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OF THE
COMMITTEE ON SCIENCE
U.S. HOUSE OF REPRESENTATIVES**

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Thank you, Mr. Chairman and Members of the Subcommittee, for the invitation to appear here today. I am pleased to have this opportunity to share with the Subcommittee the environmental benefits of the reformulated gasoline or RFG program, and future steps that should be taken to address issues regarding the use of oxygenates in the program.

An understanding of the history of the federal RFG program is important in order to put the issues surrounding the use of methyl tertiary butyl ether (MTBE) and ethanol in perspective. As you know, the Clean Air Act Amendments of 1990 put in place a number of programs to achieve cleaner motor vehicles, and cleaner fuels. By and large, these programs have been highly successful. Only after extensive deliberations did Congress strike the balance between vehicle and fuel emissions control programs. The RFG requirements also emerged from combining several Congressional goals, including air quality improvement, enhanced energy security by extending the gasoline

supply through the use of oxygenates, and encouraging the use of renewable energy sources.

The federal reformulated gasoline program introduced cleaner gasoline in January 1995 primarily to help reduce smog levels. Unhealthful smog levels are still of significant concern in this country, with 100 million people living in over 30 areas that are in nonattainment of the current 1-hour ozone standard.

Smog has been linked to a number of health effects concerns. Repeated exposures to smog can make people more susceptible to respiratory infection, result in lung inflammation, and aggravate pre-existing respiratory diseases such as asthma. Other health effects attributed to smog exposures include significant decreases in lung function and increased respiratory symptoms such as chest pain and coughing.

RFG is an effective way to reduce smog precursors such as volatile organic compounds (VOCs) and oxides of nitrogen (NOx). The first phase of the RFG program, from 1995 through 1999, requires average reductions of smog-forming volatile organic compounds and toxics of 17% each, and NOx by 1.5%. In the year 2000, the second phase of the RFG program will achieve even greater average benefits: a 27% reduction in VOCs, 22% reduction in toxics, and 7% reduction in oxides of nitrogen emissions that also contribute to the formation of urban smog. This is equivalent to taking more than 16 million vehicles off the road.

The federal RFG program is required in ten metropolitan areas which have the most serious smog pollution levels. Although not required to participate, some areas in the Northeast, in Kentucky, Texas and Missouri have elected to join, or “opt-in” to the RFG program as a cost-effective measure to help combat their air pollution problems.

At this time, approximately 30% of this country's gasoline consumption is cleaner-burning reformulated gasoline.

We are often asked what air quality benefits we have seen since the introduction of RFG. Since 1995, RFG, on average, has exceeded expectations for VOC, NOx and toxic reductions. Most notably, overall toxics reductions are about twice that required, with about a 30% reduction versus a 17% requirement. The use of oxygenates contributes to these substantial toxics reductions.

Ambient monitoring data from the first year of the RFG program (1995) also showed strong signs that RFG is working. For example, detection of benzene (one of the air toxics controlled by RFG, and a known human carcinogen) declined dramatically, with a median reduction of 38% from the previous year.

Neither the Clean Air Act nor EPA requires the use of MTBE in RFG. The Clean Air Act Amendments of 1990 required that RFG contain 2.0 percent minimum oxygen content by weight; it did not specify which oxygenate to use. Both ethanol and MTBE are used successfully in the current RFG program, with fuel providers choosing to use MTBE in about 80 percent of the RFG.

Oxygenates help to reduce emissions of smog precursors and air toxics by diluting or displacing gasoline components such as benzene, olefins, aromatics, and sulfur and by altering the distillation index. In addition, since oxygenates increase octane, refiners have chosen to add them to gasoline since the late-1970's. And because oxygenates contribute up to 11% of the volume of reformulated gasoline, they can extend the gasoline supply through displacement of some gasoline components. This reduces our reliance on foreign petroleum imports.

Despite the air quality aspects of oxygenates in RFG, there is growing concern about contamination of drinking water by MTBE in Santa Monica, several other areas in California, as well as in Maine and other states. EPA is also concerned about the detection of MTBE in drinking water, as well as ground and surface waters. For the most part, levels detected in drinking water have been quite low. For instance, the California Department of Health Services requires public drinking water systems to monitor for MTBE. As of June, 1999, 3.7% of California's drinking water systems sampled have detected MTBE. Most of those detections are below the state's secondary standard (or taste and odor action level) of 5 parts per billion.

