GEORGE E. PATAKI
GOVERNOR

ERIN M. CROTTY
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK, 12233-1010

JAN - 6 2003

Honorable Christine T. Whitman
Administrator
United States Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Whitman:

I am writing to request that the United States Environmental Protection Agency (EPA) take action and grant a waiver pursuant to the requirements that all gasoline sold or dispensed in the New York State portion of the New York City Consolidated Metropolitan Statistical Area (CMSA) contain a minimum oxygen content as stated in section 211(k)(2)(B) of the Clean Air Act (CAA). This waiver request also includes the opt-in area of Dutchess County, New York.

Under Section 211(k)(2)(B) of the CAA, the Administrator may waive, in whole or in part, the application of this oxygenate requirement for any ozone nonattainment area upon a determination by the Administrator that compliance with such a requirement would prevent or interfere with the attainment by the area of a national primary ambient air quality standard (Enclosure A - See 42 U.S.C. §7545 (k)(2)(B)).

The CAA requires the EPA to issue regulations that would require gasoline to be "reformulated" so as to result in significant reductions in vehicle emissions of ozone-forming and toxic air pollutants. This cleaner gasoline is called reformulated gasoline (RFG). RFG is required to be used in nine major metropolitan areas of the United States with the worst ozone air pollution problems. The New York City CMSA falls into this category.

The CAA mandates that RFG sold or dispensed contain a minimum of 2 percent oxygen by weight. Methyl *tertiary*-butyl ether (MTBE) has been the primary oxygenate used by refiners supplying gasoline to the Northeast to meet this requirement because it is relatively inexpensive, has clean-burning characteristics and provides a good source of octane. In addition, MTBE does not increase the volatility of the base gasoline. However, MTBE poses a threat to water resources because of its high mobility in groundwater and its resistance to biodegradation. Since the introduction of RFG in 1995, MTBE has been detected in an increasing number of private and public water supplies. Due to taste and odor characteristics that affect the drinkability of MTBE-contaminated water even at low concentrations, and concern about possible acute and chronic health effects, a broad consensus has emerged that the use of MTBE in gasoline should be curtailed (Enclosure B).

On May 24, 2000, Governor Pataki signed a law to protect New York's water supplies against contamination from the gasoline additive MTBE by banning the use, sale or importation of fuels containing MTBE into the State beginning January 1, 2004 (Enclosure C). Because the CAA requires the addition of oxygen in reformulated gasoline, the elimination of MTBE will require that another additive will be needed as a replacement to meet the federal oxygenate mandate. Presently, it appears that the only viable oxygenate alternative to MTBE is ethanol. This viewpoint is reinforced by recent concerns from gasoline suppliers requesting a one pound per square inch (psi) Reid Vapor Pressure (RVP) waiver to enable New York's ban on MTBE (Enclosure D).

The use of ethanol as a replacement to MTBE presents a number of air quality concerns in the New York State portion of the New York City CMSA. Studies show that the use of ethanol-blended gasoline will increase Volatile Organic Compound (VOC), Nitrogen Oxide (NOx) and toxic emissions during the summer "ozone season." Increases in these pollutants will immediately interfere with New York's ability to demonstrate reasonable progress to attain and maintain the federal ozone standard as well as increase the public health risk associated with mobile source toxics.

Phase II RFG regulations require refineries to reduce NOx emissions by 6.8 percent and VOC emissions by 27.4 percent compared to 1990 levels, as quantified by the EPA Complex Model. However, it is believed that the model does not fully capture the effects that oxygenates such as ethanol have on emissions from current fleet vehicles. Existing test data indicate that NOx emissions from newer vehicles increase with ethanol. In addition, data exist that show NOx increases with older vehicles and even more significantly with nonroad vehicles. The emissions increase due to the oxygen mandate will create a NOx emissions reduction shortfall because a portion of the reductions assumed in the RFG program do not exist. (Enclosure B)

When RFG was introduced in 1995, ethanol-blended RFG was supplied to Midwestern nonattainment areas near ethanol production centers. Other RFG areas received MTBE-blended RFG. A comparison of ozone exceedances was then made between 1993-1994 and 1995-1996 (the first two years of the RFG program). Ozone exceedances generally decreased in MTBE-blended RFG areas whereas ethanol-blended RFG areas showed a substantial increase in ozone exceedances of 78-119 percent. Additionally, research has shown that on average, ethanol only gives back 92 percent of the energy used to make it (Enclosure E).

