
TITLE 326 AIR POLLUTION CONTROL BOARD**FISCAL IMPACT STATEMENT**

LSA Document #06-604

Agency: Indiana Department of Environmental Management (IDEM)**Rule Number:** #06-604**Rule Topic:** Architectural and Industrial Maintenance (AIM) Coatings**Re:** Office of Management and Budget Fiscal Impact Statement Required by [IC 4-22-2-28\(c\)](#) and [IC 4-22-2-28\(e\)](#)
- Total Estimated Economic Impact of Rule over \$500,000**Rule Summary**

The draft rule is one of a suite of measures recommended by the Lake Michigan Air Directors Consortium (LADCO) to reduce volatile organic compound (VOC) emissions and ozone formation in the upper Midwest and eastern United States. VOCs contribute to the formation of ozone, and it is necessary to control VOCs in order to meet the United States Environmental Protection Agency's (U.S. EPA) 8-hour ozone National Ambient Air Quality Standard (NAAQS).

Indiana is a participant in LADCO and has agreed to regulate VOC emissions from source categories that it has not previously regulated in order to reduce its contribution to regional ozone formation. The reductions in VOC expected from this rulemaking are part of the Indiana Department of Environmental Management's (IDEM) State Implementation Plan (SIP) development process.

Additional VOC emissions reductions are needed to address the narrow margin between Indiana's current air quality and the existing 8-hour ozone NAAQS, the challenges Indiana faces in improving air quality to meet the new 8-hour ozone NAAQS of 0.075 parts per million that U.S. EPA lowered on March 12, 2008, and concerns expressed by other states that emissions from Indiana are contributing to their inability to attain the standard (the Clean Air Act provides a legal mechanism for those states to require Indiana to reduce Indiana's potential contribution to nonattainment in other states). U.S. EPA proposed revisions to the ozone standards on January 19, 2010, and will issue a final decision by August 31, 2010. Once Indiana has an effective AIM coatings rule, the state will be able to receive credits for VOC reductions to assist ozone nonattainment counties in meeting the revised or proposed 8-hour ozone NAAQS.

In this rulemaking, Indiana is proposing to add an architectural and industrial maintenance (AIM) coatings rule to the Article 8 VOC rules at [326 IAC 8-14](#). This rulemaking will assist Indiana counties in achieving and maintaining the revised 8-hour ozone NAAQS. The proposed rule is based on the Ozone Transport Commission (OTC) 2001 model rule and includes standards for AIM coatings, container labeling requirements, record keeping and reporting requirements, and compliance and test methods. Additionally, the rulemaking contains VOC content requirements and application standards for traffic marking coatings applicable during the ozone season (April 1 through September 30). The OTC is a multistate organization created under the Clean Air Act and is responsible for developing regional solutions to the ground level ozone problem in the Northeast and mid-Atlantic regions of the U.S.

The character of the AIM coatings industry makes quantifying the fiscal impact for this rulemaking a challenge. The fiscal analyses relied on by other states and their administrative agencies that have promulgated AIM coatings regulations recognize that the majority of costs are incurred during the process of reformulating noncompliant coatings to compliant coatings. Other administrative costs, incurred after product reformulation, are minimal compared to the costs of creating compliant AIM coatings products. However, the proposed VOC content limits in the draft rule have been effective in multiple states for at least five years. Therefore, many national and regional manufacturers have completed the reformulation process. Compliant products are being sold by these manufacturers and are currently available in Indiana.

Because of the complications presented by this rule in quantifying the fiscal impacts for the AIM coatings industry, IDEM cannot definitively state that the rule's impact will be less than \$500,000. Therefore, IDEM has prepared the fiscal impact statement required by [IC 4-22-2-28\(c\)](#) and [IC 4-22-2-28\(e\)](#) for this rulemaking.

Fiscal Impact Background

Indiana, as a member of LADCO, has committed to develop this AIM coatings rule as part of Indiana's SIP development. The SIP is a compendium of the ways in which Indiana attains and maintains compliance with the NAAQS. The 2001 OTC model rule has been implemented in multiple states since 2005, providing evidence of the economic and technical feasibility of the model rule's concentration limits. IDEM has included the expected reductions of VOCs from both manufacturing and end users resulting from this rulemaking as part of Indiana's SIP development process with the U.S. EPA.

