

US EPA ARCHIVE DOCUMENT

**TESTIMONY OF
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COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE**

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Thank you, Mr. Chairman and Members of the Committee, for the invitation to appear here today. I appreciate the opportunity to discuss the vital role cleaner burning gasoline plays in improving America's air quality and to comment on an initiative related to "boutique fuels" contained in the National Energy Policy. I also will explain the Environmental Protection Agency's decision regarding the state of California's request for a waiver of the oxygen content requirement in reformulated gasoline (RFG).

Mr. Chairman, first and foremost, the Environmental Protection Agency is concerned that consumers receive the air quality benefits of cleaner burning gasoline (also called RFG) at a reasonable price. Before discussing other gasoline issues, I will review the history and development of the RFG program, and document the air quality benefits derived from the program. I will also discuss our on-going actions to address water contamination resulting from leaks or spills of the gasoline additive MTBE.

Let me begin with a history of the RFG program.

History of RFG

When Congress passed the Clean Air Act Amendments of 1990, it established a number of

programs to achieve cleaner motor vehicles and cleaner fuels. These programs have been highly successful in protecting public health by reducing harmful exhaust from the tailpipes of motor vehicles. In the 1990 Amendments, Congress struck a balance between vehicle and fuel emission control programs after extensive deliberation. The RFG program was designed to serve several goals. These include improving air quality and extending the gasoline supply through the use of oxygenates.

Congress established the overall requirements of the RFG program by identifying the specific cities in which the fuel would be required, the specific performance standards, and an oxygenate requirement. The oil industry, states, oxygenate producers and other stakeholders were involved in a successful regulatory negotiation that resulted in the development of the RFG regulations in 1991. EPA published the final regulations establishing the detailed requirements of the two-phase program in early 1994. Thus, the oil companies and other fuel providers had six years to prepare for the performance requirements of the second phase of the program that began last year. In addition, the oil industry has been involved in an EPA RFG implementation advisory workgroup since 1997.

The first phase of the federal reformulated gasoline program introduced cleaner gasoline in January 1995 primarily to help reduce vehicle emissions that cause ozone (smog) and toxic pollution in our cities. Unhealthy smog levels are a significant concern in this country, with over 53 million people living in counties with air quality above the 1-hour ozone standard.

The federal RFG program is required by Congress in ten metropolitan areas which have the most serious air 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 relatively cost-effective measure to help combat their air pollution problems. Today, roughly 35 percent of this

country's gasoline consumption is cleaner-burning reformulated gasoline. The Clean Air Act Amendments of 1990 also required that RFG contain 2.0 percent minimum oxygen content by weight. Neither the Clean Air Act nor EPA requires the use of any specific oxygenate. Both ethanol and MTBE are used in the RFG program, with fuel providers choosing to use MTBE in about 87 percent of the RFG. Ethanol is used in 100 percent of RFG in Chicago and Milwaukee, which are closer to major ethanol production centers.

Benefits of RFG

Ambient monitoring data from the first year of the RFG program (1995) indicated that RFG had a positive impact on reducing toxic emissions. RFG areas showed significant decreases in vehicle-related tailpipe emissions. One of the air toxics controlled by RFG is benzene, a known human carcinogen. The benzene level at air monitors in 1995, in RFG areas, showed the most dramatic declines, with a median reduction of 38 percent from the previous year. The emission reductions which can be attributed to the RFG program are equivalent to taking 16 million cars off the road. About 75 million people are breathing cleaner air because of RFG. Since the RFG program began six and one-half years ago, we estimate that it has resulted in annual reductions of VOC and NOx combined of at least 105,000 tons, and at least 24,000 tons of toxic air pollutants.

As required by the Clean Air Act, the first phase of the RFG program began in 1995 and the second phase began in January of last year. As an example of the benefits, in Chicago, EPA estimates that the Phase II RFG program results in annual reductions of 8,000 tons of VOC and NOx combined and 2,000 tons of toxic vehicle emissions, benefitting almost 8 million citizens.

Boutique Fuels

The Clean Air Act authorizes states to regulate fuels through state implementation plans if EPA finds such regulations necessary to achieve a national air quality standard. This has resulted in a number of different formulations being required by states which are often referred to as boutique fuels. EPA understands the challenge that state and local "boutique fuel" requirements place on the production and distribution of gasoline in the U.S. These state fuel programs could limit flexibility in the fuel distribution system, particularly if a disruption occurs. If the number of special fuels could be limited, while maintaining needed air quality benefits, greater fungibility within the distribution system could possibly result.

The National Energy Policy report issued on May 17, 2001 includes a recommendation that directs EPA to study opportunities, in consultation with DOE, USDA and other agencies, to maintain or improve the environmental benefits of state and local "boutique" fuel programs while exploring ways to increase the flexibility and fungibility of the fuels distribution infrastructure, and provide added gasoline market liquidity. We have begun our boutique fuel assessment; we are consulting various stakeholders, including the states, and expect to make recommendations later this year.

