



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

MEMORANDUM

TO: Board of Environmental Protection
FROM: Jeff Crawford, Bureau of Air Quality
DATE: April 15, 2010
RE: Adoption: Chapter 123 Control of Volatile Organic Compounds from Paper, Film and Foil Coating Operations

Statutory and Regulatory Reference:

A. Statutory authority.

38 MRSA Section 585-A provides that the Board of Environmental Protection "may establish and amend regulations to implement ambient air quality standards and emission standards. These regulations shall be designed to achieve and maintain ambient air quality standards and emission standards within any region and prevent air pollution."

B. Specific legal mandates requiring adoption.

Section 184 of the Clean Air Act requires states to implement or update reasonably available control technology (RACT) controls on all major VOC and NOx emission sources and on source categories covered by a Control Technique Guideline (CTG) document.

EPA developed a CTG that included paper coatings, *Control of Volatile Organic Emissions from Existing Stationary Sources-Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles and Light-Duty Trucks (1977)* and created an updated version, *Control Technique Guidelines for Paper, Film and Foil Coatings*, in September 2007.

Location/Applicability:

The regulation will apply statewide.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04679-2094
(207) 764-0477 FAX: (207) 760-3143

Background:

Section 184 of the Clean Air Act requires states to implement or update reasonably available control technology (RACT) controls on all major VOC and NOx emission sources and on source categories covered by a Control Technique Guideline (CTG) document. EPA defines RACT as the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. In May 1977, EPA published a CTG for controlling VOC emissions from surface coating of paper, which it updated in September 2007.

The paper, film and foil coatings include coatings that are applied to paper, film and foil surfaces in the manufacturing of several major product types including pressure sensitive tape and labels, industrial and decorative laminates, and photographic film. This category also includes coatings applied during miscellaneous coating operations of corrugated and solid fiber boxes and folding paperboard boxes.

The current Chapter 123 only regulates surface coating of paper. The proposed amendments will add control requirements for the surface coating of film and foil substrates. In addition, the proposal incorporates work practices to minimize VOC emissions.

The Department is proposing these amendments as part of its effort to satisfy the RACT requirements mandated under the CAA and regulations related to the 1997 8-hour ozone NAAQS. According to the EPA's Final Rule to Implement the 8-Hour Ozone NAAQS (70 FR 71612, November 29, 2005), areas classified as "moderate" nonattainment or higher¹ must submit a revision to the SIP rules for all CTG categories. The proposed amendments to Chapter 123 will fulfill Maine's requirement to promulgate rules and implement controls meeting the 2007 CTG for paper, film and foil coatings.

Discussion:

Based on comments received from six people during the comment period, the Department amended its original proposal in the following areas (shades areas in the attached rule):

Applicability: The rule explicitly states that the following activities as outlined in the CTG guideline are not regulated by Chapter 123: (1) size presses and on-machine coaters on papermaking machines that apply sizing or water-based clays; (2) the application of inks, coatings or adhesives in association with flexible package printing; and (3) coating performed on or in-line with any offset lithographic, screen, letterpress, flexographic, rotogravure or digital printing press. In addition, an exemption is included for off-machine coaters used in the papermaking process that use coatings with a VOC content less than 2.9 lbs VOC/gallon.

Definitions: The Department added a definition for off-machine coater used in the paper making process.

¹ Maine is treated as a moderate nonattainment area under the Clean Air Act by way of its inclusion in the Ozone Transport Region.

Work practices: The Department clarified that most of the work practices listed in Section 4 of the rule apply to coatings or cleaning solvents containing greater than 2.9 lbs VOC/gallon. In addition, the amendments give the sources some flexibility in disposal of VOC-containing coating and cleaning solvents by complying with their air emission license requirements.

Environmental Issues:

Volatile organic compounds contribute to ground-level ozone formation or smog which aggravates respiratory ailments such as asthma, bronchitis, and emphysema. The presence of ozone impedes the breathing of even healthy people.

Departmental Recommendation:

The Department recommends that the Board adopt Chapter 123 as presented.

