and ink as applied and the amount that can potentially be applied each year on the printing line shall be described in the certification to the Agency;

C = Weight of VOM per volume of material for the cleanup material or solvent with the highest VOM content as used each year on the printing line in units of kg/l (lbs VOM/gal);

D = The greatest volume of cleanup material or solvent used in any 8-hour period;

F = The highest fraction of cleanup material or solvent which is not recycled or recovered for offsite disposal during any 8-hour period.

- 2) On and after a date consistent with Section 218.106 of this Part, or, for flexographic or rotogravure printing lines that print flexible packaging or that print flexible packaging and non-flexible packaging on the same line, on and after January 1, 2012, the owner or operator of a flexographic and rotogravure printing line referenced in this subsection shall collect and record all of the following information each year for each printing line and maintain the information at the source for a period of three years:

- A) The name and identification number of each coating and ink as applied on each printing line.



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- B) The VOM content and the volume of each coating and ink as applied each year on each printing line.
- 3) On and after a date consistent with Section 218.106 of this Part, or, for flexographic or rotogravure printing lines that print flexible packaging or that print flexible packaging and non-flexible packaging on the same line, on and after January 1, 2012, the owner or operator of a flexographic and rotogravure printing line exempted from the limitations of Section 218.401 of this Part because of the criteria in Section 218.402(a) of this Part shall notify the Agency of any record showing that total maximum theoretical emissions of VOM from all printing lines exceed 90.7 Mg (100 tons) in any calendar year before the application of capture systems and control devices, or that the combined potential to emit of all flexographic and rotogravure printing lines at the source equals or exceeds 22.7 Mg (25 tons) of VOM in any calendar year, by sending a copy of such record to the Agency within 30 days after the exceedance occurs.
- c) Any owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(a) of this Part shall comply with the following:
- 1) By a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or upon initial start-up of a new printing line, or upon changing the method of compliance from an existing subject printing line from Section 218.401(b) or Section 218.401(c) of this Part to Section 218.401(a) of this Part, the owner or operator of a subject printing line shall certify to the Agency that the printing line will be in compliance with Section 218.401(a) of this Part on and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or on and after the initial start-up date. The owner or operator of a printing line subject to the requirements in Section 218.401(a)(2)(B) shall certify in accordance with this subsection (c)(1) even if the owner or operator of such line submitted a certification prior to January 1, 2010. Such certification shall include:
    - A) The name and identification number of each coating and ink as applied on each printing line.
    - B) The VOM content of each coating and ink as applied each day on each printing line.

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- 2) On and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(a) of this Part shall collect and record all of the following information each day for each coating line and maintain the information at the source for a period of three years:
  - A) The name and identification number of each coating and ink as applied on each printing line.
  - B) The VOM content of each coating and ink as applied each day on each printing line.
- 3) On and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, the owner or operator of a subject printing line shall notify the Agency in the following instances:
  - A) Any record showing violation of Section 218.401(a) of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.
  - B) At least 30 calendar days before changing the method of compliance with Section 218.401 of this Part from Section 218.401(a) of this Part to Section 218.401(b) or (c) of this Part, the owner or operator shall comply with all requirements of subsection (d)(1) or (e)(1) of this Section, respectively. Upon changing the method of compliance with Section 218.401 of this Part from Section 218.401(a) of this Part to Section 218.401(b) or (c) of this Part, the owner or operator shall comply with all requirements of subsection (d) or (e) of this Section, respectively.
- d) Any owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(b) shall comply with the following:
  - 1) By a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing subject printing

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line from Section 218.401(a) or (c) of this Part to Section 218.401(b) of this Part, the owner or operator of the subject printing line shall certify to the Agency that the printing line will be in compliance with Section 218.401(b) of this Part on and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or on and after the initial start-up date. The owner or operator of a printing line subject to the requirements in Section 218.401(b)(3) shall certify in accordance with this subsection (d)(1) even if the owner or operator of such line submitted a certification prior to January 1, 2010. Such certification shall include:

- A) The name and identification number of each printing line which will comply by means of Section 218.401(b) of this Part.
  - B) The name and identification number of each coating and ink available for use on each printing line.
  - C) The VOM content of each coating and ink as applied each day on each printing line.
  - D) The method by which the owner or operator will accurately calculate the volume, or weight of solids, as applicable, of each coating and ink as applied each day on each printing line, and on and after January 1, 2012, the weight of each coating or ink.
  - E) The method by which the owner or operator will create and maintain records each day as required in subsection (d)(2) of this Section.
  - F) An example of the format in which the records required in subsection (d)(2) of this Section will be kept.
- 2) On and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(b) of this Part shall collect and record all of the following information each day for each printing line and maintain the information at the source for a period of three years:
- A) The name and identification number of each coating and ink as

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applied on each printing line.

- B) The VOM content and the volume, or weight of solids, as applicable, of each coating and ink as applied each day on each printing line, and on and after January 1, 2012, the weight of each coating or ink.
  - C) The daily-weighted average VOM content of all coatings and inks as applied on each printing line.
- 3) On and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, the owner or operator of a subject printing line shall notify the Agency in the following instances:
- A) Any record showing violation of Section 218.401(b) of this Part shall be reported by sending a copy of such record to the Agency within 30 days following the occurrence of the violation.
  - B) At least 30 calendar days before changing the method of compliance with Section 218.401 of this Part from Section 218.401(b) of this Part to Section 218.401(a) or (c) of this Part, the owner or operator shall comply with all requirements of subsection (c)(1) or (e)(1) of this Section, respectively. Upon changing the method of compliance with Section 218.401 of this Part from Section 218.401(b) of this Part to Section 218.401(a) or (c) of this Part, the owner or operator shall comply with all requirements of subsection (c) or (e) of this Section, respectively.
- e) Any owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(c) of this Part shall comply with the following:
- 1) By a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or upon initial start-up of a new printing line, or upon changing the method of compliance for an existing printing line from Section 218.401(a) or (b) of this Part to Section 218.401(c) of this Part, the owner or operator of the subject printing line shall either:
    - A) Perform all tests and submit to the Agency the results of all tests and calculations necessary to demonstrate that the subject printing

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line will be in compliance with Section 218.401(c) of this Part on and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or on and after the initial start-up date; or

- B) If not required to perform such testing pursuant to Section 218.401(c)(6), submit a certification to the Agency that includes:
  - i) A declaration that the owner or operator is not required to perform testing pursuant to Section 218.401(c)(6);
  - ii) The dates that testing demonstrating compliance with Section 218.401(c)(3) was performed; and
  - iii) The dates that the results of such testing were submitted to the Agency.
  
- 2) On and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, or on and after the initial start-up date, the owner or operator of a printing line subject to the limitations of Section 218.401 of this Part and complying by means of Section 218.401(c) of this Part shall collect and record all of the following information each day for each printing line and maintain the information at the facility for a period of three years:
  - A) Control device monitoring data.
  - B) A log of operating time for the capture system, control device, monitoring equipment and the associated printing line.
  - C) A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
  
- 3) On and after a date consistent with Section 218.106 of this Part, or Section 218.403(e), as applicable, the owner or operator of a subject printing line shall notify the Agency in the following instances:
  - A) Any record showing violation of Section 218.401(c) of this Part shall be reported by sending a copy of such record to the Agency

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within 30 days following the occurrence of the violation.

- B) At least 30 calendar days before changing the method of compliance with Section 218.401 of this Part from Section 218.401(c) of this Part to Section 218.401(a) or (b) of this Part, the owner or operator shall comply with all requirements of subsection (c)(1) or (d)(1) of this Section, respectively. Upon changing the method of compliance with Section 218.401 of this Part from Section 218.401(c) of this Part to Section 218.401(a) or (b) of this Part, the owner or operator shall comply with all requirements of subsection (c) or (d) of this Section, respectively.
- 4) By August 1, 2010, or upon initial start-up of a new printing line, whichever is later, the owner or operator of a printing line subject to the requirements in Section 218.401(c)(3) or (c)(4) shall submit to the Agency records documenting the date the printing line was constructed at the subject source and the date the control device for such printing line was constructed at the subject source.
- f) Any owner or operator of a flexographic or rotogravure printing line that prints flexible packaging, or that prints flexible packaging and non-flexible packaging on the same line, and that is exempt from the limitations of Section 218.401(d) because of the criteria in Section 218.402(b) shall:
  - 1) By August 1, 2010, or upon initial start-up of a new printing line, whichever is later, and upon modification of a printing line, submit a certification to the Agency that includes:
    - A) A declaration that the source is exempt from the requirements in Section 218.401(d) because of the criteria in Section 218.402(b);
    - B) Calculations that demonstrate that combined emissions of VOM from all flexographic and rotogravure printing lines (including inks and solvents used for cleanup operations associated with such printing lines) at the source never equal or exceed 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment; ~~and~~
  - 2) On and after January 1, 2012, collect and record the following information each day for each subject printing line:

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- A) The name and identification number of each coating, ink, and cleaning solvent as applied each day on each printing line;
  - B) The VOM content of each coating and ink (measured in weight of VOM per volume of coating or ink, or in weight of VOM per weight of coating or ink) as applied each day on each printing line, and the volume or weight of each coating or ink, as applicable;
  - C) The weight of VOM per volume of each cleaning solvent and the volume of each cleaning solvent used each day on each printing line;
  - D) The total daily emissions of VOM from each printing line (including solvents used for cleanup operations associated with the printing line) and the sum of daily emissions from all subject printing lines at the source; and
- 32) Notify the Agency in writing if the combined emissions of VOM from all flexographic and rotogravure printing lines (including inks and solvents used for cleanup operations associated with the flexographic and rotogravure lines) at the source ever equal or exceed 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment, within 30 days after the event occurs
- g) Any owner or operator of a printing line subject to the limitations of Section 218.401(d) shall:
- 1) By August 1, 2010, or upon initial start-up of a new printing line, whichever is later, submit a certification to the Agency describing the practices and procedures that the owner or operator will follow to ensure compliance with the limitations of Section 218.401(d); and
  - 2) Notify the Agency of any violation of Section 218.401(d) by sending a description of the violation and copies of records documenting such violations to the Agency within 30 days following the occurrence of the violation.
- h) All records required by subsections (f) and (g) of this Section shall be retained for at least three years and shall be made available to the Agency upon request.

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(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.409 Testing for Lithographic Printing**

- a) Testing to demonstrate compliance with the requirements of Section 218.407 of this Subpart shall be conducted by January 1, 2012, unless such testing was conducted on or after May 9, 1995, the test was conducted pursuant to a test method approved by USEPA, the current operating conditions and operating capacity of the press are consistent with the operation of the press during such testing, and the test results were submitted to the Agency. If an owner or operator of a printing line performed such testing prior to May 9, 1995, the owner or operator shall either retest pursuant to this Section or submit to the Agency all information necessary to demonstrate that the prior testing was conducted pursuant to a test method approved by USEPA, and that the current operating conditions and operating capacity of the press are consistent with the operation of the press during prior testing. Thereafter, testing shall be conducted by the owner or operator within 90 days after a request by the Agency, or as otherwise specified in this Subpart. Such testing shall be conducted at the expense of the owner or operator and the owner or operator shall notify the Agency in writing 30 days in advance of conducting such testing to allow the Agency to be present during such testing.
- b) The methods and procedures of Section 218.105(d) and (f) shall be used for testing to demonstrate compliance with the requirements of Section 218.407(a)(1)(C) or (b)(1) of this Subpart, as follows:
- 1) To select the sampling sites, Method 1 or 1A, as appropriate, 40 CFR 60, appendix A, incorporated by reference at Section 218.112 of this Part. The sampling sites for determining efficiency in reducing VOM from the dryer exhaust shall be located between the dryer exhaust and the control device inlet, and between the outlet of the control device and the exhaust to the atmosphere;
  - 2) To determine the volumetric flow rate of the exhaust stream, Method 2, 2A, 2C, or 2D, as appropriate, 40 CFR 60, appendix A, incorporated by reference at Section 218.112 of this Part;
  - 3) To determine the VOM concentration of the exhaust stream entering and exiting the control device, Method 25 or 25A, as appropriate, 40 CFR 60, appendix A, incorporated by reference at Section 218.112 of this Part. For



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thermal and catalytic afterburners, Method 25 must be used except under the following circumstances, in which case Method 25A must be used:

- A) The allowable outlet concentration of VOM from the control device is less than 50 ppmv, as carbon;
  - B) The VOM concentration at the inlet of the control device and the required level of control result in exhaust concentrations of VOM of 50 ppmv, or less, as carbon; and
  - C) Due to the high efficiency of the control device, the anticipated VOM concentration at the control device exhaust is 50 ppmv or less, as carbon, regardless of inlet concentration. If the source elects to use Method 25A under this option, the exhaust VOM concentration must be 50 ppmv or less, as carbon, and the required destruction efficiency must be met for the source to have demonstrated compliance. If the Method 25A test results show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, a retest is required. The retest shall be conducted using either Method 25 or Method 25A. If the retest is conducted using Method 25A and the test results again show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, the source must retest using Method 25;
- 4) Notwithstanding the criteria or requirements in Method 25 that specifies a minimum probe temperature of 129°C (265°F), the probe must be heated to at least the gas stream temperature of the dryer exhaust, typically close to 176.7°C (350°F);
  - 5) During testing, the printing lines shall be operated at representative operating conditions and flow rates; and
  - 6) During testing, an air flow direction indicating device, such as a smoke stick, shall be used to demonstrate 100 percent emissions capture efficiency for the dryer in accordance with Section 218.407(a)(1)(B) of this Subpart.
- c) Testing to demonstrate compliance with the VOM content limitations in Section 218.407(a)(1)(A), (a)(2), (a)(3) and (a)(4)(A) of this Subpart, and to determine the

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VOM content of fountain solutions, fountain solution additives, cleaning solvents, cleaning solutions, and inks (pursuant to the requirements of Section 218.411(a)(1)(B), (b)(1)(B), or (b)(2)(B) of this Subpart, as applicable, shall be conducted upon request of the Agency or as otherwise specified in this Subpart, as follows:

- 1) The applicable test methods and procedures specified in Section 218.105(a) of this Part shall be used; provided, however, Method 24, incorporated by reference at Section 218.112 of this Part, shall be used to demonstrate compliance; or
- 2) The manufacturer's specifications for VOM content for fountain solution additives, cleaning solvents, and inks may be used if such manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in Section 218.105(a) of this Part; provided, however, Method 24 shall be used to determine compliance.
- d) Testing to demonstrate compliance with the requirements of Section 218.407(b) of this Subpart shall be conducted as set forth in the owner or operator's plan approved by the Agency and USEPA as federally enforceable permit conditions pursuant to Section 218.407(b) of this Subpart.
- e) Testing to determine the VOM composite partial vapor pressure of cleaning solvents, cleaning solvent concentrates, and as-used cleaning solutions shall be conducted in accordance with the applicable methods and procedures specified in Section 218.110 of this Part.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.411 Recordkeeping and Reporting for Lithographic Printing**

- a) Exempt Units prior to August 1, 2010. An owner or operator of lithographic printing lines exempt from the limitations of Section 218.407 of this Subpart prior to August 1, 2010, because of the criteria in Section 218.405(b) of this Subpart, shall comply with the following:
  - 1) Upon initial start-up of a new lithographic printing line, and upon modification of a lithographic printing line, submit a certification to the Agency that includes:

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- A) A declaration that the source is exempt from the control requirements in Section 218.407 of this Part because of the criteria in Section 218.405(b) of this Subpart;
  
- B) Calculations that demonstrate that combined emissions of VOM from all lithographic printing lines (including inks, fountain solutions, and solvents used for cleanup operations associated with the lithographic printing lines) at the source never exceed 45.5 kg/day (100 lbs/day) before the use of capture systems and control devices, as follows:
  - i) To calculate daily emissions of VOM, the owner or operator shall determine the monthly emissions of VOM from all lithographic printing lines at the source (including solvents used for cleanup operations associated with the lithographic printing lines) and divide this amount by the number of days during that calendar month that lithographic printing lines at the source were in operation;
  
  - ii) To determine the VOM content of the inks, fountain solution additives and cleaning solvents, the tests methods and procedures set forth in Section 218.409(c) of this Subpart shall be used;
  
  - iii) To determine VOM emissions from inks used on lithographic printing lines at the source, an ink emission adjustment factor of 0.05 shall be used in calculating emissions from all non-heatset inks except when using an impervious substrate, and a factor of 0.80 shall be used in calculating emissions from all heatset inks to account for VOM retention in the substrate except when using an impervious substrate. For impervious substrates such as metal or plastic, no emission adjustment factor is used. The VOM content of the ink, as used, shall be multiplied by this factor to determine the amount of VOM emissions from the use of ink on the printing lines; and
  
  - iv) To determine VOM emissions from fountain solutions and cleaning solvents used on lithographic printing lines at the source, no retention factor is used;

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- C) Either a declaration that the source, through federally enforceable permit conditions, has limited its maximum theoretical emissions of VOM from all heatset web offset lithographic printing lines (including solvents used for cleanup operations associated with heatset web offset printing lines) at the source to no more than 90.7 Mg (100 tons) per calendar year before the application of capture systems and control devices or calculations which demonstrate that the source's total maximum theoretical emissions of VOM do not exceed 90.7 Mg/yr (100 tons/yr). Total maximum theoretical emissions of VOM for a heatset web offset lithographic printing source is the sum of maximum theoretical emissions of VOM from each heatset web offset lithographic printing line at the source. The following equation shall be used to calculate total maximum theoretical emissions of VOM per calendar year in the absence of air pollution control equipment for each heatset web offset lithographic printing line at the source:

$$E_p = (R \times A \times B) + (C \times D) + 1095 (F \times G \times H)$$

where:

- $E_p$  = Total maximum theoretical emissions of VOM from one heatset web offset printing line in units of kg/yr (lb/yr);
- A = Weight of VOM per volume of solids of ink with the highest VOM content as applied each year on the printing line in units of kg/l (lb/gal) of solids;
- B = Total volume of solids for all inks that can potentially be applied each year on the printing line in units of l/yr (gal/yr). The method by which the owner or operator accurately calculated the volume of each ink as applied and the amount that can potentially be applied each year on the printing line shall be described in the certification to the Agency;
- C = Weight of VOM per volume of fountain solution with the highest VOM content as applied each year on the printing line in units of kg/l (lb/gal);

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- D = The total volume of fountain solution that can potentially be used each year on the printing line in units of 1/yr (gal/yr). The method by which the owner or operator accurately calculated the volume of each fountain solution used and the amount that can potentially be used each year on the printing line shall be described in the certification to the Agency;
  - F = Weight of VOM per volume of material for the cleanup material or solvent with the highest VOM content as used each year on the printing line in units of kg/l (lb/gal) of such material;
  - G = The greatest volume of cleanup material or solvent used in any 8-hour period;
  - H = The highest fraction of cleanup material or solvent that is not recycled or recovered for offsite disposal during any 8-hour period;
  - R = The multiplier representing the amount of VOM not retained in the substrate being used. For paper, R = 0.8. For metal, plastic, or other impervious substrates, R = 1.0;
- D) A description and the results of all tests used to determine the VOM content of inks, fountain solution additives, and cleaning solvents, and a declaration that all such tests have been properly conducted in accordance with Section 218.409(c)(1) of this Subpart;
- 2) Notify the Agency in writing if the combined emissions of VOM from all lithographic printing lines (including inks, fountain solutions, and solvents used for cleanup operations associated with the lithographic printing lines) at the source ever exceed 45.5 kg/day (100 lbs/day), before the use of capture systems and control devices, within 30 days after the event occurs. Such notification shall include a copy of all records of such event.
- b) Exempt Units on and after August 1, 2010

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- 1) Lithographic Printing Lines Exempt pursuant to Section 218.405(c)(2). By August 1, 2010, or upon initial start-up of a new lithographic printing line, whichever is later, and upon modification of a lithographic printing line, an owner or operator of lithographic printing lines exempt from the limitations in Section 218.407 of this Subpart because of the criteria in Section 218.405(c)(2) of this Subpart shall submit a certification to the Agency that includes the information specified in either subsections (b)(1)(A), (b)(1)(B), and (b)(1)(D) of this Section or subsections (b)(1)(A) and (b)(1)(C) of this Section, as applicable. An owner or operator complying with subsection (b)(1)(B) shall also comply with the requirements in subsection (b)(1)(E) of this Section. An owner or operator complying with subsection (b)(1)(C) shall also comply with the requirements in subsection (b)(1)(F) of this Section:
  - A) A declaration that the source is exempt from the requirements in Section 218.407 of this Subpart because of the criteria in Section 218.405(c)(2) of this Subpart;
  - B) Calculations that demonstrate that combined emissions of VOM from all lithographic printing lines (including inks, fountain solutions, and solvents used for cleanup operations associated with the lithographic printing lines) at the source do not equal or exceed 6.8 kg/day (15 lbs/day), before the use of capture systems and control devices, as follows:
    - i) To calculate daily emissions of VOM, the owner or operator shall determine the monthly emissions of VOM from all lithographic printing lines at the source (including solvents used for cleanup operations associated with the lithographic printing lines) and divide this amount by the number of days during that calendar month that lithographic printing lines at the source were in operation;
    - ii) To determine the VOM content of the inks, fountain solution additives and cleaning solvents, the test methods and procedures set forth in Section 218.409(c) of this Subpart shall be used;

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- iii) To determine VOM emissions from inks used on lithographic printing lines at the source, an ink emission adjustment factor of 0.05 shall be used in calculating emissions from all non-heatset inks except when using an impervious substrate, and a factor of 0.80 shall be used in calculating emissions from all heatset inks to account for VOM retention in the substrate except when using an impervious substrate. For impervious substrates such as metal or plastic, no emission adjustment factor is used. The VOM content of the ink, as used, shall be multiplied by this factor to determine the amount of VOM emissions from the use of ink on the printing lines; and
- iv) To determine VOM emissions from cleaning solutions used on lithographic printing lines at the source, an emission adjustment factor of 0.50 shall be used in calculating emissions from used shop towels if the VOM composite vapor pressure of each associated cleaning solution is demonstrated to be less than 10 mmHg measured at 20°C (68°F) and the shop towels are kept in closed containers. For cleaning solutions with VOM composite vapor pressures of equal to or greater than 10 mmHg measured at 20°C (68°F) and for shop towels that are not kept in closed containers, no emission adjustment factor is used;
- C) As an alternative to the calculations in subsection (b)(1)(B), a statement that the source uses less than the amount of material specified in subsection (b)(1)(C)(i) or (ii), as applicable, during each calendar month. A source may determine that it emits below 6.8 kg/day (15 lbs/day) of VOM based upon compliance with such material use limitations. If the source exceeds this amount of material use in a given calendar month, the owner or operator must, within 15 days after the end of that month, complete the emissions calculations of subsection (b)(1)(B) to determine daily emissions for applicability purposes. If the source ever exceeds this amount of material use for six consecutive calendar months, it is no longer eligible to use this subsection (b)(1)(C) as an alternative to the calculations in subsection (b)(1)(B). If a source has both heatset web offset and either nonheatset web offset or sheetfed lithographic printing operations, or has all three types of printing

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operations, the owner or operator may not make use of this alternative and must use the calculations in subsection (b)(1)(B).

- i) The sum of all sheetfed and nonheatset web offset lithographic printing operations at the source: 242.3 liters (64 gallons) of cleaning solvent and fountain solution additives, combined; or
  - ii) The sum of all heatset web offset lithographic printing operations at the source: 204.1 kg (450 lbs) of ink, cleaning solvent, and fountain solution additives, combined;
- D) A description and the results of all tests used to determine the VOM content of inks, fountain solution additives, and cleaning solvents, and a declaration that all such tests have been properly conducted in accordance with Section 218.409(c)(1) of this Subpart;
- E) For sources complying with subsection (b)(1)(B) of this Section, notify the Agency in writing if the combined emissions of VOM from all lithographic printing lines (including inks, fountain solutions, and solvents used for cleanup operations associated with the lithographic printing lines) at the source ever equal or exceed 6.8 kg/day (15 lbs/day), before the use of capture systems and control devices, within 30 days after the event occurs. If such emissions of VOM at the source equal or exceed 6.8 kg/day (15 lbs/day) but do not exceed 45.5 kg/day (100 lbs/day), the source shall comply with the requirements in subsection (b)(2) of this Section;
- F) For sources complying with subsection (b)(1)(C) of this Section, comply with the following:
  - i) Maintain material use records showing that the source uses less than the amount of material specified in subsections (b)(1)(C)(i) and (b)(1)(C)(ii) during each calendar month, or, if the source exceeds the material use limitations, records showing that the source exceeded the limitations but did not emit 6.8 kg/day (15 lbs/day) or more of VOM, and provide such records to the Agency upon request. On



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and after January 1, 2012, such records shall include the name, identification number, and VOM content of each cleaning solvent and fountain solution additive used per calendar month, the volume of each cleaning solvent and fountain solution additive used per calendar month for each sheetfed and nonheatset web offset lithographic printing operation, and the weight of each cleaning solvent, ink, and fountain solution additive used per calendar month for each heatset web offset lithographic printing operation;

- ii) Notify the Agency in writing if the source exceeds the material use limitations for six consecutive calendar months, or if the source changes its method of compliance from subsection (b)(1)(C) to subsection (b)(1)(B) of this Section, within 30 days after the event occurs;
- 2) Heatset web offset lithographic printing lines exempt pursuant to Section 218.405(c)(1) but not exempt pursuant to Section 218.405(c)(2). By August 1, 2010, or upon initial start-up of a new heatset web offset lithographic printing line, whichever is later, and upon modification of a heatset web offset lithographic printing line, an owner or operator of heatset web offset lithographic printing lines that are exempt from the limitations in Section 218.407 of this Subpart pursuant to the criteria in Section 218.405(c)(1) of this Subpart, but that are not exempt pursuant to the criteria in Section 218.405(c)(2) of this Subpart, shall submit a certification to the Agency that includes the information specified in subsections (b)(2)(A) through (b)(2)(C) of this Section. Such owner or operator shall also comply with the requirements in subsection (b)(2)(D) of this Section:
- A) A declaration that the source is exempt from the control requirements in Section 218.407 of this Subpart because of the criteria in Section 218.405(c)(1) of this Subpart, but is not exempt pursuant to the criteria in Section 218.405(c)(2) of this Subpart;
  - B) Calculations that demonstrate that combined emissions of VOM from all lithographic printing lines (including inks, fountain solutions, and solvents used for cleanup operations associated with the lithographic printing lines) at the source never exceed 45.5 kg/day (100 lbs/day) before the use of

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capture systems and control devices, as follows (the following methodology shall also be used to calculate whether a source exceeds 45.5 kg/day (100 lbs/day) for purposes of determining eligibility for the exclusions set forth in Section 218.415(c)(3), in accordance with Sections 218.411(g)(2)(A)(i):

- i) To calculate daily emissions of VOM, the owner or operator shall determine the monthly emissions of VOM from all lithographic printing lines at the source (including solvents used for cleanup operations associated with the lithographic printing lines) and divide this amount by the number of days during that calendar month that lithographic printing lines at the source were in operation;
- ii) To determine the VOM content of the inks, fountain solution additives and cleaning solvents, the test methods and procedures set forth in Section 218.409(c) of this Subpart shall be used;
- iii) To determine VOM emissions from inks used on lithographic printing lines at the source, an ink emission adjustment factor of 0.05 shall be used in calculating emissions from all non-heatset inks except when using an impervious substrate, and a factor of 0.80 shall be used in calculating emissions from all heatset inks to account for VOM retention in the substrate except when using an impervious substrate. For impervious substrates such as metal or plastic, no emission adjustment factor is used. The VOM content of the ink, as used, shall be multiplied by this factor to determine the amount of VOM emissions from the use of ink on the printing lines;
- iv) To determine VOM emissions from cleaning solvents used on lithographic printing lines at the source, an emission adjustment factor of 0.50 shall be used in calculating emissions from cleaning

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solution in shop towels if the VOM composite vapor pressure of such cleaning solution is demonstrated to be less than 10 mmHg measured at 20°C (68°F) and the shop towels are kept in closed containers. For cleaning solutions with VOM composite vapor pressures of equal to or greater than 10 mmHg measured at 20°C (68°F) and for shop towels that are not kept in closed containers, no emission adjustment factor is used;

