

efficiency, which results in lower emissions, than spray coating. Indiana also added new equivalent emission limits for dip and flow coating, and made some additional, minor revisions. For the reasons discussed below, EPA is approving this submission.

**DATES:** This rule is effective on July 7, 2003, unless the EPA receives relevant adverse written comments by June 4, 2003. If adverse comment is received, the EPA will publish a timely withdrawal of the rule in the **Federal Register** and inform the public that the rule will not take effect.

**ADDRESSES:** You should mail written comments to: J. Elmer Bortzer, Chief, Regulation Development Section, Air Programs Branch (AR-18J), U.S. Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604.

You may inspect copies of Indiana's submittal at: Regulation Development Section, Air Programs Branch (AR-18J), U.S. Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604.

**FOR FURTHER INFORMATION CONTACT:** Matt Rau, Environmental Engineer, Regulation Development Section, Air Programs Branch (AR-18J), U.S. Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, Telephone: (312) 886-6524, E-Mail: [rau.matthew@epa.gov](mailto:rau.matthew@epa.gov).

**SUPPLEMENTARY INFORMATION:** Throughout this document wherever "we," "us," or "our" are used we mean the EPA.

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### I. What Is Indiana's Current Requirement?

The revisions to Indiana's SIP apply solely to dip and flow coating operations. Dip coating operations dip parts into a tank containing the coating to coat them. In flow coating, the coating pours over the parts to coat them. Both dip and flow coatings have better transfer efficiencies than any type of spray coating. Transfer efficiency is the volume of solids deposited over the volume of solids used. The high transfer efficiencies of both dip and flow coatings mean that waste and VOC

emissions are minimal. Under 326 IAC 8-1-2, dip and flow coating facilities have been required to use daily averaging to meet VOC content limits.

Dip or flow coating operations were required to use the equivalent emission limits in terms of mass per volume of solids deposited. Now they can use equivalent emission limits in terms of mass per volume of solids. The difference is that the former includes the transfer efficiency in calculating the limits. A transfer efficiency of 60% was used. Since dip and flow coating have high transfer efficiencies, complying with the new equivalent emission limits is easier for these sources. The underlying VOC content limits used to calculate the equivalent emission limits remain unchanged.

### II. What Are the Changes From the Current Rule?

Under the revisions submitted by Indiana, owners and operators of dip coating and flow coating operations can now use the VOC content averaging method detailed in 326 IAC 8-1-2 (a)(9)(B), while provides for a rolling 30-day average. The average includes the VOC content from all coating and solvent added during the 30-day period.

Indiana also added new equivalent emission limits at 326 IAC 8-1-2 (a)(9)(A) for dip and flow coating operations. For these sources, the new limits replace the general miscellaneous metal coating limits found at 326 IAC 8-1-2 (a)(5)(C). Equivalent emission limits are expressed in terms of mass VOC per volume of coating solids, which is necessary to implement the VOC content averaging method. The equivalent emission limits for dip or flow coating are 1.22 kilograms VOC per liter of solids (kg/l) (10.2 pounds VOC per gallon (lb/gal)) for clear coatings, 0.80 kg/l (6.7 lb/gal) for air dried and extreme performance, and 6.1 kg/l (5.1 lb/gal) for all other coatings.

Indiana also made several minor revisions to 326 IAC 8-1-2. Most of these revisions are simple rewording or adding a word or phrase for clarity to portions of the rule. The equivalent emission limits for miscellaneous metal coating have been moved from 326 IAC 8-1-2 (a)(9)(A) to (a)(5)(C). Indiana also establishes a baseline solvent density of 7.36 pounds of VOC per gallon in 326 IAC 8-1-2 (b)(1).

The revisions to 326 IAC 8-1-2 were adopted on August 7, 2002, by the Air Pollution Control Board. The rule was filed with the Secretary of State on November 15, 2002, and effective on December 15, 2002. It was published in 26 Indiana Register 1073 on January 1, 2003.

### III. What Is EPA's Analysis of the Submission?

According to Indiana, the current requirement to determine compliance on a daily average basis was inconsistent with certain procedures required for proper operation of dip and flow facilities. In order to maintain proper coating viscosity, so that the coating will be applied correctly, solvent thinner (generally all VOCs) has to be intermittently added and there are practical difficulties with allocating the thinner to a specific day because it is not directly applied to the metal part, as in spray coating.

In addition, dip and flow coating operations have higher transfer efficiency, which results in lower emissions, than spray painting. Therefore, the 30-day rolling average approach is reasonable because of the difficulties associated with intermittently adding solvent thinner and the higher transfer efficiency associated with dip and flow coating operations.

The new equivalent emission limits for dip or flow coating operations are consistent with the recommended emission limits in EPA guidance for surface coating of miscellaneous metal parts and products. The baseline solvent density of 7.36 lb VOC/gal in 326 IAC 8-1-2 (b)(1) is acceptable. This is the average solvent density, so it will provide a reasonable emission limit. The actual solvent density is required in 326 IAC 8-1-2 (b)(2) to calculate the actual emissions. The other rule revisions are acceptable as they help clarify the rule.

### IV. What Are the Environmental Effects of These Actions?

Reactions involving VOC and nitrogen oxides in warm air form tropospheric (ground level) ozone. Ozone decreases lung function, causing chest pain and coughing. It can aggravate asthma and other respiratory diseases. The highest concentrations of ozone occur in the warm months of the year. Children playing outside and healthy adults who work or exercise outside also may be harmed by elevated ozone levels. Ozone also reduces vegetation growth and reproduction.

The revisions to 326 IAC 8-1-2 make it more practical for sources to continue using dip or flow coating. Dip and flow coating generally has a higher transfer efficiency than spray coating, which results in lower VOC emissions. Therefore, these revisions should not have an adverse impact on air quality.