

Workgroup Recommendations and Other Potential Control Measures
VOC Workgroup

VOC012 – Cutback and Emulsified Asphalt Paving

Amend existing New Jersey Subchapter 16.19 to ban the use of cutback asphalt from April 15 to October 15 and to lower the allowable volatile organic compound content (VOC) in emulsified asphalt.

DESCRIPTION

The existing New Jersey Regulation bans cutback or emulsified asphalt use from April 16 through October 14, unless they are used solely as a penetrating prime coat, the material is a cold-mix, stockpile material used for pavement repair; the user can demonstrate that there are no emissions of volatile organic compounds (VOC) from the asphalt under conditions of normal use, or the emulsified asphalt contains no greater than eight percent VOC by volume and is used for mixed-in-place construction.

NJDEP has seen a significant decrease in the use of cutback and emulsified asphalt as a result of the existing regulation. Cutback asphalt use is very small in New Jersey. Cutback has gone from 5,313 pounds used annually in 1996 to 2,352 pounds used 2002. Emulsified has gone from 21,021 pounds used annually in 1996 to 10,086 in 2002. Existing inventory calculations assume a 20 percent VOC content for cutback and an 8 percent VOC content for emulsified. A Material Safety Data Sheet (MSDS) dated August 28, 2002 for emulsified asphalt produced by CITGO and used by the New Jersey Department of Transportation (NJDOT) shows the percent volatiles by volume as "negligible". Conversations with CITGO and other emulsified asphalt manufacturers indicate that there are no VOCs in emulsified asphalt. The use of cutback asphalt for penetrating prime coats are no longer necessary, there are alternative methods for preparing surfaces for new roads. There are low/no VOC alternatives for pavement repair, other than cutback asphalts, such as portable hot and warm mix machines, and emulsions that do not require hot mix asphalt.

The Ozone Transport Commission (OTC) and New Jersey are considering amending existing cutback and emulsified asphalt regulations. The proposed amendments would ban the use or application of cutback asphalt from April 15 through October 15, and ban the use or application of emulsified asphalt from April 15 through October 15, unless the emulsified asphalt contains no greater than 0.1 percent VOC by weight; or the emulsified asphalt produces no greater than 0.5 milliliter of oil distillate, in accordance with ASTM Test Method D 244 or AASHTO Test Method T 59.

EFFECTIVENESS

The proposed amendments are estimated to result in emission reductions of approximately 522 tons of VOC per year or 4.8 tons VOC per summer day.

SOURCES

OTC Draft Technical Support Document October 3, 2006

N.J.A.C. 7:27-16.19

CITGO Asphalt Refining Company, Material Safety Data Sheet, Emulsified Asphalt, All Grades