- C) A description and the results of all tests used to determine the VOM content of inks, fountain solution additives, and cleaning solvents, and a declaration that all such tests have been properly conducted in accordance with Section 218.409(c)(1) of this Subpart;
  - D) Notify the Agency in writing if the combined emissions of VOM from all lithographic printing lines (including inks, fountain solutions, and solvents used for cleanup operations associated with the lithographic printing lines) at the source ever exceed 45.5 kg/day (100 lbs/day), before the use of capture systems and control devices, within 30 days after the event occurs.
- c) Unless complying with subsections (b)(1)(C) and (b)(1)(F) of this Section, an owner or operator of lithographic printing lines subject to the requirements of subsection (a) or (b) of this Section shall collect and record either the information specified in subsection (c)(1) or (c)(2) of this Section for all lithographic printing lines at the source:
- 1) Standard recordkeeping, including the following:
    - A) The name and identification of each fountain solution additive, lithographic ink, and cleaning solvent used on any lithographic printing line, recorded each month;
    - B) A daily record which shows whether a lithographic printing line at the source was in operation on that day;
    - C) The VOM content and the volume of each fountain solution

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additive, lithographic ink, and cleaning solvent used on any lithographic printing line, recorded each month;

- D) The total VOM emissions at the source each month, determined as the sum of the product of usage and VOM content for each fountain solution additive, cleaning solvent, and lithographic ink (with the applicable ink VOM emission adjustment) used at the source, calculated each month;
  - E) The VOM emissions in lbs/day for the month, calculated in accordance with subsection (a)(1)(B), (b)(1)(B), or (b)(2)(B) of this Section, as applicable;
- 2) Purchase and inventory recordkeeping, including the following:
- A) The name, identification, and VOM content of each fountain solution additive, lithographic ink, and cleaning solvent used on any lithographic printing line, recorded each month;
  - B) Inventory records from the beginning and end of each month indicating the total volume of each fountain solution additive, lithographic ink, and cleaning solvent to be used on any lithographic printing line at the source;
  - C) Monthly purchase records for each fountain solution additive, lithographic ink, and cleaning solvent used on any lithographic printing line at the source;
  - D) A daily record which shows whether a lithographic printing line at the source was in operation on that day;
  - E) The total VOM emissions at the source each month, determined as the sum of the product of usage and VOM content for each fountain solution additive, cleaning solvent, and lithographic ink (with the applicable ink VOM emission adjustment) used at the source, calculated each month based on the monthly inventory and purchase records required to be maintained pursuant to subsections (c)(2)(A), (c)(2)(B), and (c)(2)(C) of this Section;
  - F) The VOM emissions in lbs/day for the month, calculated in

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accordance with subsection (a)(1)(B), (b)(1)(B), or (b)(2)(B) of this Section, as applicable.

- d) An owner or operator of a heatset web offset lithographic printing line subject to the control requirements of Section 218.407(a)(1)(C) or (b)(1) of this Subpart shall comply with the following:
- 1) By August 1, 2010, upon initial start-up of a new printing line, and upon initial start-up of a new control device for a heatset web offset printing line, submit a certification to the Agency that includes the following:
    - A) An identification of each heatset web offset lithographic printing line at the source;
    - B) A declaration that each heatset web offset lithographic printing line is in compliance with the requirements of Section 218.407(a)(1)(B), (a)(1)(C), (a)(1)(D) and (a)(1)(E) or (b) of this Subpart, as appropriate;
    - C) The type of afterburner or other approved control device used to comply with the requirements of Section 218.407(a)(1)(C) or (b)(1) of this Subpart and the date that such device was first constructed at the source;
    - D) The control requirements in Section 218.407(a)(1)(C) or (b)(1) of this Subpart with which the lithographic printing line is complying;
    - E) The results of all tests and calculations necessary to demonstrate compliance with the control requirements of Section 218.407(a)(1)(C) or (b)(1) of this Subpart, as applicable; and
    - F) A declaration that the monitoring equipment required under Section 218.407(a)(1)(D) or (b) of this Subpart, as applicable, has been properly installed and calibrated according to manufacturer's specifications;
  - 2) If testing of the afterburner or other approved control device is conducted pursuant to Section 218.409(b) of this Subpart, the owner or operator shall, within 90 days after conducting such testing, submit a copy of all test results to the Agency and shall submit a certification to the Agency

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that includes the following:

- A) A declaration that all tests and calculations necessary to demonstrate whether the lithographic printing lines are in compliance with Section 218.407(a)(1)(C) or (b)(1) of this Subpart, as applicable, have been properly performed;
  - B) A statement whether the lithographic printing lines are or are not in compliance with Section 218.407(a)(1)(C) or (b)(1) of this Subpart, as applicable; and
  - C) The operating parameters of the afterburner or other approved control device during testing, as monitored in accordance with Section 218.410(c) or (d) of this Subpart, as applicable;
- 3) Except as provided in subsection (d)(3)(D)(ii) of this Section, collect and record daily the following information for each heatset web offset lithographic printing line subject to the requirements of Section 218.407(a)(1)(C) or (b)(1) of this Subpart:
- A) Afterburner or other approved control device monitoring data in accordance with Section 218.410(c) or (d) of this Subpart, as applicable;
  - B) A log of operating time for the afterburner or other approved control device, monitoring equipment, and the associated printing line;
  - C) A maintenance log for the afterburner or other approved control device and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages; and
  - D) A log detailing checks on the air flow direction or air pressure of the dryer and press room to ensure compliance with the requirements of Section 218.407(a)(1)(B) of this Subpart as follows:
    - i) Prior to August 1, 2010, at least once per 24-hour period while the line is operating; and

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- ii) On and after August 1, 2010, at least once per calendar month while the line is operating
  - 4) Notify the Agency in writing of any violation of Section 218.407(a)(1)(C) or (b)(1) of this Subpart within 30 days after the occurrence of such violation. Such notification shall include a copy of all records of such violation;
  - 5) If changing its method of compliance between subsections (a)(1)(C) and (b) of Section 218.407 of this Subpart, certify compliance for the new method of compliance in accordance with subsection (d)(1) of this Section at least 30 days before making such change, and perform all tests and calculations necessary to demonstrate that such printing lines will be in compliance with the requirements of Section 218.407(a)(1)(B), (a)(1)(C), (a)(1)(D) and (a)(1)(E) of this Subpart, or Section 218.407(b) of this Subpart, as applicable.
- e) An owner or operator of a lithographic printing line subject to Section 218.407(a)(1)(A), (a)(2), or (a)(3) of this Subpart shall:
- 1) By August 1, 2010, and upon initial start-up of a new lithographic printing line, certify to the Agency that fountain solutions used on each lithographic printing line will be in compliance with the applicable VOM content limitation. Such certification shall include:
    - A) Identification of each lithographic printing line at the source, by type, e.g., heatset web offset, non-heatset web offset, or sheet-fed offset;
    - B) Identification of each centralized fountain solution reservoir and each lithographic printing line that it serves;
    - C) A statement that the fountain solution will comply with the VOM content limitations in Section 218.407(a)(1)(A), (a)(2), or (a)(3), as applicable;
    - D) Initial documentation that each type of fountain solution will comply with the applicable VOM content limitations, including copies of manufacturer's specifications, test results, if any,

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formulation data and calculations;

- E) Identification of the methods that will be used to demonstrate continuing compliance with the applicable limitation, e.g., a refractometer, hydrometer, conductivity meter, or recordkeeping procedures with detailed description of the compliance methodology; and
  - F) A sample of the records that will be kept pursuant to subsection (e)(2) of this Section.
- 2) Collect and record the following information for each fountain solution:
- A) The name and identification of each batch of fountain solution prepared for use on one or more lithographic printing lines, the lithographic printing lines or centralized reservoir using such batch of fountain solution, and the applicable VOM content limitation for the batch;
  - B) If an owner or operator uses a hydrometer, refractometer, or conductivity meter, pursuant to Section 218.410(b)(1)(B), to demonstrate compliance with the applicable VOM content limit in Section 218.407(a)(1)(A), (a)(2), or (a)(3) of this Subpart:
    - i) The date and time of preparation, and each subsequent modification, of the batch;
    - ii) The results of each measurement taken in accordance with Section 218.410(b) of this Subpart;
    - iii) Documentation of the periodic calibration of the meter in accordance with the manufacturer's specifications, including date and time of calibration, personnel conducting, identity of standard solution, and resultant reading; and
    - iv) Documentation of the periodic temperature adjustment of the meter, including date and time of adjustment, personnel conducting and results;



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- C) If the VOM content of the fountain solution is determined pursuant to Section 218.410(b)(1)(A) of this Subpart, for each batch of as-applied fountain solution:
- i) Date and time of preparation and each subsequent modification of the batch;
  - ii) Volume or weight, as applicable, and VOM content of each component used in, or subsequently added to, the fountain solution batch;
  - iii) Calculated VOM content of the as-applied fountain solution; and
  - iv) Any other information necessary to demonstrate compliance with the applicable VOM content limits in Section 218.407(a)(1)(A), (a)(2) and (a)(3) of this Subpart, as specified in the source's operating permit;
- D) If the VOM content of the fountain solution is determined pursuant to Section 218.410(b)(2) of this Subpart, for each setting:
- i) VOM content limit corresponding to each setting;
  - ii) Date and time of initial setting and each subsequent setting;
  - iii) Documentation of the periodic calibration of the automatic feed equipment in accordance with the manufacturer's specifications; and
  - iv) Any other information necessary to demonstrate compliance with the applicable VOM content limits in Section 218.407(a)(1)(A), (a)(2) and (a)(3) of this Subpart, as specified in the source's operating permit;
- E) If the owner or operator relies on the temperature of the fountain solution to comply with the requirements in Section 218.407(a)(1)(A)(ii) or (a)(3)(B) of this Subpart:
- i) The temperature of the fountain solution at each printing

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line, as monitored in accordance with Section 218.410(a);  
and

- ii) A maintenance log for the temperature monitoring devices and automatic, continuous temperature recorders detailing all routine and non-routine maintenance performed, including dates and duration of any outages.
- 3) Notify the Agency in writing of any violation of Section 218.407 of this Subpart within 30 days after the occurrence of such violation. Such notification shall include a copy of all records of such violation.
- f) For lithographic printing line cleaning operations, an owner or operator of a lithographic printing line subject to the requirements of Section 218.407 of this Subpart shall:
- 1) By August 1, 2010, and upon initial start-up of a new lithographic printing line, certify to the Agency that all cleaning solutions, other than those excluded pursuant to Section 218.405(c)(3)(C), and the handling of all cleaning materials, will be in compliance with the requirements of Section 218.407(a)(4)(A) or (a)(4)(B) and (a)(5) of this Subpart, and such certification shall also include:
    - A) A statement that the cleaning solution will comply with the limitations in Section 218.407(a)(4);
    - B) Identification of the methods that will be used to demonstrate continuing compliance with the applicable limitations;
    - C) A sample of the records that will be kept pursuant to subsection (f)(2) of this Section; and
    - D) A description of the practices that ensure that VOM-containing cleaning materials are kept in closed containers;
  - 2) Collect and record the following information for each cleaning solution used on each lithographic printing line:
    - A) For each cleaning solution for which the owner or operator relies on the VOM content to demonstrate compliance with Section

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218.407(a)(4)(A) of this Subpart and that is prepared at the source with automatic equipment:

- i) The name and identification of each cleaning solution;
- ii) The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with Section 218.409(c) of this Subpart;
- iii) Each change to the setting of the automatic equipment, with date, time, description of changes in the cleaning solution constituents (e.g., cleaning solvents), and a description of changes to the proportion of cleaning solvent and water (or other non-VOM);
- iv) The proportion of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution;
- v) The VOM content of the as-used cleaning solution, with supporting calculations; and
- vi) A calibration log for the automatic equipment, detailing periodic checks;

B) For each batch of cleaning solution for which the owner or operator relies on the VOM content to demonstrate compliance with Section 218.407(a)(4)(A) of this Subpart, and that is not prepared at the source with automatic equipment:

- i) The name and identification of each cleaning solution;
- ii) Date and time of preparation, and each subsequent modification, of the batch;
- iii) The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with Section 218.409(c) of this Subpart;
- iv) The total amount of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning

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solution; and

- v) The VOM content of the as-used cleaning solution, with supporting calculations. For cleaning solutions that are used as purchased, the manufacturer's specifications for VOM content may be used if such manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in Section 218.105(a) of this Part;
- C) For each batch of cleaning solution for which the owner or operator relies on the vapor pressure of the cleaning solution to demonstrate compliance with Section 218.407(a)(4)(B) of this Subpart:
- i) The name and identification of each cleaning solution;
  - ii) Date and time of preparation, and each subsequent modification, of the batch;
  - iii) The molecular weight, density, and VOM composite partial vapor pressure of each cleaning solvent, as determined in accordance with Section 218.409(e) of this Subpart. For cleaning solutions that are used as purchased, the manufacturer's specifications for VOM composite partial vapor pressure may be used if such manufacturer's specifications are based on results of tests conducted in accordance with methods specified in Sections 218.105(a) and 218.110 of this Part;
  - iv) The total amount of each cleaning solvent used to prepare the as-used cleaning solution; and
  - v) The VOM composite partial vapor pressure of each as-used cleaning solution, as determined in accordance with Section 218.409(e) of this Subpart. For cleaning solutions that are used as purchased, the manufacturer's specifications for VOM composite partial vapor pressure may be used if such manufacturer's specifications are based on results of tests conducted in accordance with methods specified in

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Sections 218.105(a) and 218.110 of this Part;

- D) The date, time and duration of scheduled inspections performed to confirm the proper use of closed containers to control VOM emissions, and any instances of improper use of closed containers, with descriptions of actual practice and corrective action taken, if any;
- 3) Notify the Agency in writing of any violation of Section 218.407 of this Subpart within 30 days after the occurrence of such violation. Such notification shall include a copy of all records of such violation.
- g) The owner or operator of lithographic printing lines subject to one or more of the exclusions set forth in Section 218.405(c)(3) shall:
- 1) By August 1, 2010, or upon initial start-up of a new lithographic printing line that is subject to one or more of the exclusions set forth in Section 218.405(c)(3), whichever is later, submit a certification to the Agency that includes either:
    - A) A declaration that the source is subject to one or more of the exclusions set forth in Section 218.405(c)(3) and a statement indicating which such exclusions apply to the source; or
    - B) A declaration that the source will not make use of any of the exclusions set forth in Section 218.405(c)(3);
  - 2) Unless the source has certified in accordance with subsection (g)(1)(B) of this Section that it will not make use of any of the exclusions set forth in Section 218.405(c)(3):
    - A) Collect and record the following information for all lithographic printing lines at the source:
      - i) Calculations that demonstrate that combined emissions of VOM from all lithographic printing lines (including inks, fountain solutions, and solvents used for cleanup operations associated with the lithographic printing lines) at the source never exceed 45.5 kg/day (100 lbs/day) before the use of capture systems and control devices, determined in