Estimated Time of Presentation:

15 minutes

SUPPLEMENTAL BASIS STATEMENT
CHAPTER 123 CONTROL OF VOLATILE ORGANIC COMPOUNDS FROM PAPER,
FILM AND FOIL COATING OPERATIONS
APRIL 15, 2010

Commenters

1. Thomas Griffin
Sappi
Skowhegan, Maine
2. Dixon Pike
Pierce Atwood
Portland, Maine
3. Joe Lynch
Verso Paper
Bucksport, Maine
4. Jeffrey O'Hearn
Panolam Industries
Shelton, Connecticut
5. Steven Whipple
Woodard and Curran
Portland, Maine
(representing Dingley Press)
6. Michael Obrien
Auburn Manufacturing
Mechanic Falls, Maine

Applicability

1. Comment: Based on language from the EPA's Control Techniques Guideline (CTG) document for paper coating, the commenters urge the Department to include a sentence in Section 1(B) clarifying that the rule does not apply to size presses and on-line coaters on paper machines. EPA's CTG document states that: "Size presses and on-machine coatings that function as part of an in-line papermaking system are not part of the paper, film and foil coatings category." (commenters 1, 2, 3)

In addition, commenter 3 requests that the Department exempt off-machine coaters when they are used as part of the papermaking system. The difference between the two types is in machine design. One has the coating applied on the machine and the other is

transported from the machine to an off-machine coater where the paper making process is completed. The type and amount of VOC emissions, while extremely minute, are the same and the end product is no different. Both machines apply water-based clay coatings. The only difference is one machine has an on-machine coater and the other uses an off-machine coater. (commenter 3)

Response: To clarify that Chapter 123 does not apply to this process, the Department added a new subsection (Section 1(C)) that provides for exempted activities and included a definition for off-machine coater in Section 2. The Department agrees that the off-machine coater should also be exempt for the reasons stated by the commenter.

Section 1(C) This regulation does not apply to the following activities:

1. Size presses and on-machine coaters on papermaking machines that apply sizing (e.g., starch) or water-based clays;

2. Off-machine coaters used in the paper making process that use coatings with a VOC content less than 2.9 lbs VOC/gallon;

3. The application of inks, coatings or adhesives in association with flexible package printing; or

4. Coating performed on or in-line with any offset lithographic, screen, letterpress, flexographic, rotogravure or digital printing press.

2. Comment: Facilities where the total actual VOC emissions from all paper, film and foil coating operations, including related cleaning activities, do not exceed 6.8 kg/day (15 lbs/day) or an equivalent level such as 3 tons per 12-month rolling period, before consideration of controls should be exempt. This is consistent with the recommendations in EPA's CTG for Paper Coaters. (commenter 5, 6)

Response: After careful review, the Department has determined that Dingley Press is not subject to Chapter 123 but is regulated by the Department's Chapter 161 Graphic Arts-Offset Lithography and Letterpress Printing. Auburn Manufacturing is not subject to Chapter 123, but may be subject to the Department's Chapter 129 Surface Coating Facilities if its VOC emissions are above the applicability level in the rule. No change to the rule.

3. Commenter 6 adds that his company manufactures technical fabrics and applies coatings to them. Some of the coatings are simple pigmentation for identification purposes, such as pigmenting a fiberglass fabric with a "safety" orange color. Most of our coatings are delivered from water-base, latex systems which generally have very low VOC levels. (commenter 6)

Response: Chapter 123 applies to fabric coating for use in abrasive products only. Fabric coating facilities are subject to Chapter 129 Surface Coating Facilities, which

regulates the surface coating of fabric, cans, vinyl, flatwood paneling, metal furniture, and miscellaneous metal parts. Auburn Manufacturing Inc. may be subject to Chapter 129 if its VOC emissions are above the applicability level in the rule.

4. Comment: Coating performed on, or in-line with any offset lithographic, screen, letterpress, flexographic, rotogravure, or digital printing press as it is part of a printing process and is not part of the paper, film and foil coating category should be exempt. This is consistent with the recommendations in EPA's CTG for Paper Coaters. (commenter 5)

Response: The Department agrees and added the following language to Section 1(C) indicating the rule does not apply to these activities:

The application of inks, coatings or adhesives in association with flexible package printing; and

Coating performed on or in-line with any offset lithographic, screen, letterpress, flexographic, rotogravure, or digital printing press.

Definitions

5. Comment: A definition should be provided for "film and foil". (commenter 4)

Response: The Department believes the change in the paper coating definition by adding film and foil and a description of the coating process in the proposed amendments is sufficient. The commenter does not provide any reason why the definitions are necessary.

