STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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GOVERNOR

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COMMISSIONER

MEMORANDUM

TO: Board of Environmental Protection

FROM: Jeff Crawford, Bureau of Air Quality

DATE: January 7, 2010

RE: Post to a 30-day comment period with an opportunity for public hearing:
Chapter 154 Control of Volatile Organic Compounds from Flexible Package Printing

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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 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 September 2006, EPA published a CTG for Flexible Package Printers that recommends control options for this source category.

Location/Applicability:

The proposed regulations will apply statewide.

Description:

The Department is proposing this rule 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 higher[1] must submit a demonstration, as a revision to the SIP, that their current rules fulfill 8-hour ozone RACT requirements for all CTG categories and all major, non-CTG sources. This demonstration can be made with either a new RACT determination or a certification that previously-required RACT controls represent RACT for the 8-hour ozone NAAQS. For those cases in which states have new stationary sources not covered by existing RACT regulations, or when new data or technical information indicates that a

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

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previously adopted RACT measure does not represent a newly-available RACT control level, states are required to update their rules.

Environmental Issues:

The proposed regulation will reduce emissions of volatile organic compounds from flexible package printing operations. Volatile organic compounds react with nitrogen oxides in the presence of sunlight to form ground level ozone, which is responsible for exacerbating a variety of respiratory ailments, such as asthma. Although children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to ambient ozone while engaged in activity that involves physical exertion. Although these symptoms are often temporary, repeated exposure can result in permanent lung damage.

Departmental Recommendation:

The Department recommends that the Board post Chapter 154 Control of Volatile Organic Compounds from Consumer Products to a 30-day comment period with an opportunity for public hearing.

Estimated Time of Presentation:

10 minutes

Chapter 154: Control of Volatile Organic Compounds from Flexible Package Printing.

SUMMARY: This regulation limits emissions of volatile organic compounds from flexible package printers.

1. **Applicability.** This regulation applies to:

   A. Any flexible package printing press that has the potential to emit from the dryer, prior to controls, of at least 25 tons per year of VOC from the use of inks, coatings and adhesives combined.

   B. Facilities with flexible package printing presses with a potential to emit of less than 25 tons per year of VOC from the use of inks, coatings and adhesives combined, are required to meet only the work practice requirements in Section 5 and the recordkeeping requirements in Section 6 of this Chapter.

2. **Definitions.**

   A. Air pollution control equipment efficiency. "Air pollution control equipment efficiency" means the ratio of VOC emissions recovered or destroyed by the air pollution control equipment to the total VOC emissions that are introduced into the air pollution control equipment, expressed as a percentage.

   B. Capture efficiency. "Capture efficiency" the ratio of VOC emissions delivered to the air pollution control equipment to the total VOC emissions resulting from flexible package printing activities, expressed as a percentage.

   C. Cleaning. "Cleaning" means, with respect to a flexible package printing press or presses, cleaning of a press or press parts or the removal of dried ink from areas around the press. "Cleaning" does not include cleaning of electronic components, cleaning in platemaking or binding operations, housekeeping activity near a press or the use of a parts washer or cold cleaner.

   D. Flexible package. "Flexible package" means any package or part of a package the shape of which may be readily changed. A "flexible package" may be in the form of a bag, pouch, liner or wrap made of paper, plastic, film, aluminum foil, or metalized or coated film or paper, alone or in combination. None of the following are considered a "flexible package": a folding carton, self-adhesive labels, gift wrap, wall covering, vinyl products, decorative laminates, floor coverings or tissue products.

   E. Flexographic print station. "Flexographic print station" means a work station on which a flexographic printing operation is conducted. A flexographic print station includes a flexographic printing plate, which is an image made of rubber or other elastomeric material. The image to be printed is raised above the printing plate.

   F. Installation date. "Installation date" means the first date on which a piece of equipment is in place and prepared to operate. The "installation date" does not change if the equipment is moved to a new location at the same premises.

G. **Overall control efficiency.** "Overall control efficiency" means the product of the capture efficiency and the air pollution control equipment efficiency.

H. **Press.** "Press" means a printing production assembly that is composed of one or more work stations, one or more of which is a flexographic or rotogravure print station, that produces a printed product.

I. **Rotogravure print station.** "Rotogravure print station" means a work station on which a rotogravure printing operation is conducted. A rotogravure print station includes a rotogravure cylinder and ink supply. The image to be printed is etched or engraved below the surface of the rotogravure cylinder.

J. **Work station.** "Work station" means a unit on a press where material is deposited onto a substrate.

3. **Requirements.** Beginning January 1, 2011, flexible package printing presses that have the potential to emit from the dryer, prior to controls, of at least 25 tons per year of VOC from the use of inks, coatings and adhesives combined must use one of the following methods to control VOC emissions:

A. Use only inks, coatings and adhesives with an as applied VOC content that does not exceed 0.8 kg VOC/kg of solids (0.8 lb VOC/lb of solids) or 0.16 kg VOC/kg of materials (0.16 lb VOC/lb of materials). The VOC content limits may be met by averaging the VOC content of materials used on a single printing line in a single day; or

B. Install, operate and maintain in accordance with the manufacturer's recommendations, an emissions control system, consisting of a capture and a control device, which meets the following overall control efficiency levels:

Installation date of press	*Installation date of air pollution control device*	*Overall control efficiency (%)*
Prior to March 14, 1995	Prior to January 1, 2011	65
Prior to March 14, 1995	On or after January 1, 2011	70
On or after March 14, 1995	Prior to January 1, 2011	75
On or after March 14, 1995	On or after January 1, 2011	80

4. **Work Practice Requirements.** Beginning January 1, 2011, the owner or operator of any flexible package printing press must use the following work practices:

A. New and used VOC-containing ink, coating or cleaning solvent, including ink or coating mixed on the premises, shall be stored in a nonabsorbent, non-leaking, vapor-tight container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

B. Spills and leaks of VOC-containing ink, coating or cleaning solvent shall be minimized. Any leaked or spilled VOC-containing ink, coating or cleaning solvent shall be absorbed and removed immediately;

C. Absorbent applicators, such as cloth and paper, which are moistened with VOC containing ink, coating or solvent, shall be stored in a closed, nonabsorbent, nonleaking container for disposal or recycling;

D. VOC-containing ink, coating and cleaning solvent shall be conveyed from one location to another in a closed container or pipe;

E. Cleaning shall be performed to minimize associated VOC emissions; and

NOTE: The handling, storage and disposal of hazardous wastes, including waste VOCs and cloth or paper impregnated with such waste are subject to hazardous waste management standards as set forth in Maine's Hazardous Waste Management Rules, 06-096 CMR Chapters 850-857.

5. Recordkeeping Requirements.

A. Beginning January 1, 2011, the owner or operator of any flexible package printing press must maintain records of the information necessary to demonstrate compliance with the applicable requirements of this Chapter, including but not limited to:

(1) Name and quantity of any ink, coating or cleaning solvent used,

(2) VOC content of each ink, coating or cleaning solvent used, as applied,

(3) A catalog of Material Safety Data Sheets for all inks, coatings and cleaning solvents used,

(4) Documentation of air pollution control equipment efficiency or capture efficiency, if applicable, and

(5) Date and type of maintenance performed on air pollution control or capture equipment, if applicable.

B. All required records shall be maintained for a period of at least five (5) years and made available to the Department to inspect and copy upon request.