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- accordance with the calculations in subsection (b)(2)(B) of this Section;
- ii) The name, identification, and volume of all amount of cleaning materials used per calendar month on lithographic printing lines at the source that ~~does~~ not comply with the cleaning material limitations in Section 218.407(a)(4) of this Subpart;
- B) Notify the Agency in writing if the combined emissions of VOM from all lithographic printing lines (including inks, fountain solutions, and solvents used for cleanup operations associated with the lithographic printing lines) at the source ever exceed 45.5 kg/day (100 lbs/day), before the use of capture systems and control devices, within 30 days after the event occurs;
- 3) If changing from utilization of the exclusions set forth in Section 218.405(c)(3) to opting out of such exclusions pursuant to subsection (g)(1)(B) of this Section, or if there is a change at the source such that the exclusions no longer apply, certify compliance in accordance with subsection (g)(1)(B) of this Section within 30 days after making such change, and perform all tests and calculations necessary to demonstrate that such printing lines will be in compliance with the applicable requirements of Section 218.407 of this Subpart;
- 4) If changing from opting out of the exclusions set forth in Section 218.405(c)(3) pursuant to subsection (g)(1)(B) of this Section to utilization of such exclusions, certify compliance in accordance with subsection (g)(1)(A) of this Section within 30 days after making such change.
- h) The owner or operator shall maintain all records required by this Section at the source for a minimum period of three years and shall make all records available to the Agency upon request.
- i) Provisions for Calculation of Emissions from Heatset Web Offset Lithographic Printing Operations. To calculate VOM emissions from heatset web offset lithographic printing operations for purposes other than the applicability thresholds specified in Section 218.405 of this Subpart, sources may use the following emission adjustment factors (for Annual Emissions Reports or permit limits, for example):

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- 1) A factor of 0.80 may be used in calculating emissions from all heatset inks to account for VOM retention in the substrate except when using an impervious substrate. For impervious substrates such as metal or plastic, no emission adjustment factor is used. The VOM content of the ink, as used, shall be multiplied by this factor to determine the amount of VOM emissions from the use of ink on the printing lines;
- 2) To determine VOM emissions from fountain solutions that contain no alcohol, an emission adjustment factor may be used to account for carryover into the dryer, except when using an impervious substrate.

- A) The VOM emitted from the fountain solution shall be calculated using the following equation:

$$VOM_{fs} = 0.30 \times VOM_{tot} + (0.70 \times VOM_{tot}) \times (1 - DE)$$

where:

$VOM_{tot}$  = Total VOM in the fountain solution;

$VOM_{fs}$  = VOM emitted from the fountain solution;

DE = Destruction efficiency of the control device on the associated dryer, in decimal form (i.e., 95% control is represented as 0.95). If no control device is present, DE = 0;

- B) For fountain solutions that contain alcohol, impervious substrates such as metal or plastic, or non-heatset lithographic presses, no emission adjustment factor is used;
- 3) To determine VOM emissions from cleaning solutions used on heatset web offset lithographic printing lines at the source, an emission adjustment factor of 0.50 may be used in calculating emissions from used shop towels if the VOM composite vapor pressure of each associated cleaning solution is less than 10 mmHg measured at 20°C (68°F) and the shop towels are kept in closed containers. To determine VOM emissions from automatic blanket wash solution with a VOM composite vapor pressure of less than 10 mmHg measured at 20°C (68°F), an emission

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adjustment factor may be used to account for carryover into the dryer, except when using an impervious substrate.

- A) The VOM emitted from the automatic blanket wash solution shall be calculated using the following equation.

$$VOM_{bw} = 0.60 \times VOM_{tot} + (0.40 \times VOM_{tot}) \times (1 - DE)$$

where:

$VOM_{tot}$  = Total VOM in the blanket wash;

$VOM_{tow}$  = VOM emitted from the blanket wash;

DE = Destruction efficiency of the control device on the associated dryer, in decimal form (i.e., 95% control is represented as 0.95). If no control device is present, DE = 0;

- B) For cleaning solutions with VOM composite vapor pressures of equal to or greater than 10 mmHg measured at 20°C (68°F), for shop towels that are not kept in closed containers, and for impervious substrates such as metal or plastic, no emission adjustment factor is used.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.415 Testing for Letterpress Printing Lines**

- a) Testing to demonstrate compliance with the requirements of Section 218.413 of this Subpart shall be conducted by the owner or operator by January 1, 2012, unless such testing has been conducted within the two years immediately preceding January 1, 2012. Thereafter, testing shall be conducted by the owner or operator within 90 days after a request by the Agency, or as otherwise specified in this Subpart. Such testing shall be conducted at the expense of the owner or operator, and the owner or operator shall notify the Agency in writing 30 days in advance of conducting such testing to allow the Agency to be present during such testing.



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- b) The methods and procedures of Section 218.105(d) and (f) shall be used for testing to demonstrate compliance with the requirements of Section 218.413(a)(1)(B) or (b)(1) of this Subpart, as follows:
- 1) To select the sampling sites, Method 1 or 1A, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part. The sampling sites for determining efficiency in reducing VOM from the dryer exhaust shall be located between the dryer exhaust and the control device inlet, and between the outlet of the control device and the exhaust to the atmosphere;
  - 2) To determine the volumetric flow rate of the exhaust stream, Method 2, 2A, 2C, or 2D, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part;
  - 3) To determine the VOM concentration of the exhaust stream entering and exiting the control device, Method 25 or 25A, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part. For thermal and catalytic afterburners, Method 25 must be used except under the following circumstances, in which case Method 25A must be used:
    - A) The allowable outlet concentration of VOM from the control device is less than 50 ppmv, as carbon;
    - B) The VOM concentration at the inlet of the control device and the required level of control result in exhaust concentrations of VOM of 50 ppmv, or less, as carbon; and
    - C) Due to the high efficiency of the control device, the anticipated VOM concentration at the control device exhaust is 50 ppmv or less, as carbon, regardless of inlet concentration. If the source elects to use Method 25A under this option, the exhaust VOM concentration must be 50 ppmv or less, as carbon, and the required destruction efficiency must be met for the source to have demonstrated compliance. If the Method 25A test results show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, a retest is required. The retest shall be conducted using either Method 25 or Method 25A. If the retest is conducted using Method 25A and the test results again show that the required destruction efficiency

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apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, the source must retest using Method 25;

- 4) Notwithstanding the criteria or requirements in Method 25 which specifies a minimum probe temperature of 129°C (265°F), the probe must be heated to at least the gas stream temperature of the dryer exhaust, typically close to 176.7°C (350°F);
  - 5) During testing, the printing lines shall be operated at representative operating conditions and flow rates; and
  - 6) During testing, an air flow direction indicating device, such as a smoke stick, shall be used to demonstrate 100 percent emissions capture efficiency for the dryer in accordance with Section 218.413(a)(1)(A) of this Subpart.
- c) Testing to demonstrate compliance with the VOM content limitations in Section 218.413(a)(2)(A) of this Subpart, and to determine the VOM content of cleaning solvents, cleaning solutions, and inks (pursuant to the requirements of Section 218.417(b)(1)(B) of this Subpart), shall be conducted upon request of the Agency, or as otherwise specified in this Subpart, as follows:
- 1) The applicable test methods and procedures specified in Section 218.105(a) of this Part shall be used; provided, however, Method 24, incorporated by reference in Section 218.112 of this Part, shall be used to demonstrate compliance; or
  - 2) The manufacturer's specifications for VOM content for cleaning solvents and inks may be used if such manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in Section 218.105(a) of this Part; provided, however, Method 24 shall be used to determine compliance.
- d) Testing to demonstrate compliance with the requirements of Section 218.413(b) of this Subpart shall be conducted as set forth in the owner or operator's plan approved by the Agency and USEPA as federally enforceable permit conditions pursuant to Section 218.413(b) of this Subpart.
- e) Testing to determine the VOM composite partial vapor pressure of cleaning solvents, cleaning solvent concentrates, and as-used cleaning solutions shall be

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conducted in accordance with the applicable methods and procedures specified in Section 218.110 of this Part.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.417 Recordkeeping and Reporting for Letterpress Printing Lines**

- a) By August 1, 2010, or upon initial start-up of a new heatset web letterpress printing line, whichever is later, and upon modification of a heatset web letterpress printing line, an owner or operator of a heatset web letterpress printing line exempt from any of the limitations of Section 218.413 of this Subpart because of the criteria in Section 218.412(a)(1) shall submit a certification to the Agency that includes:
  - 1) A declaration that the source is exempt from the requirements in Section 218.413 of this Subpart because of the criteria in Section 218.412(a)(1) of this Subpart;
  - 2) Calculations which demonstrate that the source's total potential to emit VOM does not equal or exceed 22.7 Mg (25 tons) per year.
  
- b) An owner or operator of a letterpress printing line exempt from any of the limitations of Section 218.413 of this Subpart because of the criteria in Section 218.412(a)(2) shall:
  - 1) By August 1, 2010, or upon initial start-up of a new letterpress printing line, whichever is later, and upon modification of a letterpress printing line, submit a certification to the Agency that includes the information specified in either subsections (b)(1)(A) through (b)(1)(C) of this Section, or subsections (b)(1)(A) and (b)(1)(D) of this Section, as applicable:
    - A) A declaration that the source is exempt from the control requirements in Section 218.413 of this Part because of the criteria in Section 218.412(a)(2) of this Subpart;
    - B) Calculations that demonstrate that combined emissions of VOM from all letterpress printing lines (including inks and solvents used for cleanup operations associated with the letterpress printing lines) at the source never equal or exceed 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment, as follows:

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- i) To calculate daily emissions of VOM, the owner or operator shall determine the monthly emissions of VOM from all letterpress printing lines at the source (including solvents used for cleanup operations associated with the letterpress printing lines) and divide this amount by the number of days during that calendar month that letterpress printing lines at the source were in operation;
  - ii) To determine the VOM content of the inks and cleaning solvents, the tests methods and procedures set forth in Section 218.415(c) of this Subpart shall be used;
  - iii) To determine VOM emissions from inks used on letterpress printing lines at the source, an ink emission adjustment factor of 0.05 shall be used in calculating emissions from all non-heatset inks except when using an impervious substrate, and a factor of 0.80 shall be used in calculating emissions from all heatset inks to account for VOM retention in the substrate except when using an impervious substrate. For impervious substrates such as metal or plastic, no emission adjustment factor is used. The VOM content of the ink, as used, shall be multiplied by this factor to determine the amount of VOM emissions from the use of ink on the printing lines; and
  - iv) To determine VOM emissions from cleaning solutions used on letterpress printing lines at the source, an emission adjustment factor of 0.50 shall be used in calculating emissions from used shop towels if the VOM composite vapor pressure of each associated cleaning solution is less than 10 mmHg measured at 20°C (68°F) and the shop towels are kept in closed containers. Otherwise, no retention factor is used;
- C) A description and the results of all tests used to determine the VOM content of inks and cleaning solvents, and a declaration that all such tests have been properly conducted in accordance with Section 218.415(c)(1) of this Subpart;

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- D) As an alternative to the calculations in subsection (b)(1)(B), a statement that the source uses less than the amount of material specified in subsections (b)(1)(D)(i) or (b)(1)(D)(ii), as applicable, during each calendar month. A source may determine that it emits below 6.8 kg/day (15 lbs/day) of VOM based upon compliance with such material use limitations. If the source exceeds this amount of material use in a given calendar month, the owner or operator must, within 15 days of the end of that month, complete the emissions calculations of subsection (b)(1)(B) to determine daily emissions for applicability purposes. If the source ever exceeds this amount of material use for six consecutive calendar months, it is no longer eligible to use this subsection as an alternative to the calculations in subsection (b)(1)(B).
- i) The sum of all sheetfed and nonheatset web letterpress printing operations at the source: 242.3 liters (64 gallons) of cleaning solvent; or
  - ii) The sum of all heatset web letterpress printing operations at the source: 204.1 kg (450 lbs) of ink and cleaning solvent;
- 2) For sources complying with subsection (b)(1)(B) of this Section, notify the Agency in writing if the combined emissions of VOM from all letterpress printing lines (including inks and solvents used for cleanup operations associated with the letterpress printing lines) at the source ever equal or exceed 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment, within 30 days after the event occurs;
- 3) For sources complying with subsection (b)(1)(D) of this Section, comply with the following:
- A) Maintain material use records showing that the source uses less than the amount of material specified in subsections (b)(1)(D)(i) and (b)(1)(D)(ii) during each calendar month, or, if the source exceeds the material use limitations, records showing that the source exceeded the limitations but did not emit 6.8 kg/day (15 lbs/day) or more of VOM. On and after January 1, 2012, such records shall include the name, identification number, and VOM content of each cleaning solvent and ink used per calendar month, the volume of each cleaning solvent used per calendar month for

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each sheetfed and nonheatset web letterpress printing operation, and the weight of each cleaning solvent and ink used per calendar month for each heatset web letterpress printing operation;

- B) Notify the Agency in writing if the source exceeds the material use limitations for six consecutive calendar months, or if the source changes its method of compliance from subsection (b)(1)(D) to subsection (b)(1)(B) of this Section, within 30 days after the event occurs.
  