U.S. EPA published a federal AIM coatings rule on September 11, 1998 (40 CFR Part 59, Subpart D). The

federal rule limits the amount of VOC that manufacturers and importers of AIM coatings can put into their products. The federal rule also requires manufacturers to satisfy specific container labeling requirements. The VOC content limits in the federal rule took effect on September 11, 1999. The federal AIM coatings rule was estimated to yield VOC reductions of 20 percent from the previously uncontrolled levels. However, advances in technology since that time have made lower VOC concentration limits in AIM coatings feasible, while maintaining levels of performance and durability similar to coatings with higher VOC concentration levels. U.S. EPA is currently revising the existing federal AIM coatings rule and the revised federal rule is expected to be based on the OTC model rule.

Phase-In Period Costs

The fiscal analysis for the OTC model rule estimated a cost of approximately \$6,400 per ton of VOC reduced based on the California Air Resources Board's (CARB) Suggested Control Measure (SCM) cost analysis from June 2000. The fiscal analysis assumed that national, regional, and state coatings manufacturers would have to incur substantial one-time phase in costs for product reformulation or discontinuation and new product labeling. These phase-in costs, and not post-full implementation costs (the ongoing cost of manufacturing compliant coatings), accounted for the majority of the estimated costs. In 2006, LADCO estimated that implementing the OTC model rule in Indiana would reduce VOCs by approximately 2,986 tons of VOC per year in Indiana.

The model rule was written to include standards for which a substantial number of coatings already complied with the VOC content limits for each product category, ultimately reducing total reformulation costs. The VOC content limits in the OTC model rule have been implemented and effective in California and the majority of OTC states including Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Virginia since 2005. Additionally, Ohio and Illinois recently adopted AIM coating rules requiring that coatings meet the VOC limits specified in the OTC model rule. The costs outlined in CARB's analysis relied on by both OTC and LADCO in support of VOC content limits for AIM coatings beyond the federal rule have been spread over a large portion of sales at a national level for at least a three year period.

IDEM conducted a survey of manufacturers and suppliers of AIM coatings in Indiana that would be regulated by the draft rule. IDEM received responses from six companies. All of the manufacturers and suppliers sell or distribute their products in states with regulations for VOC content limits of AIM coatings. The respondents stated that reformulation of products was either in-process or had already been completed for AIM coatings covered by the draft rule. Based on the number of states that have identical AIM coatings requirements (approximately 14, including neighboring states Ohio and Illinois) and the fact that the coatings industry is primarily composed of national and regional manufacturers, the survey responses reflective of the AIM coatings industry. It is logical to assume that the majority of AIM coatings regulated by the OTC model rule have already been reformulated.

Affected Businesses

The draft rule applies to any person who supplies, sells, offers for sale, or manufactures any AIM coating for use in the state of Indiana, as well as any person who applies or solicits the application of any AIM coating within the state of Indiana. Manufacturers are to ensure compliance with the VOC limits by reformulating AIM coatings and are responsible for container labeling requirements, record keeping and reporting requirements, and testing for compliance. CARB focused their year 2000 fiscal analysis on manufacturers and marketers because those businesses are the ones directly affected by the VOC content limits.

CARB's analysis showed that most affected businesses would be able to absorb the costs of the proposed VOC limits with no significant adverse impacts on their profitability. However, the proposed limits may impose economic hardship on some businesses with small profit margins. These businesses may seek relief under variance provisions for extensions of compliance dates. Indiana's draft rule does not include variance provisions; however, there are statutory variance procedures available for sources for which compliance with the rule would create an undue hardship. Indiana's statutory variance procedures can be found at [IC 13-14-8-8](#).

CARB found that the bulk of the sales volume of AIM coatings was generated by a few companies; 10 manufacturers accounted for 75% of the sales volume in California. The remaining 25% of sales volume was supplied by small to medium sized manufacturers. A search of Indiana's permitting database using the following Standard Industrial Classification (SIC) codes: 2891-adhesives and sealants, 2816-inorganic pigments, and 2851-paints and allied products, identified 30 manufacturers permitted in Indiana that may be affected by the draft rule. National and regional manufacturers outside of Indiana will also be impacted by the rule.