The U.S. Geological Survey (USGS) has reported that about 3 percent of groundwater wells in RFG program areas have detections of MTBE at or above 5 parts per billion. MTBE detections at higher concentrations in groundwater, such as those experienced in Santa Monica, result primarily from leaking underground fuel storage tanks, and possibly from spills from distribution facilities. These leaks are unacceptable regardless of whether or not MTBE is present in the gasoline. However, the presence of MTBE at these leak sites suggests the need for improved early warning systems for underground storage tank leaks. The Agency's underground storage tank (UST) program is expected to substantially reduce future leaks of all fuels and additives, including MTBE, from underground fuel storage tanks. USTs were required to be upgraded, closed, or replaced to meet these requirements by December 1998. Over 80% of the regulated tanks have complied with this requirement and EPA is continuing to work with the states to ensure progress toward full compliance.

In response to concerns associated with the use of oxygenates in gasoline, the

Administrator established a blue-ribbon panel of leading experts from public health and scientific communities, water utilities, environmental groups, industry, and local and state government to assess issues posed by the use of oxygenates in gasoline. The panel has held monthly meetings since January, 1999, and presented its recommendations to the Clean Air Act Advisory Committee in late July of this year. This panel grappled with a number of complex issues, including an assessment of alternatives to the use of MTBE to ensure that current air quality benefits of RFG are continued, and the additional benefits of the second phase of the program are not endangered.

First, the panel concluded that the RFG program “has provided substantial reductions in the emissions of a number of air pollutants from motor vehicles, most notably volatile organic compounds (precursors of ozone), carbon monoxide, and mobile-source air toxics.....in most cases resulting in emissions reductions that exceed those required by law.” The panel went on to note that “the use of MTBE in the program has resulted in growing detections of MTBE in drinking water, with between 5% and 10% of drinking water supplies in high oxygenate use areas showing at least detectable amounts of MTBE. The great majority of these detections to date have been well below the levels of public health concern, with approximately one percent rising to levels above 20 ppb.” During panel deliberations, the USGS reported to panel members that MTBE detections are about five times more likely in areas using MTBE to comply with the RFG or winter oxygenated fuels program oxygen requirements than in areas using conventional gasoline. The panel also concluded that the MTBE detections have “primarily caused consumer odor and taste concerns [and] incidents of MTBE in

drinking water supplies at levels well above EPA and state guidelines and standards have occurred, but are rare.” Further, the panel noted the persistence and mobility of MTBE in water, and noted that it “is more likely to contaminate ground and surface water than the other components of gasoline.”

In light of these findings, the panel’s recommendations to the Administrator fall under the following broad categories:

- Enhance water protection and monitoring
- C Prevent leaks through improvement of existing programs
- C Remediate existing contamination
- C Amend the Clean Air Act to remove the requirement that federal reformulated gas contain 2% oxygen (by weight)
- C Maintain current air benefits (no environmental backsliding)
- C Reduce the use of MTBE
- C Accelerate research on MTBE and its substitutes

EPA intends to address the panel’s recommendations to the extent possible within the Agency’s current administrative authority. This will include strengthening underground storage tank programs and drinking water protection programs, and where possible, providing more flexibility to states and refiners as they move to decrease the use of MTBE in gasoline.

We are also committed to working with Congress to provide a targeted legislative solution that maintains our air quality gains and allows for the reduction of MTBE, while preserving the important role of renewable fuels like ethanol.

As MTBE use is reduced, ethanol is clearly the most likely substitute for MTBE

and is already used to meet the oxygen standard in Milwaukee and Chicago. We believe it is likely that substantial amounts of ethanol will continue to be used in the federal RFG program. EPA is working closely with all fuel providers to assure a smooth transition to the second phase of the RFG program.

Mr. Chairman, in closing, I want to assure you that we are committed to working with the Congress, as well as the states and the regulated community to follow through on the blue ribbon panel's recommendations to the Administrator. EPA is moving forward on implementing panel recommendations that are within our purview and will work with Congress where additional legislative action may be taken. Our primary goal is to ensure that the significant air quality benefits of the RFG program continue to be achieved in areas of this country with air pollution problems.

This concludes my prepared statement. I would be happy to answer any questions that you may have.