- c) Unless complying with subsections (b)(1)(D) and (b)(3) of this Section, on and after August 1, 2010, an owner or operator of a letterpress printing line exempt from any of the limitations in Section 218.413 of this Subpart because of the criteria in Section 218.412(a)(1) or (a)(2)~~subject to the requirements in subsections (a) or (b) of this Section~~ shall collect and record either the information specified in subsection (c)(1) or (c)(2) of this Section for all letterpress printing lines at the source:
  - 1) Standard recordkeeping, including the following:
    - A) The name and identification of each letterpress ink and cleaning solvent used on any letterpress printing line, recorded each month;
    - B) A daily record that shows whether a letterpress printing line at the source was in operation on that day;
    - C) The VOM content and the volume of each letterpress ink and cleaning solvent used on any letterpress printing line, recorded each month;
    - D) The total VOM emissions at the source each month, determined as the sum of the product of usage and VOM content for each cleaning solvent and letterpress ink (with the applicable ink VOM emission adjustment) used at the source, calculated each month; and
    - E) The VOM emissions in lbs/day for the month, calculated in accordance with subsection (b)(1)(B) of this Section;
  - 2) Purchase and inventory recordkeeping, including the following:

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- A) The name, identification, and VOM content of each letterpress ink and cleaning solvent used on any letterpress printing line, recorded each month;
  - B) Inventory records from the beginning and end of each month indicating the total volume of each letterpress ink, and cleaning solvent to be used on any letterpress printing line at the source;
  - C) Monthly purchase records for each letterpress ink and cleaning solvent used on any letterpress printing line at the source;
  - D) A daily record that shows whether a letterpress printing line at the source was in operation on that day;
  - E) The total VOM emissions at the source each month, determined as the sum of the product of usage and VOM content for each cleaning solvent and letterpress ink (with the applicable ink VOM emission adjustment factor) used at the source, calculated each month based on the monthly inventory and purchase records required to be maintained pursuant to subsections (c)(2)(A), (c)(2)(B), and (c)(2)(C) of this Section; and
  - F) The VOM emissions in lbs/day for the month, calculated in accordance with subsection (b)(1)(B) of this Section;
- d) An owner or operator of a heatset web letterpress printing lines subject to the control requirements of Section 218.413(a)(1)(B) or (b)(1) of this Subpart shall comply with the following:
- 1) By August 1, 2010, or upon initial start-up of a new printing line, whichever is later, and upon initial start-up of a new control device for a heatset web printing line, submit a certification to the Agency that includes the following:
    - A) An identification of each heatset web letterpress printing line at the source;

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- B) A declaration that each heatset web letterpress printing line is in compliance with the requirements of Section 218.413 (a)(1) or (b) of this Subpart, as appropriate;
  - C) The type of afterburner or other approved control device used to comply with the requirements of Section 218.413(a)(1)(B) or (b)(1) of this Subpart, and the date that such device was first constructed at the subject source;
  - D) The control requirements in Section 218.413(a)(1)(B) or (b)(1) of this Subpart with which the letterpress printing line is complying;
  - E) The results of all tests and calculations necessary to demonstrate compliance with the control requirements of Section 218.413(a)(1)(B) or (b)(1) of this Subpart, as applicable; and
  - F) A declaration that the monitoring equipment required under Section 218.413(a)(1)(C) or (b) of this Subpart, as applicable, has been properly installed and calibrated according to manufacturer's specifications;
- 2) If testing of the afterburner or other approved control device is conducted pursuant to Section 218.415(b) of this Subpart, the owner or operator shall, within 90 days after conducting such testing, submit a copy of all test results to the Agency and shall submit a certification to the Agency that includes the following:
- A) A declaration that all tests and calculations necessary to demonstrate whether the letterpress printing lines is in compliance with Section 218.413(a)(1)(B) or (b)(1) of this Subpart, as applicable, have been properly performed;
  - B) A statement whether the heatset web letterpress printing lines are or are not in compliance with Section 218.413(a)(1)(B) or (b)(1) of this Subpart, as applicable; and
  - C) The operating parameters of the afterburner or other approved control device during testing, as monitored in accordance with Section 218.416(a) or (b) of this Subpart, as applicable;



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- 3) Except as provided in subsection (d)(3)(D) of this Section, collect and record daily the following information for each heatset web letterpress printing line subject to the requirements of Section 218.413(a)(1)(B) or (b)(1) of this Subpart:
    - A) Afterburner or other approved control device monitoring data in accordance with Section 218.416(a) or (b) of this Subpart, as applicable;
    - B) A log of operating time for the afterburner or other approved control device, monitoring equipment, and the associated printing line;
    - C) A maintenance log for the afterburner or other approved control device and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages; and
    - D) A log detailing checks on the air flow direction or air pressure of the dryer and press room to ensure compliance with the requirements of Section 218.413(a)(1)(A) of this Subpart at least once per calendar month while the line is operating;
  - 4) Notify the Agency in writing of any violation of Section 218.413(a)(1)(B) or (b)(1) of this Subpart within 30 days after the occurrence of such violation. Such notification shall include a copy of all records of such violation;
  - 5) If changing the method of compliance between Sections 218.413(a)(1)(B) and 218.413(b) of this Subpart, certify compliance for the new method of compliance in accordance with Section 218.413(b) at least 30 days before making such change, and perform all tests and calculations necessary to demonstrate that such printing lines will be in compliance with the requirements of Section 218.413(a)(1) of this Subpart, or Section 218.413(b) of this Subpart, as applicable.
- e) For letterpress printing line cleaning operations, an owner or operator of a letterpress printing line subject to the requirements of Section 218.413 of this Subpart shall:

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- 1) By August 1, 2010, or upon initial start-up of a new letterpress printing line, whichever is later, certify to the Agency that all cleaning solutions, other than those excluded pursuant to Section 218.412(b), and the handling of all cleaning materials will be in compliance with the requirements of Section 218.413(a)(2)(A) or (a)(2)(B) and (a)(3) of this Subpart. Such certification shall include:
  - A) A statement that the cleaning solution will comply with the limitations in Section 218.413(a)(2);
  - B) Identification of the methods that will be used to demonstrate continuing compliance with the applicable limitations;
  - C) A sample of the records that will be kept pursuant to subsection (e)(2) of this Section; and
  - D) A description of the practices that ensure that VOM-containing cleaning materials are kept in closed containers;
- 2) Collect and record the following information for each cleaning solution used on each letterpress printing line:
  - A) For each cleaning solution for which the owner or operator relies on the VOM content to demonstrate compliance with Section 218.413(a)(2)(A) of this Subpart and that is prepared at the source with automatic equipment:
    - i) The name and identification of each cleaning solution;
    - ii) The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with Section 218.415(c) of this Subpart;
    - iii) Each change to the setting of the automatic equipment, with date, time, description of changes in the cleaning solution constituents (e.g., cleaning solvents), and a description of changes to the proportion of cleaning solvent and water (or other non-VOM);

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- iv) The proportion of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution;
  - v) The VOM content of the as-used cleaning solution, with supporting calculations; and
  - vi) A calibration log for the automatic equipment, detailing periodic checks;
- B) For each batch of cleaning solution for which the owner or operator relies on the VOM content to demonstrate compliance with Section 218.413(a)(2)(A) of this Subpart, and that is not prepared at the source with automatic equipment:
- i) The name and identification of each cleaning solution;
  - ii) Date and time of preparation, and each subsequent modification, of the batch;
  - iii) The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with Section 218.415(c) of this Subpart;
  - iv) The total amount of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution; and
  - v) The VOM content of the as-used cleaning solution, with supporting calculations. For cleaning solutions that are used as purchased, the manufacturer's specifications for VOM content may be used if such manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in Section 218.105(a) of this Part;
- C) For each batch of cleaning solution for which the owner or operator relies on the vapor pressure of the cleaning solution to demonstrate compliance with Section 218.413(a)(2)(B) of this Subpart:

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- i) The name and identification of each cleaning solution;
  - ii) Date and time of preparation, and each subsequent modification, of the batch;
  - iii) The molecular weight, density, and VOM composite partial vapor pressure of each cleaning solvent, as determined in accordance with Section 218.415(e) of this Subpart. For cleaning solutions that are used as purchased, the manufacturer's specifications for VOM composite partial vapor pressure may be used if such manufacturer's specifications are based on results of tests conducted in accordance with methods specified in Sections 218.105(a) and 218.110 of this Part;
  - iv) The total amount of each cleaning solvent used to prepare the as-used cleaning solution; and
  - v) The VOM composite partial vapor pressure of each as-used cleaning solution, as determined in accordance with Section 218.415(e) of this Subpart. For cleaning solutions that are used as purchased, the manufacturer's specifications for VOM composite partial vapor pressure may be used if such manufacturer's specifications are based on results of tests conducted in accordance with methods specified in Sections 218.105(a) and 218.110 of this Part;
- D) The date, time, and duration of scheduled inspections performed to confirm the proper use of closed containers to control VOM emissions, and any instances of improper use of closed containers, with descriptions of actual practice and corrective action taken, if any;
- E) The amount of cleaning materials used on letterpress printing lines at the source that do not comply with the cleaning material limitations set forth in Section 218.413(a)(2) of this Subpart;
- 3) Notify the Agency in writing of any violation of Section 218.413 of this Subpart within 30 days after the occurrence of such violation. Such notification shall include a copy of all records of such violation.

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- f) The owner or operator shall maintain all records required by this Section at the source for a minimum period of three years and shall make all records available to the Agency upon request.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

SUBPART II: FIBERGLASS BOAT MANUFACTURING MATERIALS

Section 218.891 Emission Limitations and Control Requirements

- a) Except as provided in subsection (f) of this Section, no owner or operator of a source subject to the requirements of this Subpart shall use a subject resin or gel coat at the source unless the resin and gel coat comply with subsection (b)(1) or (b)(2), (c), or (d) of this Section, as well as with subsections (e), (g), and (h) of this Section. For sources complying pursuant to subsection (b) or (c) of this Section, if the non-monomer VOM content of a resin or gel coat exceeds 5 percent, by weight, the excess non-monomer VOM shall be added to the monomer VOM content of the resin or gel coat. The excess non-monomer VOM shall be calculated in accordance with the following equation below:

$$\frac{\text{Excess Non-Monomer VOM}}{\text{Monomer VOM}} = \frac{\text{Non-monomer VOM Content} - 5 \text{ percent, by weight}}{\text{Monomer VOM}}$$

$$\text{Weighted Average Monomer VOM Content} = \frac{\sum_{i=1}^n M_i VOM_i + \sum_{i=1}^n M_i VOM_{nm} - \sum_{i=1}^n 0.05 * M_i}{\sum_{i=1}^n M_i + \sum_{i=1}^n M_i}$$

where:

M<sub>i</sub> = Mass of open molding resin or gel coat (i) used in the past 12 months in an operation, in megagrams.

VOM<sub>i</sub> = Monomer VOM content, by weight percent, of open molding resin or gel coat (i) used in the past 12 months in an operation.

i = Subscript denoting a specific open molding resin or gel coat applied.

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~~n = Number of different open molding resins or gel coats used in the past 12 months in an operation.~~

~~VOM<sub>nm</sub> = Non monomer VOM content, by weight percent, of open molding resin or gel coat (i) used in the past 12 months in an operation.~~

b) VOM Content Limitations

1) Except as provided in subsection (e) of this Section, the monomer VOM content of a subject resin or gel coat shall not exceed the following limitations:

|                       | Weighted average<br>monomer VOM<br>content<br>(weight percent) |
|-----------------------|--|
| A) Production resin   |  |
| i) Atomized spray     | 28   |
| ii) Non-atomized      | 35   |
| B) Pigmented gel coat | 33   |
| C) Clear gel coat     | 48   |
| D) Tooling resin      |  |
| i) Atomized           | 30   |
| ii) Non-atomized      | 39   |
| E) Tooling gel coat   | 40   |

2) Except as provided in subsection (e) of this Section, the weighted average monomer VOM content of a subject resin or gel coat shall not exceed the applicable limitation set forth in subsection (b)(1) of this Section on a 12-

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month rolling average basis. Equation 1 below shall be used to determine the weighted average monomer VOM content for resin and gel coat materials.

Equation 1:

$$\text{Weighted Average Monomer VOM Content} = \frac{\sum_{i=1}^n M_i VOM_i}{\sum_{i=1}^n M_i}$$

where:

$M_i$  = Mass of open molding resin or gel coat (i) used in the past 12 months in an operation, in megagrams;

$VOM_i$  = Monomer VOM content, by weight percent, of open molding resin or gel coat (i) used in the past 12 months in an operation;

$n$  = Number of different open molding resins or gel coats used in the past 12 months in an operation.

- c) Emissions Averaging Alternative. The owner or operator of a source subject to the requirements of this Subpart may elect to include some or all of the subject resin and gel coat operations at the source in the emissions averaging alternative. Resin and gel coat operations utilizing the emissions averaging alternative shall comply with a source-specific monomer VOM mass emission limit on a 12-month rolling average basis, calculated at the end of each calendar month. All subject resin and gel coat operations that do not utilize the emissions averaging alternative shall comply with the requirements in subsection (b) or (d) of this Section, as well as with all other applicable requirements in this Section.
- 1) The owner or operator of a source subject to this subsection (c) shall use Equation 2 to determine the source-specific monomer VOM mass emission limit for resin and gel coats included in the emissions average:

Equation 2:

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$$\text{Monomer VOM Limit} = 46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})$$

where:

Monomer VOM Limit = Total allowable monomer VOM that can be emitted from the open molding operations included in the average, expressed in kilograms per 12-month period;

$M_R$  = Mass of production resin used in the past 12 months, excluding any materials that are exempt, expressed in megagrams (Mg);

$M_{PG}$  = Mass of pigmented gel coat used in the past 12 months, excluding any materials that are exempt, expressed in Mg;

$M_{CG}$  = Mass of clear gel coat used in the past 12 months, excluding any materials that are exempt, expressed in Mg;

$M_{TR}$  = Mass of tooling resin used in the past 12 months, excluding any materials that are exempt, expressed in Mg;

$M_{TG}$  = Mass of tooling gel coat used in the past 12 months, excluding any materials that are exempt, expressed in Mg.

The numerical coefficients associated with each term on the right hand side of Equation 2 are the allowable monomer VOM emission rates for that particular material in units of kg VOM/Mg of material used.

- 2) At the end of the first 12-month averaging period, and at the end of each subsequent month, the owner or operator of a source subject to this subsection (c) shall use Equation 3 to calculate the monomer VOM emissions from the resin and gel coat operations included in the emissions average to determine whether the emissions exceed the limitation ~~calculated using Equation 2.~~ The monomer VOM emissions calculated



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using Equation 3 shall not exceed the monomer VOM limit calculated using Equation 2.