Work practices

6. Comment: The proposed work practice standards found in Section 4 should only apply to coatings containing in excess of 2.9 lbs VOC/gallon of coating (excluding water and negligibly reactive VOC) and not those sources that use coatings that comply with the VOC limits in Section 3(A) of the regulation. The use of closed containers specified in Section 4(A) constitutes a type of emission control equipment, and based on the regulation, use of coatings containing less than 2.9 lbs of VOC/gallon of coating is a pollution prevention approach to compliance which does not require emission control equipment. Most of the coating performed is done with "aqueous-based coating" typically containing only trace amounts of VOC. These are often stored and handled in open tanks. It would be impractical and not cost-effective to force the mills to retrofit all of these existing tanks with covers. (commenters 1, 2)

Response: The Department agrees and has added language to Section 4, work practices, stating that some of the work practices apply to coating applications containing greater than 2.9 lbs VOC /gallon.

7. Comment: Section 4 is overly broad and should only apply to sources/process lines that do not meet the low solvent content technology defined in Section 3(A) or that are subject to 3(B). Other similar rules such as the EPA Fabric Coating MACT Rule have similar work practices requirements that only apply to coatings that are subject to add on controls and not those that are considered “compliant”. In our case, we have a number of coating formulations that are considered compliant under this rule and under the MACT rules and are not controlled in compliance with this regulation. It doesn’t seem realistic to be subject to the proposed work practice requirements for VOC in coatings that will normally emit to the atmosphere during their use. Commenter 3 is also requesting that the proposed work practices not apply to those units that use the low solvent content coating technology to meet the proposed limits. (comment 3, 4)

Response: The Department agrees that certain work practices listed in Section 4 of the rule should only apply to applications using coatings with a VOC content greater than 2.9 lbs VOC/gallon and has made that change to the rule.

8. Comment: While at first glance the work practices look fairly simple, they are not simple for large processes. The large applicators on the coating lines are open as well as the catch basins under the coaters. Whenever there is a break on the machine or when we are changing applicator blades, the applicator vat as well as the catch basins would no longer be in use. It is technically impossible to cover them. They are very large and are part of a very complex machine that requires removable applicators and basins to perform necessary maintenance. Their very design precludes covers. (commenter 3)

Response: To clarify that Chapter 123 does not apply to this process, the Department has added a new subsection (Section 1(C)) that provides for exempted activities.

Section 1(C) This regulation does not apply to the following activities:

1. Size presses and on-machine coaters on papermaking machines that apply sizing (e.g., starch) or water-based clays;

2. Off-machine coaters used in the paper making process that use coatings with a VOC content less than 2.9 lbs VOC/gallon.

9. Comment: Section 4(B) should be amended to allow facilities to treat spills or unused coatings using the facility’s wastewater treatment plant. Spills and coating leaks, for example, when changing paper grades (e.g. from gloss to semi-gloss), cleaning of filters, and coating contamination are washed to the sewer system and effectively treated by the mills’ wastewater treatment systems. Certain coatings contain more than 2.9 lbs VOC/gallon. (commenter 1, 2, 3,)

Response: The Department agrees that the facility’s wastewater treatment plant can treat spills effectively rather than using absorbent materials that generate additional solid waste. Also, see response to comment # 1.

10. Comment: The requirement to collect absorbent rags and paper (Section 4(C)) is overly burdensome and not practical. Section 4(C) requires that absorbent applicators, such as cloth and paper, which are moistened with VOC-containing coatings be stored in closed containers. The term “absorbent applicators” is not defined and therefore it is unclear what is covered under this term. Furthermore, to collect cloth and paper which contain VOC coating less than 2.9 lb VOC/gallon constitutes a type of emission control. To apply standards which are similar to the collection of flammable hazardous waste rags is not practical and overly burdensome. In addition, commenter 3 states that considering the extremely low VOC content of our coating, it makes no sense to clean up the miscellaneous spills with absorbent materials and thereby generate additional solid waste that needs to be disposed of. This is especially true if we were to have a valve or hose break. Several hundred gallons could be spilled. It makes much more environmental sense to flush the coating to the sewer where it can be properly treated. (commenter 1, 2, 3)

Response: The Department agrees it is appropriate for the facility’s wastewater treatment plant to treat spills rather than using absorbent materials because of the potentially large volume of spills and the generation of additional solid waste. Also, see response to comment # 1.

Recordkeeping, reporting and compliance

11. Comment: If a source has submitted information in the past under the former version of Chapter 123, is it required to resubmit that information? (commenter 4)

Response: If a source has submitted information in the past under the existing Chapter 123, it is not required to resubmit that information.

12. Comment: As a small company with relatively few employees, the cost of record keeping and compliance with Chapter 123 would be burdensome. We would have to divert resources from other functions for compliance with no benefit for the state and certainly a burden (time/money) for the company. (commenter 6)

Response: This facility is not subject to Chapter 123.