



Model Rule Preamble:

ARCHITECTURAL AND INDUSTRIAL

MAINTENANCE COATINGS

Background

On June 1, 2000, the Ozone Transport Commission (OTC) signed the “Memorandum of Understanding Among the States of the Ozone Transport Commission Regarding the Development of Specific Control Measures to Support Attainment and Maintenance of the Ozone National Ambient Air Quality Standards” (MOU). The MOU recognized that “EPA has identified emission reduction shortfalls in some OTC States’ one-hour attainment demonstrations, and that regional control measures could help to address these shortfalls.” The MOU identified a list of “short term priority control measures” that have the potential to provide initial emission reductions to help States of the Ozone Transport Region (OTR) address the emission reduction shortfalls in the one-hour attainment demonstrations identified by EPA. The MOU directed the OTC to: (1) elaborate on the expected emission reductions, other benefits and associated costs of controls; (2) solicit and provide forums for input on the control measures; and (3) consider all mechanisms to facilitate the completion of a multi-State agreement for the short term priority control measures by the 2001 OTC Winter Meeting. The OTC Stationary/Area Source (SAS) Committee established workgroups made up of and headed by OTC member States to carry out this directive.

The Architectural and Industrial Maintenance (AIM) Coatings and Consumer Products Workgroup (Workgroup) was set up to consider control measures to limit the emissions from AIM coatings and consumer products. The State of New York was chosen to lead the Workgroup, with membership from the States of Delaware, Maryland, Massachusetts, New Hampshire, New Jersey, and Pennsylvania.

This Preamble focuses solely on the efforts to develop the control measure for AIM coatings.

Rule Development Process

The Workgroup held routine conference calls to discuss the best approach to implement a regional control strategy for AIM Coatings. It was determined that a model rule that the States could use as a template in the process of adopting their own regulations would be the best approach. Since the State and Territorial Air Pollution Program Administrators and the Association of Local Air Pollution Control Officials (STAPPA/ALAPCO) was developing a national AIM coatings model rule and some of the States on the Workgroup were participating in that effort, the Workgroup decided to use the STAPPA/ALAPCO effort to fashion an OTC model rule.

On several occasions, the Workgroup held informal meetings hosted by Workgroup States with stakeholders and other interested parties to discuss the above approach and to solicit comments on specific aspects of the control measures being considered. As a result of these meetings and other Workgroup activity, the Workgroup recommended forwarding the STAPPA/ALAPCO AIM model rule as the recommended approach for the OTC. The OTC SAS Committee held a public stakeholder meeting on November 8, 2000 to gather formal comments on the recommended approach. A public comment period for stakeholders was

established through November 11, 2000. On December 11, 2000, OTC held a Special Meeting on Control Measure Development to review progress on model rule development, receive additional stakeholder comments, and give direction to the OTC Committees for future action. At that time, the SAS Committee indicated to the Commission that the STAPPA/ALAPCO AIM model rule would be used as the basis for an OTC model rule. The OTC reaffirmed its commitment to complete the draft OTC model rules by its 2001 OTC Winter Meeting.

The Workgroup continued to interact with stakeholders and receive comments. The OTC established a public comment period for all draft model rules through January 12, 2001. The Workgroup allowed comments from stakeholders through January 18, 2001; at that time, the Workgroup convened, hosted by the State of New York, and met with stakeholders to discuss outstanding concerns.

Substantial stakeholder comments were received during the development of an OTC model rule for AIM coatings. Comments were received formally and informally through the Workgroup, during OTC SAS Committee meetings, and at the OTC Special Meeting for Control Measure Development. The OTC and its member States also received letters from stakeholders regarding the regulation of AIM coatings.

The OTC Model Rule for AIM Coatings

The Workgroup and the OTC SAS Committee reviewed the comments received, and deliberated possible amendments to the STAPPA/ALAPCO AIM Model Rule in order to address those comments. After deliberating, the following recommendation was forwarded to the Commission:

The STAPPA/ALAPCO AIM coatings model rule should be considered as the OTC AIM Coatings Model Rule.