The replacement of MTBE with ethanol will also result in an increase of VOC emissions if ethanol-blended and non-ethanol-blended gasolines are inadvertently commingled in automobile fuel tanks. Ethanol-blended RFG can be formulated to meet stringent RVP limits. However, if a small amount is mixed with gasoline without a similar low RVP formulation, the overall volatility of the blend will increase which will result in an increase in VOC emissions (Enclosure B). Additional increases of VOC emissions will result in New York failing to maintain its State Implementation Plan (SIP) Rate of Progress and timely attainment requirements for ozone.

The New York State Department of Environmental Conservation (Department) has estimated that 2005 VOC emissions would increase for both on-road and nonroad mobile sources as a result of a 0.3 psi and 1.0 psi RVP increase upon replacement of MTBE-based fuel with ethanol-blend. These increases in RVP reflect the recently allowed RFG performance standard change in the greater Chicago and Milwaukee RFG area (Enclosure F). A 0.3 psi and 1.0 psi RVP increase statewide would result in VOC emissions increases of 30.2 tons/day and 82.7 tons/day, respectively (Enclosure G).

The Department also would like to note that ethanol as a replacement for MTBE will result in VOC increases from permeation. Permeation is the process by which gasoline escapes through the walls of fuel line hoses and fuel tanks. Test data from the Society of Automotive Engineers (SAE) has reported that the permeation rate for a 10 percent ethanol-blended hydrocarbon fuel is roughly 1.5 times greater than that with 0 percent ethanol. Based upon this report, a comparison can be made of the permeation rates at a given temperature for two different blends of gasoline. A gasoline blend containing 0 percent ethanol at 29°C will emit VOCs at a permeation rate of 9.3 mg/hr whereas a 10 percent ethanol blend at the same temperature will emit VOCs at a rate of 56 mg/hr. Over a fleet of five million vehicles, this translates to 6.1 tons/day excess VOC emissions (Enclosure H).

In addition, there are increases of emissions due to the transport of ethanol to the New York City CMSA from production centers in the Midwest. In the near term, ethanol cannot be transported to the Northeast via pipeline. It will need to be shipped by truck, barge, or rail. Analysis by the Northeast States for Coordinated Air Use Management (NESCAUM) has estimated that transporting 960 million gallons (22.9 million barrels) of ethanol per year to the region could require as many as 34,000 miles of barge travel and as many as three million miles of tanker truck travel, which will be an additional burden (Enclosure I).

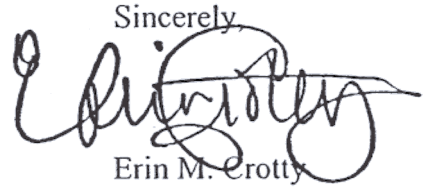
The refineries that distribute fuel to New York are also under a time constraint for they must begin the time consuming and expensive process to remove their current reliance on MTBE to meet the federal Phase II RFG mandate. In order to meet the 2004 deadline, the refiners must begin immediately with the planning and design phases so that MTBE removal can be undertaken in the most efficient and cost-effective manner.

In order to continue with the progress already being made in reference to the removal of MTBE contamination in groundwater, New York wants to remove the minimum oxygen requirement in RFG. The Department believes that we have met the legal requirements to receive an oxygenate waiver under 211(k)(2)(B) of the CAA. The Department, therefore, requests that you waive the minimum oxygen content requirement in RFG fuels dispensed in New York State beginning January 1, 2004.

Despite our concerns about utilizing ethanol to meet the oxygenate mandate in gasoline, New York remains committed to the research, development, and commercialization of renewable fuels, including ethanol. New York State has been a leader in developing policies and programs that expand the use of renewables for both mobile and stationary sources.

I thank you for your prompt attention to this matter and look forward to working closely with you to resolve this important issue. If you have any questions or require any additional information, please contact me at (518) 402-8540.

Sincerely,



Erin M. Crotty

cc: Ms. M. Oge, EPA
Mr. R. Werner, EPA
Mr. K. Colburn, NESCAUM