Post-Implementation Costs (Total Estimated Economic Impact)

Once coatings have been reformulated and relabeled, manufacturing costs to make lower VOC coatings are in line with traditional paint manufacturing technology. The expense is not in the equipment but in the formulation knowledge and application experience and the amount of time to gain both of these. Record keeping and reporting costs and compliance testing would be ongoing costs but would not be expected to be significant as regional and national manufacturers must already satisfy the record keeping and reporting requirements of AIM coatings regulations in other states.

Distributors and retailers will have to ensure that noncompliant products are not sold past the allowable "sell through period". However, given the proposed three year sell through period, distributors and retailers should have ample time to make appropriate adjustments in their operations to minimize such impacts.

Companies that supply resins, solvents, or other chemicals and equipment for use in reformulated AIM coatings would potentially benefit from the proposed rule as they experience an increase in demand for their products. On the other hand, those companies that supply raw materials for existing noncompliant paints and coatings may experience a reduced demand for their products.

IDEM's survey of coating manufacturers and suppliers confirmed that the majority of their costs would be these post-implementation costs. Respondents stated that they will have to prepare new literature for the product lines and provide training to distributors and sales personnel on the proper use of the new products. This will require additional man-hours spent on meetings, communication, and planning. Respondents did indicate that costs would be minimized if Indiana based their draft rule on the OTC model rule because the companies must already comply with the requirements of that rule in other states and are equipped to meet the requirements.

Examination of Alternatives

IDEM's alternative considered for this rulemaking was to wait for the U.S. EPA to update the federal AIM coatings rule and not initiate a state rulemaking for AIM coatings. However, to date, U.S. EPA has not moved forward with their rulemaking and Indiana has relied on the associated reductions in its SIP development process.

The fiscal impact to Indiana for not completing this rulemaking would be increased costs to businesses in the state and human and environmental health costs if counties cannot achieve attainment for the new 8-hour ozone standard. If an area is not in attainment for the ozone NAAQS, the permitting and operating costs for new and expanding businesses are higher than in counties that attain the standard.

Conclusion

The VOC content limits in the OTC model rule have been implemented and effective in California and the majority of OTC states since 2005. Additionally, Ohio and Illinois recently adopted AIM coatings rules requiring that coatings meet the VOC limits specified in the OTC model rule. The costs outlined in CARB's analysis relied on by both OTC and LADCO in support of VOC content limits for AIM coatings beyond the federal rule have been spread over a large portion of sales at a national level for at least a three year period.

U.S. EPA, in a memo from Stephen Page, Director, U.S. EPA, Office of Air Quality Planning and Standards, dated May 30, 2007, stated that for AIM coatings nearly all products distributed nationwide are already formulated to comply with one or more state regulations with categories and limits that meet or exceed the requirements of the expected revised federal rule. This memo is in line with the comments that IDEM received for this rulemaking from several national organizations. These organizations requested that if IDEM moves forward with the rulemaking, that IDEM follow the OTC model rule in order to ensure consistency among states. Using the OTC model rule as the basis for Indiana's AIM coatings rule will ensure that AIM coatings are readily available that already meet the more stringent VOC content limits and will not impose any additional reformulation costs on manufacturers.

IDEM cannot definitively demonstrate that the estimated economic impact of this rule in Indiana will be less than \$500,000. Therefore, IDEM is estimating that the economic impact of the rule could be greater than \$500,000 in order to provide the Office of Management and Budget with sufficient time and information to prepare its fiscal impact statement. The costs will encompass reformulation of products for the manufacturers that do not sell compliant products and the costs of training, record keeping, and reporting for those manufacturers that have already reformulated. The fiscal analysis for the OTC model rule estimated a cost of approximately \$6,400 per ton of VOC reduced based on the CARB cost analysis from June 2000. This cost estimate assumed that all products would have to be reformulated. However, a decade later, the reality of the AIM coatings market is that it is comprised almost entirely of national and regional manufacturers. The prevalence of existing VOC AIM coatings rules throughout the region and United States demonstrate that much of this transition has already taken place. The manufacturers that IDEM surveyed acknowledged that compliant products are already readily available and that it is the post-reformulation costs of record keeping, reporting, and training that will comprise the bulk of the costs of implementing an AIM coatings rule in Indiana.

Small Business Fiscal Impact

CARB's analysis notes that smaller businesses in the AIM coatings industry tend to cater to niche markets that are based on competitive factors other than price, thereby making such businesses less sensitive to prices set by larger manufacturers. As CARB noted, 75% of the total sales volume of AIM coatings in California were sold by only 10 manufacturers, while the other manufacturers sell 25% of the remaining sales volume. Therefore, a small portion of the overall AIM coatings market is comprised of many small and medium businesses, which sell coatings on the basis of coating specialization, brand loyalty, customer service, warranties, and other non-price related factors.