This recommendation is accompanied by the following implementation options:

1. Use January 1, 2005 as the effective date for VOC content limits for all coatings categories. This implementation option was recommended to allow significant lead-time for manufacturers to comply with the new VOC content limits. The VOC content limits for architectural coatings in the OTC AIM Model Rule are identical to the limits in the California Air Resources Board (CARB) Suggested Control Measure (SCM) for architectural coatings, which will be effective on January 1, 2003. Several California local air quality districts are proceeding with implementation of the SCM by that date. California agencies have already identified available compliant products in all AIM coating product categories, and will continue to assess the ability of manufacturers to comply with the VOC content limits in the SCM. Manufacturers will also be able to apply for variances from the regulations where extraordinary circumstances prevent compliance. This lead-time (January 2003 to January 2005) will provide the OTC States with the ability to assess the program in California and determine if any problems exist in the ability of manufacturers to supply compliant architectural coatings. If a problem is identified, the OTC States may take action to address, postpone, or prevent implementing the VOC content limit in question.

The California ARB SCM VOC content limits for industrial maintenance coatings are effective as of January 1, 2004. The same theme of providing lead time and

learning from California's experiences applies in selecting the January 1, 2005 effective date for the VOC content limit for industrial maintenance coatings in the OTC model rule.

2. Use 340 grams per liter(g/L) as the VOC content limit for Industrial Maintenance Coatings. The stakeholders commented that the 250 g/L VOC content limit in the STAPPA/ALAPCO model rule would cause performance problems in the Northeast. The STAPPA/ALAPCO model rule recognizes this by acknowledging "that the SCM allows, by petition, a less stringent VOC limit for industrial maintenance coatings in specific areas of California with low temperature, high humidity, and persistent fog." These coatings are needed for essential public services (e.g., bridges) and industrial facilities (e.g., storage tanks). The STAPPA/ALAPCO model rule also contains an option for manufacturers to petition for the less stringent SCM limit (340 g/L) at the discretion of State and local air pollution control agencies.

It is recommended that the petition process be waived, and the less stringent industrial maintenance coating VOC content limit be included in the OTC model rule. This is in response to stakeholder concerns and deliberations with a product end-user. It was felt that the performance characteristics of the low VOC coating would severely limit the time available to apply these coatings. The narrow temperature and humidity window in the Northeast and Mid-Atlantic region for applying the low VOC coating could potentially create a situation where there would not be sufficient time in the year to perform all the necessary coating without taking extraordinary measures. In addition, the low VOC coatings generally require a much cleaner surface before application. This would add to the cost of the job and could lead to additional solid waste disposal and occupational hazards (preparing a surface as "white metal" could result in lead paint removal and disposal issues and worker protection issues as well as additional enclosure and ventilation concerns).

3. Create a separate category for conversion varnishes with a VOC content limit of 725 g/L, consistent with the Federal rule. Stakeholder comments detailed the differences between conversion varnishes and other varnishes and floor finishes. Conversion varnishes differ chemically from waterborne and oil-base polyurethanes and have significantly better performance characteristics. Additionally, conversion varnish products cannot comply with the 350 g/L limit, as reformulation is not technologically feasible at this time. Conversion varnishes are used by experienced professional craftsmen and constitute a small portion (3%) of the hardwood floor finish market. There are only three manufacturers that compete in this niche market, and adopting the 350 g/L limit could cause economic hardship for these manufacturers. The EPA definition for conversion varnishes (which is appropriate for the OTC States choosing this option) is:

... a clear acid curing coating with an alkyd or other resin blended with amino resins and supplied as a single component or two-component product. Conversion varnishes produce a hard durable, clear finish designed for professional application to wood flooring. This film formation is the result of an acid-catalyzed condensation reaction, affecting a transesterification at the reactive ethers of the amino resins.

The specificity of this definition would not likely create a loophole for non-complying polyurethane or waterborne products, and the complex nature of these products would not likely lead to an expansion of use by non-professional applicators. The OTC States that choose this implementation option may also wish to add "FOR PROFESSIONAL USE ONLY" to the labeling requirement for this product category.