Equation 3:

$$\begin{array}{l} \text{Monomer} \\ \text{VOM} \\ \text{Emissions} \end{array} = \frac{(PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})}{(PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})}$$

where:

Monomer VOM Emissions = Monomer VOM emissions calculated using the monomer VOM emission equations for each operation included in the average, expressed in kilograms;

PV<sub>R</sub> = Weighted-average monomer VOM emission rate for production resin used in the past 12 months, expressed in kg/Mg, calculated in accordance with Equation 4 in subsection (c)(3);

M<sub>R</sub> = Mass of production resin used in the past 12 months, expressed in Mg;

PV<sub>PG</sub> = Weighted-average monomer VOM emission rate for pigmented gel coat used in the past 12 months, expressed in kg/Mg, calculated pursuant to Equation 4;

M<sub>PG</sub> = Mass of pigmented gel coat used in the past 12 months, expressed in Mg;

PV<sub>CG</sub> = Weighted-average monomer VOM emission rate for clear gel coat used in the past 12 months, expressed in kg/Mg, calculated pursuant to Equation 4;

M<sub>CG</sub> = Mass of clear gel coat used in the past 12 months, expressed in Mg;

PV<sub>TR</sub> = Weighted-average monomer VOM emission rate for tooling resin used in the past 12 months, expressed in kg/Mg, calculated pursuant to Equation 4;

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- $M_{TR}$  = Mass of tooling resin used in the past 12 months, expressed in Mg;
- $PV_{TG}$  = Weighted-average monomer VOM emission rate for tooling gel coat used in the past 12 months, expressed in kg/Mg, calculated pursuant to Equation 4;
- $M_{TG}$  = Mass of tooling gel coat used in the past 12 months, expressed in Mg.

- 3) For purposes of Equation 3, the owner or operator of a source subject to this subsection (c) shall use Equation 4 to calculate the weighted-average monomer VOM emission rate for the previous 12 months for each resin and gel coat operation included in the emissions average, except as provided in subsection (e) of this Section.

Equation 4:

$$PV_{OP} = \frac{\sum_{i=1}^n M_i PV_i}{\sum_{i=1}^n M_i}$$

where:

- $PV_{OP}$  = Weighted-average monomer VOM emission rate for each open molding operation ( $PV_R$ ,  $PV_{PG}$ ,  $PV_{CG}$ ,  $PV_{TR}$ , and  $PV_{TG}$ ) included in the average, expressed in kg of monomer VOM per Mg of material applied;
- $M_i$  = Mass of resin or gel coat (i) used within an operation in the past 12 months, expressed in Mg;
- $n$  = Number of different open molding resins and gel coats used within an operation in the past 12 months;
- $PV_i$  = The monomer VOM emission rate for resin or gel coat (i) used within an operation in the past 12 months, expressed in kg of monomer VOM per Mg of material

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applied. The monomer VOM emission rate formulas in subsection (c)(4) of this Section shall be used to compute  $PV_i$ . If a source includes filled resins in the emissions average, the source shall use the value of  $PV_F$ , calculated using Equation 5 in subsection (e)(3) of this Section, as the value of  $PV_i$  for those resins;

i = Subscript denoting a specific open molding resin or gel coat applied.

4) For purposes of Equation 4 and subsection (e)(3) of this Section, the following monomer VOM emission rate formulas shall apply. Such formulas calculate monomer VOM emission rates in terms of kg of monomer VOM per Mg of resin or gel coat applied. "VOM%" means the monomer VOM content as supplied, expressed as a weight percent value between 0 and 100 percent:

A) Production resin, tooling resin:

i) Atomized:  $0.014 \times (\text{Resin VOM}\%)^{2.425}$

ii) Atomized, plus vacuum bagging with roll-out:  $0.01185 \times (\text{Resin VOM}\%)^{2.425}$

iii) Atomized, plus vacuum bagging without roll-out:  $0.00945 \times (\text{Resin VOM}\%)^{2.425}$

iv) Nonatomized:  $0.014 \times (\text{Resin VOM}\%)^{2.275}$

v) Nonatomized, plus vacuum bagging with roll-out:  $0.0110 \times (\text{Resin VOM}\%)^{2.275}$

vi) Nonatomized, plus vacuum bagging without roll-out:  $0.0076 \times (\text{Resin VOM}\%)^{2.275}$

B) Pigmented gel coat, clear gel coat, tooling gel coat:  $0.445 \times (\text{Gel Coat VOM}\%)^{1.675}$

d) Capture System and Control Device Requirements. No owner or operator of a source subject to the requirements of this Subpart that is utilizing a capture system

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and control device for a subject resin or gel coat operation shall conduct that operation unless the following requirements are satisfied:

- 1) An afterburner or carbon adsorber is installed and operated that meets the limitations set forth in this subsection (d). The owner or operator may use an emissions control system other than an afterburner or carbon adsorber if that device complies with all limitations in this subsection (d), the owner or operator submits a plan to the Agency detailing appropriate monitoring devices, test methods, recordkeeping requirements, and operating parameters for the control device, and the plan is approved by the Agency and approved by USEPA as a SIP revision within federally enforceable permit conditions;
  - 2) The VOM emissions at the outlet of the control device meet an emissions limitation determined using Equation 2 in subsection (c)(1) of this Section. In Equation 2, however, instead of using the mass of each material used over the past 12 months to determine the emission limitation, the owner or operator shall use the mass of each material used during the applicable control device performance test;
  - 3) The owner or operator complies with all testing and monitoring requirements set forth in Section 218.892 of this Subpart.
- e) Filled Resins. For all filled production and tooling resins, the owner or operator of a source subject to this Subpart shall adjust the monomer VOM emission rates determined pursuant to subsections (b) and (c) of this Section using Equation 5 in subsection (e)(3). If complying pursuant to subsection (b), the emission rate determined using Equation 5 shall not exceed the limitations set forth in subsections (e)(1) and (e)(2) of this Section. If complying pursuant to subsection (c), the value of  $PV_F$ , calculated using Equation 5, shall be used as the value of  $PV_i$  in Equation 4, as set forth in subsection (c)(3) of this Section. If the non-monomer VOM content of a filled resin exceeds 5 percent, by weight, based on the unfilled resin, the excess non-monomer VOM shall be added to the monomer VOM content in accordance with the equation set forth in subsection (a).
- 1) Tooling Resin: 54 kg (119.1 lbs) monomer VOM/Mg filled resin applied;
  - 2) Production Resin: 46 kg (101.4 lbs) monomer VOM/Mg filled resin applied;

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- 3) Equation 5:

$$PV_F = PV_U \times \frac{100 - \% \text{ Filler}}{100}$$

where:

$PV_F$  = The as-applied monomer VOM emission rate for the filled production resin or tooling resin, expressed in kg monomer VOM per Mg of filled material;

$PV_U$  = The monomer VOM emission rate for the unfilled resin, before filler is added, expressed in kg monomer VOM per Mg, as calculated using the formulas in Section 218.891(c)(4) of this Subpart;

% Filler = The weight-percent of filler in the as-applied filled resin system.

- f) The limitations in subsections (a) through (e) of this Section shall not apply to the following materials. These materials shall instead comply with the applicable requirements set forth in subsections (f)(1) through (f)(3).
- 1) Production resins, including skin coat resins, that must meet specifications for use in military vessels or must be approved by the United States Coast Guard for use in the construction of lifeboats, rescue boats, and other life-saving appliances approved under 46 CFR Subchapter Q, incorporated by reference in Section 218.112 of this Part, or for use in the construction of small passenger vessels regulated by 40 CFR Subchapter T, incorporated by reference in Section 218.112 of this Part. The owner or operator of a source subject to this Subpart shall apply all such resins with nonatomizing resin application equipment;
  - 2) Production and tooling resins, and pigmented, clear, and tooling gel coats used for part or mold repair and touch ups. These materials shall not exceed 1 percent, by weight, of all resins and gel coats used at a subject source on a 12-month rolling average basis;
  - 3) Pure, 100 percent vinylester resins used for skin coats. The owner or operator of a source subject to this Subpart shall apply these resins with

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non-atomizing resin application equipment, and the total amount of the resins shall not exceed 5 percent, by weight, of all resins used at the subject source on a 12-month rolling-average basis.

- g) No owner or operator of a source subject to this Subpart shall use VOM-containing cleaning solutions to remove cured resins and gel coats from fiberglass boat manufacturing application equipment. Additionally, no owner or operator shall use VOM-containing cleaning solutions for routine cleaning of application equipment unless:
  - 1) The VOM content of the cleaning solution is less than or equal to 5 percent, by weight; or
  - 2) The composite vapor pressure of the cleaning solution is less than or equal to 0.50 mmHg at 68°F.
  
- h) No owner or operator of a source subject to this Subpart shall use resin or gel coat mixing containers with a capacity equal to or greater than 208 liters (55 gallons), including those used for on-site mixing of putties and polyputties, unless such containers have covers with no visible gaps in place at all times, except when material is being manually added to or removed from a container or when mixing or pumping equipment is being placed in or removed from a container.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.892 Testing and Monitoring Requirements**

- a) Testing to demonstrate compliance with the requirements of Section 218.891 of this Subpart shall be conducted by the owner or operator by May 1, 2012. Thereafter, testing shall be conducted within 90 days after a request by the Agency, or as otherwise specified in this Subpart. The testing shall be conducted at the expense of the owner or operator and the owner or operator shall notify the Agency in writing 30 days in advance of conducting the testing to allow the Agency to be present during testing.
  
- b) Testing to demonstrate compliance with the monomer VOM content limitations for resin and gel coat materials in Section 218.891(b) of this Subpart shall be conducted upon request of the Agency, or as otherwise specified in this Subpart, in accordance with SCAQMD 312-91, incorporated by reference in Section 218.112 of this Part.

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- c) The owner or operator of a source complying with this Subpart pursuant to Section 218.891(d) shall comply with the following:
- 1) By May 1, 2012, or upon initial start-up, whichever is later, and upon start-up of a new control device, conduct an initial performance test of the control device in accordance with this subsection (c) that demonstrates compliance with the emission limitation determined pursuant to Section 218.891(d).
  - 2) Subsequent to the initial performance test described in subsection (c)(1) of this Section, conduct at least one performance test per calendar year. Performance tests used to demonstrate compliance with Section 218.891(d) shall be conducted at least six months apart, unless the performance test is being conducted following an exceedance of operating parameters as described in subsection (c)(3) of this Section, or per a request by the Agency.
  - 3) Monitor and record relevant operating parameters, including the control efficiency of the control device and the amount of materials used in the fiberglass boat manufacturing process, during each control device performance test used to demonstrate compliance with Section 218.891(d). The owner or operator shall continue to operate the fiberglass boat manufacturing process within the parameters until another performance test is conducted that demonstrates compliance with Section 218.891(d). The owner or operator shall monitor the parameters at all times when the control device is in operation. If the fiberglass boat manufacturing process exceeds any operating parameter by more than 10 percent, the owner or operator shall conduct additional performance testing in accordance with this Section within 10 operating days after the exceedance.
  - 4) The methods and procedures of Section 218.105(d) and (f) shall be used for testing to demonstrate compliance with the requirements of Section 218.891(d) of this Subpart, as follows:
    - A) To select the sampling sites, Method 1 or 1A, as appropriate, 40 CFR 60, appendix A, incorporated by reference at Section 218.112 of this Part. The sampling sites for determining efficiency in reducing VOM from the dryer exhaust shall be located between the

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dryer exhaust and the control device inlet, and between the outlet of the control device and the exhaust to the atmosphere;

- B) To determine the volumetric flow rate of the exhaust stream, Method 2, 2A, 2C, or 2D, as appropriate, 40 CFR 60, appendix A, incorporated by reference at Section 218.112 of this Part;
- C) To determine the VOM concentration of the exhaust stream entering and exiting the control device, Method 25 or 25A, as appropriate, 40 CFR 60, appendix A, incorporated by reference at Section 218.112 of this Part. For thermal and catalytic afterburners, Method 25 must be used except under the following circumstances, in which case Method 25A must be used:
  - i) The allowable outlet concentration of VOM from the control device is less than 50 ppmv, as carbon;
  - ii) The VOM concentration at the inlet of the control device and the required level of control result in exhaust concentrations of VOM of 50 ppmv, or less, as carbon; and
  - iii) Due to the high efficiency of the control device, the anticipated VOM concentration at the control device exhaust is 50 ppmv or less, as carbon, regardless of inlet concentration. If the source elects to use Method 25A under this option, the exhaust VOM concentration must be 50 ppmv or less, as carbon, and the required destruction efficiency must be met for the source to have demonstrated compliance. If the Method 25A test results show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, a retest is required. The retest shall be conducted using either Method 25 or 25A. If the retest is conducted using Method 25A and the test results again show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, the source must retest again using Method 25;
- D) Notwithstanding the criteria or requirements in Method 25, which specifies a minimum probe temperature of 129°C (265°F), the



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probe must be heated to at least the gas stream temperature of the dryer exhaust, typically close to 176.7°C (350°F); and

- E) During testing, the fiberglass boat manufacturing operation shall be operated at representative operating conditions and flow rates.
- 5) If an afterburner ~~or carbon adsorber~~ is used to demonstrate compliance, the owner or operator shall:
  - A) Install, calibrate, operate, and maintain temperature monitoring devices with an accuracy of 3°C or 5°F on the emissions control system in accordance with Section 218.105(d)(2) of this Part and in accordance with the manufacturer's specifications. Monitoring shall be performed at all times when the emissions control system is operating; and
  - B) Install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring devices, such as a strip chart, recorder or computer, with at least the same accuracy as the temperature monitor.
- 6) If a carbon adsorber is used to demonstrate compliance, the owner or operator shall use Agency and USEPA approved continuous monitoring equipment that is installed, calibrated, maintained, and operated according to vendor specifications at all times the control device is in use. The continuous monitoring equipment shall monitor the VOM concentration of each carbon adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed.
- 76) If an emissions control system other than an afterburner or carbon adsorber is used to demonstrate compliance, the owner or operator shall install, maintain, calibrate, and operate the monitoring equipment as set forth in the owner's or operator's plan approved by the Agency and USEPA pursuant to Section 218.891(d).
- d) Testing to demonstrate compliance with the VOM content limitations for cleaning solutions in Section 218.891(g) of this Subpart, and with the non-monomer VOM content limitations for resin and gel coat materials in Section 218.891(a) of this

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Subpart, shall be conducted upon request of the Agency, or as otherwise specified in this Subpart, as follows:

- 1) The applicable test methods and procedures specified in Section 218.105(a) of this Part shall be used; provided, however, Method 24, incorporated by reference at Section 218.112 of this Part, shall be used to demonstrate compliance; or
  - 2) For cleaning solvents, the manufacturer's specifications for VOM content may be used if the manufacturer's specifications are based on results of tests of the VOM content conducted in accordance with methods specified in Section 218.105(a) of this Part; provided, however, Method 24 shall be used to determine compliance. In the event of any inconsistency between a Method 24 test and the manufacturer's specifications, the Method 24 test shall govern.
- e) The owner or operator of a source subject to this Subpart and relying on the VOM content of the cleaning solution to comply with Section 218.891(g)(1) of this Subpart shall:
- 1) For cleaning solutions that are prepared at the source with equipment that automatically mixes cleaning solvent and water (or other non-VOM):
    - A) Install, operate, maintain, and calibrate the automatic feed equipment in accordance with manufacturer's specifications to regulate the volume of each of the cleaning solvent and water (or other non-VOM), as mixed; and
    - B) Pre-set the automatic feed equipment so that the consumption rates of the cleaning solvent and water (or other non-VOM), as applied, comply with Section 218.891(g)(1);
  - 2) For cleaning solutions that are not prepared at the source with automatic feed equipment, keep records of the usage of cleaning solvent and water (or other non-VOM) as set forth in Section 218.894(g) of this Subpart.
- f) Testing to demonstrate compliance with the VOM composite partial vapor pressure limitation for cleaning solvents set forth in Section 218.891(g) of this Subpart shall be conducted in accordance with the applicable methods and procedures set forth in Section 218.110 of this Part.