Reducing the Use of MTBE

There is significant concern about contamination of drinking water in many areas of the country. Current data on MTBE in ground and surface waters indicate widespread and numerous detections of MTBE at low levels. Data from the U.S. Geological Survey indicates a strong relationship between MTBE use as a fuel additive in an area and finding detections of low levels of MTBE. A number of states have taken action to ban MTBE. Accordingly, EPA published last year an Advance Notice of Proposed Rulemaking requesting comments on a phase down or phase out of MTBE from gasoline

under Section 6 of the Toxic Substances Control Act (TSCA). EPA believes that TSCA is the best regulatory process available for limiting or eliminating the use of MTBE. TSCA gives EPA authority to ban, phase out, limit or control the manufacture of any chemical substance deemed to pose an unreasonable risk to public health or the environment. We expect to have a proposal prepared for inter-agency review later this summer. Actions taken by a growing number of states to ban the use of MTBE as a gasoline additive is the single biggest factor that threatens to proliferate boutique fuel requirements around the country. Eleven states have banned MTBE, one as early as the end of 2002. At least a dozen more states are considering similar bans.

Production Costs for RFG and the Price of Gasoline

There are many factors that contribute to the price of gasoline. These include: the cost of crude oil; refining costs and profits; refining capacity utilization; distribution and marketing costs; the size of inventories; the size of demand for gasoline and other petroleum products; the balance between this demand and readily available supplies; and the availability of alternative supplies in tight markets.

Most of the factors that affected prices last year have been again at work this year: relatively tight crude oil markets; relatively tight spring gasoline supply/demand balance, compounded by extensive refinery maintenance and unplanned outages; high refinery capacity utilization; unique regional and seasonal products, many of which are referred to as “boutique fuels”; and dependence on distant supplies. I would also like to highlight a few specific points to amplify on this list:

- Fuel demand continues to increase as Americans continue to travel more. Although recently there have been signs of slowing, vehicle miles traveled (VMT) have been increasing. Over the past twenty years, as the economy has grown, VMT has increased by 114% while population

has only grown by 27%.

- In addition, the fuel economy of the vehicle fleet is the lowest in 20 years and is declining, as Americans have purchased many more pickup trucks, minivans and sport utility vehicles. By 2000, nearly half of the new vehicles purchased in the U.S. fit into these categories.
- Finally, it is worth noting that prices this spring rose in areas that do not use clean fuels as well as those that do.

Against this backdrop, the manufacturing cost of RFG II has contributed relatively little to the overall price of gasoline. EPA has estimated that the incremental manufacturing costs of RFG II are four to eight cents per gallon.

As I stated earlier, EPA is concerned that consumers receive the benefits of the RFG program at a reasonable price. Across the country, hundreds of communities are benefitting from RFG II for pennies per gallon. Since prices peaked in mid-May, wholesale prices have fallen by about 30 cents per gallon. Retail prices at the pump are also easing. Most analysts are predicting no further rise this summer, barring unforeseen problems.

California's Request for a Waiver from the Oxygen Requirement

I would like to turn now to EPA's recent action concerning the state of California's request to waive the federal oxygen requirement for RFG. In March 1999, Governor Davis signed an executive order banning the use of MTBE beginning in 2003. In April 1999, California requested a waiver from the oxygen requirement. California's waiver request was based on the assertion that additional oxides of nitrogen (NO_x) reductions are needed in California in order to attain the National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter. California claimed that without the

oxygen requirement, greater NO_x reductions would be achieved with their California RFG Phase 3 (CaRFG3) fuel. Last week Administrator Christie Whitman announced that EPA could not approve California's request.

The criteria for granting such a waiver is established in the Clean Air Act, and is the only basis that EPA has for such actions. The statutory language states:

The oxygen content of the gasoline shall equal or exceed 2.0 percent by weight...except as otherwise required by this Act. The Administrator may waive, in whole or in part, the application of this subparagraph upon a determination by the Administrator that compliance with such requirement would prevent or interfere with attainment by the area of a national primary ambient air quality standard.

Our decision regarding California's request for a waiver was therefore limited to the one criterion that the statute provides. That is, California's request could be granted only if EPA had determined that compliance with the oxygen content requirement would interfere with attainment of a primary National Ambient Air Quality Standard (NAAQS). Congress set a high hurdle for granting such waivers. It does not allow the Agency to consider the effects of MTBE in drinking water in California and other states. It also does not allow the Agency to consider the effect on gasoline prices or energy supplies that the oxygenate requirement and California's ban on MTBE might have.

After an extensive analysis of the information that California provided, the Agency concluded that there is significant uncertainty over the change in motor vehicle emissions that would result from a waiver of the oxygen mandate. California has not clearly demonstrated what the impact of a waiver of

the oxygen mandate would be on the formation of smog.

EPA began its analysis in July 1999 upon receipt of California's initial submissions of technical information in support of Governor Davis' original letter of intent which he had sent to EPA in April 1999. EPA responded to California in August 1999, asking for clarification on several issues. Between August and December of 1999, EPA and the California Air Resources Board (CARB) staff conducted several meetings in which CARB presented new technical information.

