



Regulatory Announcement

Adjustment to Reformulated Gasoline VOC Standard

The U.S. Environmental Protection Agency (EPA) is finalizing a rulemaking that will make it easier for oil refiners to use ethanol in cleaner-burning gasoline supplied to the Chicago and Milwaukee areas, while continuing to achieve ground-level ozone benefits similar to those in the Reformulated Gasoline (RFG) program. The rule helps provide maximum flexibility for refiners and helps reduce costs for blending ethanol into gasoline by adjusting the volatile organic compounds (VOC) standards for ethanol reformulated gasoline. This final rule recognizes the environmental benefits of ethanol and ensures that it will continue to play a significant role in the cleaner-burning RFG program.

Overview

The final rule is specific to Chicago and Milwaukee because they are the only areas of the country that use ethanol exclusively in RFG. Increased VOC emissions can occur from combining RFG made with the oxygenate methyl tertiary butyl ether (MTBE) and RFG made with ethanol in automobile gasoline tanks.

In March of this year, EPA issued an enforcement discretion for these areas, allowing the adjustment to take place prior to this rule being made final. This rule will make it less expensive to blend ethanol into reformulated gasoline, which should also help boost supply. Chicago and Milwaukee saw gasoline prices over \$2.75 per gallon in the summer of 2000. This year, prices in Chicago and Milwaukee have not been as high - \$2.08 per gallon.

Background

This final rule increases the flexibility available to refiners to formulate RFG with ethanol by adjusting the VOC performance standard under Phase II of the RFG program for blends that contain 10 volume percent ethanol. The VOC performance standard will be 2 percentage points less stringent for ethanol use at 3.5 weight percent oxygen. With the adjustment, fuel providers would be able to blend 10 volume percent ethanol into RFG blendstock that has a slightly higher evaporation rate than blendstock used for MTBE or any other oxygenate. This higher evaporation rate is equivalent to an increase in the Reid Vapor Pressure (RVP) of the gasoline by 0.3 pounds per square inch (psi). Thus, the proposed VOC adjustment will reduce the cost of blending 10 volume percent ethanol into RFG blendstock, making ethanol use more cost-effective.

In June 2000, EPA proposed an adjustment equivalent to an increase in RVP of about 0.2 psi. In response, the Illinois EPA submitted a study which recommended an adjustment equivalent to 0.5 psi. An adjustment of 0.5 psi would negate a large portion of the air quality benefits of Phase II RFG. Using the results of EPA's ozone modeling, and additional information on the effects of oxygenates on motor vehicle emissions, EPA determined that an adjustment of 0.3 psi may be more appropriate to account for the additional carbon monoxide (CO) reductions from ethanol blended RFG.

EPA is allowing the adjustment because RFG with 10 volume percent ethanol results in a reduction in emissions of CO. The reduction in CO allows a slight increase in VOC emissions. Therefore, the emissions performance standard for VOCs can be adjusted without affecting the program's smog reduction benefits.

This rule implements the recommendation of the National Research Council that EPA recognize the contribution of CO to smog formation in evaluating the benefits of RFG. It also takes into account an ozone study conducted by the Illinois Environmental Protection Agency that illustrated that increases in emissions of VOCs could be offset by decreases in CO.

Using the results of the Illinois and Wisconsin ozone modeling and additional information on the effects of oxygenates on motor vehicle emissions, EPA determined that an adjustment equivalent to an increase in RVP of 0.3 psi is appropriate to account for the additional CO reductions from ethanol-blended RFG. When added to gasoline, ethanol

increases the evaporation rate, causing more VOC emissions, but ethanol helps to reduce CO emissions. Both pollutants play a role in ozone (smog) formation. So while there will be an increase in VOCs, they will be offset by the concurrent CO reductions. Air quality will not be compromised by this change.

The Clean Air Act requires that RFG contain 2.0 weight percent oxygen. To meet this requirement, oil refiners generally choose between MTBE and ethanol. If gasoline containing MTBE leaks or is spilled into the environment, it can enter groundwater and make water supplies undrinkable due to taste and odor impacts. EPA called on Congress last year to pass legislation that will significantly reduce or eliminate the use of MTBE. By providing refiners with more flexibility to use ethanol, this proposal will help reduce the use of MTBE.

Health and Environmental Benefits of RFG

About 75 million people are breathing cleaner air because of RFG. The cleaner-burning RFG program significantly reduces air pollution in the smoggiest cities in the U.S. RFG reduces smog-forming pollutants by 105,000 and toxic pollutants by 24,000 tons annually. This is equivalent to eliminating the pollution from 16 million cars.

For More Information

You can access documents on RFG electronically on the Office of Transportation and Air Quality (OTAQ) Web site at:

<http://www.epa.gov/otaq/rfg.htm>

For further information on this final rule, please contact Barry Garelick at:

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