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(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.894 Recordkeeping and Reporting Requirements**

- a) The owner or operator of a source exempt from the limitations of this Subpart because of the criteria in Section 218.890(a) of this Subpart shall:
  - 1) By May 1, 2012, or upon initial start-up, whichever is later, submit a certification to the Agency that includes the following:
    - A) A declaration that the source is exempt from the requirements in this Subpart because of the criteria in Section 218.890(a);
    - B) Calculations that demonstrate that combined emissions of VOM from all subject fiberglass boat manufacturing operations (including solvents used for cleanup operations associated with the fiberglass boat manufacturing operation) at the source never equal or exceed 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment. To calculate daily emissions of VOM, the owner or operator shall determine the monthly emissions of VOM from fiberglass boat manufacturing operations at the source (including solvents used for cleanup operations associated with the fiberglass boat manufacturing operations) and divide the amount by the number of days during that calendar month that the fiberglass boat manufacturing operations were in operation;
  - 2) Collect and record the following information and provide copies of the records to the Agency upon request:
    - A) The total pounds of all resins and gel coats used per calendar month;
    - B) The total gallons of all cleanup materials used per calendar month;
    - C) The VOM content of each resin, gel coat, and cleanup material used per calendar month;

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D) The total VOM emissions, in pounds, for all resins, gel coats, and cleanup materials employed per calendar month, before the application of control systems and devices.

32) Notify the Agency of any record that shows that the combined emissions of VOM from subject fiberglass boat manufacturing operations at the source, including related cleaning activities, ever equal or exceed 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment, within 30 days after the event occurs, and provide copies of the record upon request by the Agency.

b) All sources subject to the requirements of this Subpart shall:

1) By May 1, 2012, or upon initial start-up of the source, whichever is later, and upon start-up of a new fiberglass boat manufacturing operation at the source, submit a certification to the Agency that includes:

- A) Identification of each subject fiberglass boat manufacturing operation as of the date of certification;
- B) A declaration that all subject fiberglass boat manufacturing operations, including related cleaning operations, are in compliance with the requirements of this Subpart;
- C) The limitation with which each subject fiberglass boat manufacturing operation will comply (i.e., the VOM content limitation, the emissions averaging alternative, or the emissions control system alternative);
- D) Initial documentation that each subject fiberglass boat manufacturing operation will comply with the applicable limitation, including copies of manufacturer's specifications, test results (if any), formulation data, and calculations;
- E) Identification of the methods that will be used to demonstrate continuing compliance with the applicable limitations;
- F) A description of the practices and procedures that the source will follow to ensure compliance with the limitations in Section 218.891(h) of this Subpart;

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- G) A description of each fiberglass boat manufacturing operation exempt pursuant to Section 218.890(b) of this Subpart, if any;
  - H) A description of materials subject to Section 218.891(f) of this Subpart, if any, used in each fiberglass boat manufacturing operation;
- 2) At least 30 calendar days before changing the method of compliance in accordance with Section 218.891(b), (c), and (d), notify the Agency in writing of the change. The notification shall include a demonstration of compliance with the newly applicable subsection;
  - 3) Notify the Agency in writing of any violation of the requirements of this Subpart within 30 days following the occurrence of the violation and provide records documenting the violation upon request by the Agency;
  - 4) Retain all records required by this Section for at least three years and make those records available to the Agency upon request.
- c) The owner or operator of a fiberglass boat manufacturing operation subject to the limitations of Section 218.891 of this Subpart and complying by means of Section 218.891(b) shall comply with the following.
- 1) By May 1, 2012, or upon initial start-up, whichever is later, submit a certification to the Agency that includes the name, identification number, and VOM content of each subject resin and gel coat as applied each day by each subject fiberglass boat manufacturing operation;
  - 2) Collect and record the following information each day for each fiberglass boat manufacturing operation complying with Section 218.891(b):
    - A) The name, identification number, and VOM content of each subject resin and gel coat as applied each day by each fiberglass boat manufacturing operation; and
    - B) If complying with Section 218.891(b)(2), the mass of each open molding resin or gel coat as applied each month by each subject fiberglass boat manufacturing operation and the daily weighted

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average VOM content of all subject resins and gel coats as applied by each subject fiberglass boat manufacturing operation.

- d) The owner or operator of a fiberglass boat manufacturing operation subject to the requirements of Section 218.891 of this Subpart and complying by means of Section 218.891(c) shall:
  - 1) On and after May 1, 2012, collect and record the following information each month:
    - A) The amount of production resin, pigmented gel coat, clear gel coat, tooling resin, and tooling gel coat used in each subject fiberglass boat manufacturing operation;
    - B) The VOM content of each production resin, pigmented gel coat, clear gel coat, tooling resin, and tooling gel coat used in each subject fiberglass boat manufacturing operation;
    - C) Total monthly VOM emissions for all subject fiberglass boat manufacturing operations;
  - 2) At the end of the first 12-month averaging period, and at the end of each subsequent month, collect and record the following information:
    - A) The monomer VOM mass emission limit for all subject fiberglass boat manufacturing operations for the applicable 12-month averaging period, with supporting calculations;
    - B) The total actual emissions of VOM from all subject fiberglass boat manufacturing operations for the applicable 12-month averaging period.
- e) The owner or operator of a fiberglass boat manufacturing operation subject to the requirements of Section 218.891 of this Subpart and complying by means of Section 218.891(d) shall:
  - 1) By May 1, 2012, or upon initial start-up, whichever is later, and upon start-up of a new control device, submit a certification to the Agency that includes the following:

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- A) The type of control device used to comply with the requirements of Section 218.891(d);
  - B) The results of all tests and calculations necessary to demonstrate compliance with the requirements of Section 218.891(d); and
  - C) A declaration that the monitoring equipment required under Section 218.892 of this Subpart has been properly installed and calibrated according to manufacturer's specifications;
- 2) Within 90 days after conducting testing pursuant to Section 218.892, submit to the Agency a copy of all test results, as well as a certification that includes the following:
- A) A declaration that all tests and calculations necessary to demonstrate whether the fiberglass boat manufacturing operation is in compliance with Section 218.891(d) have been properly performed;
  - B) A statement whether the fiberglass boat manufacturing operations are or are not in compliance with Section 218.891(d);
  - C) The emissions limitation applicable during the control device performance test, with supporting calculations;
  - D) The operating parameters of the fiberglass boat manufacturing process during testing, as monitored in accordance with Section 218.892;
- 3) Collect and record daily the following information for each fiberglass boat manufacturing operation subject to the requirements of Section 218.891(d), and submit that information to the Agency upon request:
- A) Afterburner or other approved control device monitoring data in accordance with Section 218.892 of this Subpart;
  - B) A log of operating time for the control device and monitoring equipment;

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- C) A maintenance log for the control device and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages;
  - D) Information to substantiate that the fiberglass boat manufacturing operation is operating in compliance with the parameters determined pursuant to Section 218.892.
- f) The owner or operator of a source subject to the requirements in Section 218.891(f) of this Subpart shall collect and record the following information for each fiberglass boat manufacturing operation:
- 1) The name and identification number of each material subject to Section 218.891(f) as applied each day by each subject fiberglass boat manufacturing operation;
  - 2) If subject to Section 218.891(f)(2), the amount of production and tooling resins, and pigmented, clear, and tooling gel coats used for part or mold repair and touch-ups, used each month at the subject source, and the total amount of all resins and gel coats used each month at the subject source;
  - 3) If subject to Section 218.891(f)(3), the amount of pure, 100 percent vinylester resins used for skin coats each month at the subject source, and the total amount of all resins used each month at the subject source.
- g) The owner or operator of a source subject to the requirements of Section 218.891 of this Subpart shall collect and record the following information for each cleaning solution used in each fiberglass boat manufacturing operation:
- 1) For each cleaning solution for which the owner or operator relies on the VOM content to demonstrate compliance with Section 218.891(g) of this Subpart and that is prepared at the source with automatic equipment:
    - A) The name and identification of each cleaning solution;
    - B) The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with Section 218.892(d) of this Subpart;



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- C) Each change to the setting of the automatic equipment, with date, time, description of changes in the cleaning solution constituents (e.g., cleaning solvents), and a description of changes to the proportion of cleaning solvent and water (or other non-VOM);
  - D) The proportion of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution;
  - E) The VOM content of the as-used cleaning solution, with supporting calculations; and
  - F) A calibration log for the automatic equipment, detailing periodic checks;
- 2) For each batch of cleaning solution for which the owner or operator relies on the VOM content to demonstrate compliance with Section 218.891(g), and that is not prepared at the source with automatic equipment:
- A) The name and identification of each cleaning solution;
  - B) Date and time of preparation, and each subsequent modification, of the batch;
  - C) The VOM content of each cleaning solvent in the cleaning solution, as determined in accordance with Section 218.892(d);
  - D) The total amount of each cleaning solvent and water (or other non-VOM) used to prepare the as-used cleaning solution; and
  - E) The VOM content of the as-used cleaning solution, with supporting calculations;
- 3) For each batch of cleaning solution for which the owner or operator relies on the vapor pressure of the cleaning solution to demonstrate compliance with Section 218.891(g):
- A) The name and identification of each cleaning solution;
  - B) Date and time of preparation, and each subsequent modification, of the batch;

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- C) The molecular weight, density, and VOM composite partial vapor pressure of each cleaning solvent, as determined in accordance with Section 218.892(f) of this Subpart;
- D) The total amount of each cleaning solvent, including water, used to prepare the as-used cleaning solution; and
- E) The VOM composite partial vapor pressure of each as-used cleaning solution, as determined in accordance with Section 218.110 of this Part.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

SUBPART JJ: MISCELLANEOUS INDUSTRIAL ADHESIVES

**Section 218.901 Emission Limitations and Control Requirements**

- a) The owner or operator of a source subject to the requirements of this Subpart shall comply with the limitations in subsection (b), (c), or (d) of this Section, as well as with the limitations in subsections (e) and (f) of this Section. Notwithstanding this requirement, sources subject to Section 218.900(b)(2) shall comply with the limitations in subsection (f) of this Section only.
- b) The owner or operator of adhesive application operations listed in this subsection (b) shall comply with the following VOM emission limitations, minus water and any compounds that are specifically exempted from the definition of VOM, as applied. If an adhesive is used to bond dissimilar substrates together, the substrate category with the highest VOM emission limitation shall apply:

|  | kg VOM/l<br>adhesive or<br>adhesive<br>primer<br>applied | lb VOM/gal<br>adhesive or<br>adhesive<br>primer<br>applied |
|--|--|--|
| 1) General adhesive application operations |  |  |
| A) Reinforced plastic composite            | 0.200  | (1.7)  |
| B) Flexible vinyl                          | 0.250  | (2.1)  |

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|    |   |       |       |
|----|---|-------|-------|
| C) | Metal   | 0.030 | (0.3) |
| D) | Porous material (except wood)   | 0.120 | (1.0) |
| E) | Rubber  | 0.250 | (2.1) |
| F) | Wood  | 0.030 | (0.3) |
| G) | Other substrates  | 0.250 | (2.1) |
| 2) | Specialty adhesive application operations                                     |       |       |
| A) | Ceramic tile installation   | 0.130 | (1.1) |
| B) | Contact adhesive  | 0.250 | (2.1) |
| C) | Cove base installation  | 0.150 | (1.3) |
| D) | Indoor floor covering installation  | 0.150 | (1.3) |
| E) | Outdoor floor covering installation   | 0.250 | (2.1) |
| F) | Installation of perimeter bonded<br>sheet flooring                            | 0.660 | (5.5) |
| G) | Metal to urethane/rubber molding<br>or casting                                | 0.850 | (7.1) |
| H) | Motor vehicle adhesive  | 0.250 | (2.1) |
| I) | Motor vehicle weatherstrip<br>adhesive  | 0.750 | (6.3) |
| J) | Multipurpose construction   | 0.200 | (1.7) |
| K) | Plastic solvent welding<br>(acrylonitrile butadiene styrene<br>(ABS) welding) | 0.400 | (3.3) |

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| L) | Plastic solvent welding (except ABS welding)  | 0.500 | (4.2) |
| M) | Sheet rubber lining installation  | 0.850 | (7.1) |
| N) | Single-ply roof membrane installation/repair (except ethylene propylenediene monomer (EPDM) roof membrane)  | 0.250 | (2.1) |
| O) | Structural glazing  | 0.100 | (0.8) |
| P) | Thin metal laminate   | 0.780 | (6.5) |
| Q) | Tire repair   | 0.100 | (0.8) |
| R) | Waterproof resorcinol glue  | 0.170 | (1.4) |
| 3) | Adhesive primer application operations  |       |       |
| A) | Motor vehicle glass bonding primer  | 0.900 | (7.5) |
| B) | Plastic solvent welding adhesive primer   | 0.650 | (5.4) |
| C) | Single-ply roof membrane adhesive primer  | 0.250 | (2.1) |
| D) | Other adhesive primer   | 0.250 | (2.1) |
| c) | No owner or operator of a source subject to this Subpart shall operate a miscellaneous industrial adhesive application operation unless the daily-weighted average VOM content of subject adhesives as applied each day by the operation, calculated in accordance with subsection (c)(1) of this Section, is less than or equal to the emissions limitation calculated in accordance with subsection (c)(2) of this Section. |       |       |
| 1) | Weighted Average of VOM Content of Adhesives Applied Each Day   |       |       |

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$$VOM_{WA} = \frac{\sum_{i=1}^n V_i VOM_i}{\sum_{i=1}^n V_i}$$

$$VOM_{WA} = \frac{\sum_{i=1}^n M_i VOM_i}{\sum_{i=1}^n M_i}$$

where:

$VOM_{WA}$  = The weighted average VOM content in units of kg (lbs) VOM per volume in l (gal) of all subject adhesives as applied each day;

i = Subscript denoting a specific adhesive as applied;

n = The number of different adhesives as applied each day by each miscellaneous industrial adhesive application operation;

$V_i$  = The ~~volumemass~~ volumemass of each adhesive, as applied, in units of ~~kg/l (lb/gal)~~ kg/l (lb/gal);

$VOM_i$  = The VOM content in units of kg (lbs) VOM per volume in l (gal) of each adhesive as applied;

2) Allowable~~Mass~~ Weighted Average VOM Limit for an Averaging Operation

$$Limit_{WA} = \frac{\sum_{i=1}^n V_i Limit_i}{\sum_{i=1}^n V_i}$$

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$$\text{Limit}_{WA} = \frac{\sum_{i=1}^n M_i \text{Limit}_i}{\sum_{i=1}^n M_i}$$

where:

$\text{Limit}_{WA}$  = The allowable mass weighted average VOM limit in units of kg (lbs) VOM per volume in l (gal) of all subject adhesives as applied each day in a single operation;

$i$  = Subscript denoting a specific adhesive as applied;

$n$  = The number of different adhesives as applied each day by each miscellaneous industrial adhesive application operation;

$M_i$  = The volumemass of each adhesive, as applied, in units of  $\text{kg/l}$  ( $\text{lb/gal}$ );

$\text{Limit}_i$  = The VOM limit, taken from subsection (b) of this Section, in units of kg (lbs) VOM per volume in l (gal) of each adhesive as applied.