In December 1999, two important developments occurred which significantly affected the course of EPA's work to evaluate California's request. First, on December 9, the California Energy Commission completed an analysis which presented information regarding how refineries in California might reformulate their gasolines in order to meet CARB fuel standards if there were no federal oxygen requirement. Almost simultaneously, CARB adopted new California RFG3 standards. Shortly thereafter, on December 24, 1999, California submitted to EPA a major new analysis and technical justification for its waiver request.

In January 2000, EPA staff traveled to California and met with CARB staff to discuss the state's new analysis. In response, in early February, CARB submitted additional information to EPA. In a February 14, 2000 letter to California, EPA stated that the application was complete and the State had submitted sufficient information for EPA to evaluate the waiver request..

In late spring of 2000, EPA staff concluded that further Agency analysis was needed in order to fully evaluate California's request. EPA performed an independent analysis of the effect of a waiver on gasoline properties and emissions in California. EPA's analysis included refinery modeling performed by the same independent refinery modelers utilized by the California Energy Commission in their

December analysis. This analysis compared the properties of California gasoline, with and without a waiver of the oxygenate requirement, assuming a California MTBE ban. EPA's technical and legal staff then began to integrate the various results into a complete and comprehensive analysis which we used to draft a proposed decision on the California waiver request.

Late in 2000, when the various analyses were near completion, EPA technical and legal staff presented the Agency management with a proposal to grant California a partial waiver; that is, a waiver for a year-round oxygen level of 1.0 percent by weight. The previous Administrator chose not to sign this proposed partial waiver before she left office.

In this current Administration, we continued to examine the proposal that had been prepared. In initial briefings of Administrator Whitman and her staff, EPA technical staff were asked to further evaluate issues relating to the uncertainty of any relevant assumptions and estimations that would be needed to reach a decision.

Although many aspects of our analysis required assumptions and estimations, one of the major uncertainties results from significantly increased gasoline volatility (that is, increased evaporation rate of gasoline) due to commingling. Commingling refers to the mixing in vehicle fuel tanks of ethanol-blended gasolines and gasolines without ethanol, a situation that would occur should a waiver be granted. In regard to whether such a situation would exist if a waiver were granted, we note that every analysis that we are aware of has shown that significant amounts – up to 65 percent – of California gasoline would contain ethanol even if a waiver were granted. This is because only a limited number of refinery streams like ethanol are available to make clean gasoline and maintain the octane performance properties

needed.

In its technical submissions, California identified commingling as a factor that must be considered in the design of its clean fuel program and acknowledged the uncertainty of the actual occurrences of commingling. Upon the request of EPA management, EPA staff conducted new analysis of other plausible scenarios of commingling. It was the results of this new analysis that demonstrated the high degree of uncertainty in the overall emissions effects depending on the assumptions one makes about commingling.

Under the new scenarios analyzed earlier this year by EPA, commingling would result in increased VOC emissions. Depending on the level of the increase associated with commingling, the total emissions of VOC associated with a waiver may increase or decrease, resulting in an uncertain impact on ozone. As a result of this uncertainty, we believe California has not clearly demonstrated the impact on vehicle emissions that would occur from a waiver of the oxygen mandate. While we agree with California that the waiver would likely result in a decrease in NO_x emissions, we note that a waiver would increase emissions of carbon monoxide (CO). As stated above, there is also significant uncertainty about whether ozone-forming emissions of VOCs would increase or decrease if a waiver were to be granted.

As I stated earlier, our evaluation of California's request for a waiver can only be based on a demonstration that the oxygen requirement would prevent or interfere with attainment of a primary ozone NAAQS. We therefore did not – and could not under the Clean Air Act – consider the effects of the oxygen requirement on energy supplies or the price of gasoline. Our decision not to grant California's request for a waiver maintains the status quo with regard to federal RFG requirements.

Conclusion

Mr. Chairman and Members of the Committee, the clean fuel programs I have talked about today are critical to our nation's efforts to reduce the harmful effects of air pollution. They are also important to the production and distribution of gasoline at a fair price to consumers. We have learned a great deal about cleaner burning fuels since 1990. We now know that MTBE, if leaked or spilled, can contaminate water supplies more readily than other components of gasoline. We know that a number of states have exercised the authority granted them by the Clean Air Act to establish different fuel formulations that are now referred to as boutique fuels. A proliferation in the number of boutique fuels create challenges to fuel producers and distributors and, through the process I have described, EPA will develop recommendations to address this issue.

In 1990, the RFG oxygen requirement was established by Congress to meet multiple goals: improve air quality, enhance energy security, and encourage the use of renewable fuels. We now know that some refiners can produce clean fuels without the use of oxygenates. Thus, there may be better ways to achieve these goals.

As I have stated in my testimony, EPA's authority to address many of these issues is limited. We are committed to working with Congress to explore ways to maintain or enhance environmental benefits of clean fuels programs while exploring ways to increase the flexibility of the fuels distribution infrastructure, improve fungibility, and provide added gasoline market liquidity.

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