4. Modify the sell-through provision so that products manufactured before the effective date of the rule may be sold after January 1, 2005. This approach is less labor intensive and less burdensome to small businesses, especially given that many of these products move through the market quickly. Under this option, subsection 3.3 of the model rule would read as follows:

Sell-Through of Coatings: A coating manufactured prior to the effective date specified in Table 1, may be sold supplied, or offered for sale after the specified effective date. In addition, a coating manufactured before the effective date may be applied at any time, both before and after the specified date, so long as the coating complied with the standards in effect at the time the coating was manufactured. This subsection does not apply to any coating that does not display the date code required by subsection 4.1.1.

5. Create a separate category for thermoplastic rubber coatings and mastics with a VOC content limit of 550 grams per liter, consistent with the Federal rule, and include the coating category in the list of coatings exempt from the Most Restrictive VOC Limit provisions. Stakeholder comments detailed the differences between thermoplastic rubber coatings and mastics and bituminous roof coatings. Thermoplastic rubber coatings and mastics are based on synthetic rubber and have marked different characteristics than roof coatings based on asphalt or latex. This gives thermoplastic rubber coatings and mastics unique application and performance characteristics which result in lower mass VOC emissions because of its one coat application system with its low application rate, greater durability, and the ability to apply at cooler ambient temperatures. Because of its high solar reflectivity (which results in lower summer energy demand for the building on which it is applied) at least one thermoplastic rubber coating and mastic product has qualified for an Energy Star label. The EPA definition for thermoplastic rubber coatings and mastics (which is appropriate for the OTC States choosing this option is:

Thermoplastic Rubber Coating and Mastic: A coating or mastic formulated and recommended for application to roofing or other structural surfaces and that incorporates no less than 40 percent by weight of thermoplastic rubbers in the total resin solids and may also contain other ingredients including, but not limited to, fillers, pigments, and modifying resins.

6. Include a separate category for Calcimine Recoaters with a definition and limit (475 g/L) identical to the National Rule, and include the coating category in the list of coatings exempt from the Most Restrictive VOC Limit provisions. Waterborne products will cause the failure of calcimine-coated ceilings that exist

in older homes in the Northeast, and only solvent-based products allowed under the national rule perform on the substrate without causing its failure.

7. Include a separate category for Nuclear Coatings with a definition and limit (450 g/L) identical to the National Rule, and include the coating category in the list of coatings exempt from the Most Restrictive VOC Limit provisions. The re-qualification of a coating for use in a nuclear power plant can be fairly rigorous and costly (i.e., roughly \$50,000), and the market for this product is less than 20,000 gallons/year. When coatings are applied inside of containment areas, charcoal filters capture nearly all of the volatile emissions from the coating.
8. Include a separate category for Concrete Surface Retarders with a definition and limit (780 g/L) identical to the National Rule. Concrete surface retarders prolong the set time of concrete that allows for easy removal of retarded mortar to produce an attractive finish. While such coatings are high in VOC content, they are used in extremely low volume. Including the national definition and limit would eliminate any confusion whether or not these products were regulated under another category.
9. Include a separate category for Impacted Immersion Coatings with a definition and limit (780 g/L) identical to the National Rule, and include the coating category in the list of coatings exempt from the Most Restrictive VOC Limit provisions. These coatings are used on structures submersed in water (e.g., locks and dams) and must maintain flexibility at low temperatures and resist impact damage. These coatings are almost exclusively applied outside of the ozone season.

Flexibility

The OTC Model Rule contains several flexibility provisions. These include: a sell through provision where products manufactured before the effective date of the rule can still be sold; a higher allowable VOC content for recycled coatings; and an exemption of coatings sold in containers of one liter or less. These provisions will make compliance with the rule somewhat easier.

Feasibility

It should be noted that a substantial number of coatings exist that comply with the VOC content limits for each product category. Therefore, while some product manufacturers may need to reformulate in order to comply with the VOC limits, the model rule was developed at a level where a significant number of complying coatings already exist in the marketplace.