- d) No owner or operator of a source subject to this Subpart shall operate a miscellaneous industrial adhesive application operation employing a capture system and control device unless either:
- 1) An afterburner or carbon adsorption system is used that provides at least 85 percent reduction in the overall emissions of VOM from the application operation;
  - 2) An alternative capture and control system is used that provides at least 85 percent reduction in the overall emissions of VOM from the application operation and is approved by the Agency and approved by USEPA as a SIP revision~~within federally enforceable permit conditions~~. The owner or operator shall submit a plan to the Agency detailing appropriate monitoring devices, test methods, recordkeeping requirements, and operating parameters for the control device; or

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- 3) The owner or operator complies with the applicable limitation set forth in subsection (b) of this Section by utilizing a combination of low-VOM adhesives and an afterburner or carbon adsorption system. The owner or operator may use an alternative capture and control system if the owner or operator submits a plan to the Agency detailing appropriate monitoring devices, test methods, recordkeeping requirements, and operating parameters for the capture and control system and the system is approved by the Agency and approved by USEPA as a SIP revision~~within federally enforceable permit conditions.~~
- e) The owner or operator of a source subject to this Subpart shall apply all miscellaneous industrial adhesives using one or more of the following methods:
  - 1) Electrostatic spray;
  - 2) High volume low pressure (HVLP) spray;
  - 3) Flow coating. For the purposes of this Subpart, flow coating means a non-atomized technique of applying coating to a substrate with a fluid nozzle with no air supplied to the nozzle;
  - 4) Roll coating or hand application, including non-spray application methods similar to hand or mechanically powered caulking gun, brush, or direct hand application;
  - 5) Dip coating, including electrodeposition. For purposes of this Subpart, "electrodeposition" means a water-borne dip coating process in which opposite electrical charges are applied to the substrate and the coating. The coating is attracted to the substrate due to the electrochemical potential difference that is created;
  - 6) Airless spray;
  - 7) Air-assisted airless spray; or
  - 8) Another adhesive application method capable of achieving a transfer efficiency equal to or better than that achieved by HVLP spraying, if the method is approved in writing by the Agency.

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- f) The owner or operator of a source subject to this Subpart shall comply with the following work practices for each subject miscellaneous adhesive application operation at the source:
- 1) Store all VOM-containing adhesives, adhesive primers, process-related waste materials, cleaning materials, and used shop towels in closed containers;
  - 2) Ensure that mixing and storage containers used for VOM-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials are kept closed at all times except when depositing or removing those materials;
  - 3) Minimize spills of VOM-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials;
  - 4) Convey VOM-containing adhesives, adhesive primers, process-related waste materials, and cleaning materials from one location to another in closed containers or pipes; and
  - 5) Minimize VOM emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.902 Testing Requirements**

- a) Testing to demonstrate compliance with the requirements of this Subpart shall be conducted by the owner or operator by May 1, 2012. Thereafter, testing shall be conducted within 90 days after a request by the Agency, or as otherwise provided in this Subpart. The testing shall be conducted at the expense of the owner or operator and the owner or operator shall notify the Agency in writing 30 days in advance of conducting the testing to allow the Agency to be present during testing.
- b) Testing to demonstrate compliance with the VOM content limitations in Section 218.901(b) of this Subpart shall be conducted as follows:



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- 1) Method 24, incorporated by reference in Section 218.112 of this Part, shall be used for non-reactive adhesives. If it is demonstrated to the satisfaction of the Agency and the USEPA that plant adhesive formulation data are equivalent to Method 24 results, formulation data may be used. In the event of any inconsistency between a Method 24 test and a facility's formulation data, the Method 24 test will govern;
  - 2) Appendix A of 40 CFR 63, Subpart PPPP, incorporated by reference in Section 218.112 of this Part, shall be used for reactive adhesives.
  - 3) The manufacturer's specifications for VOM content for adhesives may be used if the specifications are based on results of tests of the VOM content conducted in accordance with methods specified in subsections (b)(1) and (b)(2) of this Section, as applicable.
- c) For afterburners and carbon adsorbers, the methods and procedures of Section 218.105(d) through (f) of this Part shall be used for testing to demonstrate compliance with the requirements of Section 218.901(d) of this Subpart, as follows:
- 1) To select the sampling sites, Method 1 or 1A, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part;
  - 2) To determine the volumetric flow rate of the exhaust stream, Method 2, 2A, 2C, or 2D, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part;
  - 3) To determine the VOM concentration of the exhaust stream entering and exiting the emissions control system, Method 25 or 25A, as appropriate, 40 CFR 60, appendix A, incorporated by reference in Section 218.112 of this Part. For thermal and catalytic afterburners, Method 25 must be used, except under the following circumstances, in which case Method 25A must be used:
    - A) The allowable outlet concentration of VOM from the emissions control system is less than 50 ppmv, as carbon;
    - B) The VOM concentration at the inlet of the emissions control system and the required level of control result in exhaust concentrations of VOM of 50 ppmv, or less, as carbon;

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- C) Due to the high efficiency of the emissions control system, the anticipated VOM concentration at the emissions control system exhaust is 50 ppmv or less, as carbon, regardless of inlet concentration. If the source elects to use Method 25A under this option, the exhaust VOM concentration must be 50 ppmv or less, as carbon, and the required destruction efficiency must be met for the source to have demonstrated compliance. If the Method 25A test results show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, a retest is required. The retest shall be conducted using either Method 25 or 25A. If the retest is conducted using Method 25A and the test results again show that the required destruction efficiency apparently has been met, but the exhaust concentration is above 50 ppmv, as carbon, the source must retest using Method 25;
  - D) During testing, the cleaning equipment shall be operated at representative operating conditions and flow rates.
- d) An owner or operator using an emissions control system other than an afterburner or carbon adsorber shall conduct testing to demonstrate compliance with the requirements of Section 218.901(d) as set forth in the owner's or operator's plan approved by the Agency and USEPA pursuant to Section 218.901(d)(3).

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.903 Monitoring Requirements**

- a) If an afterburner ~~or carbon adsorber~~ is used to demonstrate compliance, the owner or operator of a source subject to Section 218.901(d) of this Subpart shall:
  - 1) Install, calibrate, operate, and maintain temperature monitoring devices with an accuracy of 3°C or 5°F on the emissions control system in accordance with Section 218.105(d)(2) of this Part and in accordance with the manufacturer's specifications. Monitoring shall be performed at all times when the emissions control system is operating; and
  - 2) Install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring

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devices, such as a strip chart, recorder or computer, with at least the same accuracy as the temperature monitor.

- b) If a carbon adsorber is used to demonstrate compliance, the owner or operator of a source subject to Section 218.901(d) of this Subpart shall use Agency and USEPA approved continuous monitoring equipment that is installed, calibrated, maintained, and operated according to vendor specifications at all times the control device is in use. The continuous monitoring equipment shall monitor the VOM concentration of each carbon adsorption bed exhaust or the exhaust of the bed next in sequence to be desorbed.
- c) If an emissions control system other than an afterburner or carbon adsorber is used to demonstrate compliance, the owner or operator of a source subject to Section 218.901(d) of this Subpart shall install, maintain, calibrate, and operate the monitoring equipment as set forth in the owner's or operator's plan approved by the Agency and USEPA pursuant to Section 218.901(d)(3).

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 218.904 Recordkeeping and Reporting Requirements**

- a) The owner or operator of a source exempt from the limitations of this Subpart because of the criteria in Section 218.900(a) of this Subpart shall comply with the following:
- 1) By May 1, 2012, or upon initial start-up of the source, whichever is later, submit a certification to the Agency that includes:
    - A) A declaration that the source is exempt from the requirements of this Section because of the criteria in Section 218.900(a);
    - B) Calculations that demonstrate that combined emissions of VOM from miscellaneous industrial adhesive application operations at the source, including related cleaning activities, never equal or exceed 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment. To calculate daily emissions of VOM, the owner or operator shall determine the monthly emissions of VOM from miscellaneous industrial adhesive application operations at the source (including related cleaning activities) and divide this amount by the number of days during that calendar month that

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miscellaneous industrial adhesive application operations at the source were in operation;

- 2) Collect and record the following information each month for each miscellaneous industrial adhesive application operation, maintain the information at the source for a period of three years, and provide the information to the Agency upon request:
    - A) The name and identification number of each adhesive as applied by each miscellaneous industrial adhesive application operation; and
    - B) The weight of VOM per volume and the volume of each adhesive (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each month by each miscellaneous industrial adhesive application operation;
  - 3) Notify the Agency of any record that shows that the combined emissions of VOM from miscellaneous industrial adhesive application operations at the source, including related cleaning activities, ever equal or exceed 6.8 kg/day (15 lbs/day), in the absence of air pollution control equipment, within 30 days after the event occurs, and provide copies of those records upon request by the Agency.
- b) All sources subject to the requirements of this Subpart shall:
- 1) By May 1, 2012, or upon initial start-up of the source, whichever is later, submit a certification to the Agency that includes:
    - A) Identification of each subject adhesive application operation as of the date of certification;
    - B) A declaration that all subject adhesive application operations are in compliance with the requirements of this Subpart;
    - C) The limitation with which each subject adhesive application operation will comply (i.e., the VOM content limitation, the daily weighted averaging alternative, or the emissions control system alternative);

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- D) Initial documentation that each subject adhesive application operation will comply with the applicable limitation, including copies of manufacturer's specifications, test results (if any), formulation data, and calculations;
  - E) Identification of the methods that will be used to demonstrate continuing compliance with the applicable limitations;
  - F) A description of the practices and procedures that the source will follow to ensure compliance with the limitations in Section 218.901(f) of this Subpart;
  - G) A description of each adhesive application operation exempt pursuant to Section 218.900(b)(2) of this Subpart, if any; and
  - H) The application methods used by each subject adhesive application operation;
- 2) At least 30 calendar days before changing the method of compliance in accordance with Section 218.901(b), (c), and (d), notify the Agency in writing of the change. The notification shall include a demonstration of compliance with the newly applicable subsection;
  - 3) Notify the Agency in writing of any violation of the requirements of this Subpart within 30 days following the occurrence of the violation and provide records documenting the violation upon request by the Agency;
  - 4) Retain all records required by this Section for at least three years and make those records available to the Agency upon request.
- c) The owner or operator of an adhesive application operation subject to the limitations of Section 218.901 of this Subpart and complying by means of Section 218.901(b) shall comply with the following:
    - 1) By May 1, 2012, or upon the initial start-up date, whichever is later, submit a certification to the Agency that includes the name, identification number, and VOM content of each adhesive as applied by each subject adhesive application operation;

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- 2) Collect and record the name, identification number, and VOM content of each adhesive as applied each day by each adhesive application operation complying with Section 218.901(b).
- d) The owner or operator of an adhesive application operation subject to the limitations of Section 218.901 of this Subpart and complying by means of Section 218.901(c) shall comply with the following:
  - 1) By May 1, 2012, or upon initial start-up, whichever is later, submit a certification to the Agency that includes the name, identification number, and VOM content of each adhesive as applied by each subject adhesive application operation;
  - 2) Collect and record the following information each day for each adhesive application operation complying by means of Section 218.901(c):
    - A) The name, identification number, ~~and VOM content,~~ and volume of each adhesive as applied each day by each subject adhesive application operation;
    - B) The daily weighted average VOM content of all adhesives as applied by each subject adhesive application operation.
- e) The owner or operator of an adhesive application operation subject to the requirements of Section 218.901 of this Subpart and complying by means of Section 218.901(d) shall:
  - 1) By May 1, 2012, or upon the initial start-up date, whichever is later, and upon initial start-up of a new control device, submit a certification to the Agency that includes the following:
    - A) The type of afterburner or other approved control device used to comply with the requirements of Section 218.901(d);
    - B) The results of all tests and calculations necessary to demonstrate compliance with the control requirements of Section 218.901(d);  
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- C) A declaration that the monitoring equipment required under Section 218.903 of this Subpart has been properly installed and calibrated according to manufacturer's specifications;
- 2) Within 90 days after conducting testing pursuant to Section 218.902 of this Subpart, submit to the Agency a copy of all test results, as well as a certification that includes the following:
- A) A declaration that all tests and calculations necessary to demonstrate whether the adhesive application operations are in compliance with Section 218.901(d) have been properly performed;
  - B) A statement whether the adhesive application operations are or are not in compliance with Section 218.901(d); and
  - C) The operating parameters of the afterburner or other approved control device during testing, as monitored in accordance with Section 218.903 of this Subpart;
- 3) Collect and record daily the following information for each adhesive application operation subject to the requirements of Section 218.901(d):
- A) Afterburner or other approved control device monitoring data in accordance with Section 218.903 of this Subpart;
  - B) A log of operating time for the afterburner or other approved control device, monitoring equipment, and the associated application unit; and
  - C) A maintenance log for the afterburner or other approved control device and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages.

(Source: Amended at 35 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)