The estimated economic impact on small businesses for Indiana is included in the total fiscal impact of the

draft rule. The manufacturing and marketing of AIM coatings is typically on a regional or national basis. Therefore, any small business in Indiana that manufactures AIM coatings for sale outside Indiana is most likely producing compliant coatings in accordance with Indiana's draft rule for sale in two other Region 5 states (Ohio and Illinois have effective AIM coatings rules), the 11 OTC states, or California.

Fiscal Impact on State and Local Government

In Indiana, state or local government agencies that use AIM coatings in their ordinary course of business will have the same variety of coatings available to purchase as any other industrial, commercial, or household consumer. In addition, the cost of ensuring compliance will be handled at existing staffing levels. There is no unfunded mandate on state or local governments as a result of this rulemaking.

Additional Rule Information

U.S. EPA sets NAAQS for ozone to protect public health and the environment. The Clean Air Act (CAA) requires U.S. EPA to review the scientific information and standards for ozone every five years to ensure the standards adequately protect public health and the environment. Ozone can impact both human health and the environment. Ground level ozone can cause respiratory problems for sensitive groups such as the very young, elderly, or for people with asthma or other chronic respiratory problems. Ozone damages the leaves of trees and other plants, reduces crop and forest yields, and generally makes them more susceptible to disease, harsh weather, insects, and other pollutants. Ozone and volatile chemicals can be carried long distances, leading to widespread and regional air pollution.

The costs of implementing this rule are justified by the benefit that Indiana receives in ensuring that counties are able to achieve and maintain attainment of the 8-hour ozone standard. Several counties in Indiana are at risk of being designated as nonattainment for the revised 8-hour ozone NAAQS that became effective on May 27, 2008. Additionally, U.S. EPA is reconsidering the revised standard and could lower it further in the future. For areas designated as nonattainment, IDEM will be required to submit to U.S. EPA a SIP, which must include an inventory of emissions, enforceable emission limitations, related control measures, and schedules for compliance. Furthermore, Indiana is also obligated to address interstate transport of ozone and must reduce its contributions to areas outside the state that are currently designated as nonattainment for the 8-hour ozone NAAQS.

In order to improve air quality, areas of nonattainment can expect increased permitting restrictions on new and expanding businesses. Specifically, achieving attainment will likely require additional planning requirements for existing sources of ozone precursor pollutants such as VOC. These restrictions could disadvantage nonattainment areas when competing with attainment counties to attract new industries and increase economic development. Once Indiana has an effective AIM coatings rule, the state will be able to receive credits for VOC reductions to assist ozone nonattainment counties meet the revised or proposed 8-hour ozone NAAQS.

This rule is a cost effective measure for Indiana to reduce VOC emissions and assist counties that risk being designated as nonattainment for the new 8-hour ozone standard in achieving attainment.

Sources of Information

1. California Air Resources Board. "Staff Report for the Proposed Suggested Control Measures for Architectural Coatings". June 2000. Available at:
<http://www.arb.ca.gov/coatings/arch/sreport/sreport.htm>
2. E.H. Pechan & Associates, Inc. "Control Measure Development Support Analysis of Ozone Transport Commission Model Rules". March 31, 2001. Available at:
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3. Lake Michigan Air Directors Consortium. "Interim White Paper—Midwest RPO Candidate Control Measures—Source Category: Architectural and Industrial Maintenance Coatings". March 6, 2006.
4. United States Environmental Protection Agency. "National Volatile Organic Compound Emission Standard for Architectural Coatings—Background for Promulgated Standards". EPA-453/R-98-0006b. August 1998.
5. Indiana Department of Environmental Management, Office of Air Quality, Rule and State Implementation Plan Development Section. "Survey of Architectural and Industrial Maintenance (AIM) Coatings Manufacturers for Indiana's Proposed AIM Rule (LSA #06-604)". (Attached)
6. United States Environmental Protection Agency. "Memorandum: Emission Reduction Credit for Three Federal Rules for Categories of Consumer and Commercial Products under Section 183(e) of the Clean Air Act". May 30, 2007. (Attached)

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