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**U.S. House of Representatives
Committee on Commerce**

**Room 2125, Rayburn House Office Building
Washington, DC 20515-6115**

June 5, 1995

Memorandum to: Members, Subcommittee on Oversight and Investigations

From: Bob Meyers, Counsel
Stephen Sayle, Counsel

Re: June 7, 1995, Hearing on Implementation of the Reformulated Gasoline Program under Title II of the 1990 Clean Air Act Amendments

On June 7, 1995, the Subcommittee will hold the sixth in a series of oversight hearings regarding implementation of the Clean Air Act Amendments of 1990 (CAAA).

The hearing will examine the Reformulated Gasoline program created by the 1990 CAAA under Title II of the Clean Air Act. A witness list for this hearing is Attachment I.

Summary:

The Reformulated Gasoline program (RFG) was established by the 1990 CAAA. The program was a legislative outgrowth of proposals to mandate alternative fuels and alternative-fueled vehicles as part of the air pollution control strategy of the Clean Air Act.

While substantial gains have been made in controlling pollution from conventionally-fueled vehicles, mobile source emissions can account for over half of volatile organic emissions (VOCs) in some ozone nonattainment areas. Moreover, certain air toxins, most notably benzene, are associated with auto emissions. The RFG program was designed to achieve significant reductions in the emission of both VOCs and air toxins.

In crafting the RFG program, Congress did not specify a precise formula for RFG, but rather established content limits and performance-based goals for the program. Thus, various fuels from different refiners and suppliers may be used as long as they meet statutory and regulatory requirements. These requirements broadly dictate a minimum oxygen requirement, a maximum benzene requirement, and a prohibition on the inclusion of heavy metals and lead. Additionally, RFG must be capable of reducing VOC and toxic emissions by 15% initially and up to 25% by the year 2000.

While an associated oxygenate program for the control of wintertime carbon monoxide (CO) was implemented in 1992, the RFG program was initiated in the nine smoggiest areas of the country starting on January 1, 1995. Additionally, several other areas of the country, most in the Northeast, have "opted in" to the program. Altogether, RFG presently represents about one-third of the domestic gasoline market.

Several issues have been raised with respect to RFG in previous years. In 1994, Congress closely examined the ability of foreign refiners to "qualify" gas as RFG. Concerns have also been expressed regarding the ability of certain fuel types to meet both RFG requirements and other broad public policy goals. Various industries and companies are in direct competition for the RFG and alternative fuels market.

At present, the following main issues have been expressed with respect to RFG:

- * **Price and Supply.** While there were significant questions raised in 1994 regarding the ability of the fuel supply system to bring RFG to market, initial indications are that the supply of RFG has not been problematic. There is some concern, however, respecting increased prices due to RFG with an associated loss in gas mileage.

- * **"Opt Out."** As more fully explained in the body of this memo, some areas of the country which voluntarily "opted in" the RFG program now want to return to conventional fuel supplies. EPA is presently developing a rulemaking to govern this process.

- * **RFG "Formula".** Various arguments have been raised for and against different RFG fuels. Since the program is, in part, "performance-based" different fuels can qualify and be sold as RFG. Some have argued, however, that statutory and regulatory limits on certain RFG constituents unnecessarily restrict the type of fuels that can qualify as RFG.

- * **Health Effects.** A new study has been released regarding consumer complaints of sickness and nausea attributed to the sale of MTBE (a methanol-based oxygenate used in RFG) in Milwaukee this past winter. While the information is not conclusive, the Wisconsin Department of Health has not considered exposure to RFG to be associated with widespread or acute health effects.

- * **Renewable Oxygenate Requirement.** EPA has attempted to require that 30% of the oxygenate used in RFG be based on "renewable fuels." Such fuels are primarily ethanol-based and derived from corn. Despite an adverse court decision in the D.C. Circuit, EPA indicated on June 2, 1995, that it would pursue all legal options to implement a renewable oxygenate requirement as part of the RFG program.

- * **RFG Performance.** In addition to an acknowledged loss in gas mileage (placed at 1-2% by EPA) consumers have complained of performance problems with off-road vehicles and equipment. Since RFG produces a "leaner" fuel, some adjustments may be necessary to certain "two-stroke" engines.

* Phase II standards. Under the statutory provisions of the RFG program, the reduction in VOCs and air toxins attributable to RFG must be substantially increased over gains attributable to the present Phase I program. EPA has discretion not to require a 25% reduction in VOCs and air toxins in the year 2000, but there is a statutory floor of a 20% reduction. Some have questioned the necessity of these provisions.

The June 7, 1995, hearing of the Oversight and Investigations Subcommittee is intended to review the implementation of the RFG program to date as well as examine issues relevant to the future implementation of the program.

General Background and Brief Legislative History:

The specific requirements of the current RFG program, discussed below and contained in Section 211(k) of the CAA, were not an original element of the Bush Administration's 1989 proposal to amend the Clean Air Act. Instead, the current RFG program emerged during House and Senate consideration of the "clean alternative fuels" program.

Under the original proposal, introduced in the House as H.R. 3030 on July 27, 1989, the most polluted metropolitan areas of 250,000 people or more would have been required to participate in the clean alternative fuels program. This program would have required automobile manufacturers to produce, distribute and sell 500,000 alternative-fueled vehicles in 1995, 750,000 such vehicles in 1996 and 1,000,000 vehicles in each year 1997 through 2004.

As the program was originally conceived, "high volume" service stations in the affected areas would have been required to make available at least one alternative fuel for sale. In addition, under the original proposal, the EPA Administrator was authorized to mandate that alternative fuels be sold in "major nationwide transportation corridors."

While reformulated gasoline was specifically mentioned as a possible "clean alternative fuel" under the relevant definitional section of H.R. 3030, its qualification as such would be determined through subsequent EPA regulation. Thus, RFG was first envisioned as only one of several possible clean fuels, specifically to include methanol, ethanol, natural gas, propane and electricity, under a program concentrating on new motor vehicle technology.

During the course of consideration of H.R. 3030, however, different approaches to the original alternative fuels program were suggested by the Bush Administration and affected industries. The focus of the program was substantially changed and the present RFG program emerged as a preferred option to much of the original "clean alternative fuels" proposal.

In essence, under the final RFG program adopted by the House and Senate and signed into law, the mandatory manufacturing and marketing and sale of specific "clean fueled" vehicles was largely scrapped in favor of a program concentrating on fuels used by all current and newly

manufactured vehicles in specific ozone nonattainment areas and areas which "opted in" to the RFG program. Thus, the use of new fuels was substantially expanded from the original concept (from only 1,000,000 vehicles/year to roughly one-third of the entire gasoline market) while the initial burden on automobile manufacturers and retail fuel suppliers was reduced.

(It is important to note, however, that the 1990 Amendments did retain a clean fuels fleet program affecting certain fleets of 10 or more vehicles. In addition, an alternative fuels program affecting federal departments and agencies was included under the Energy Policy Act of 1992. Also, through specific authority contained in the CAAA, California and several other states have pursued low emission and "zero" emission vehicles. These programs, however, are beyond the scope of this memo and the present hearing).

The primary argument in favor of this legislative approach was that RFG would immediately reduce air pollution from motor vehicles while there would be a significant delay in the emission reductions achieved under the original proposal. This delay would be due to the need for significant fleet turnover before substantial emission reductions could be achieved.

Additionally, it was also argued that RFG promised to be less disruptive of the marketplace and affected consumers. It was argued that it was easier to switch fuels with the same relative performance standards and usage than to force consumers to switch vehicles and service stations to install new and potentially expensive fueling equipment.

Basic Statutory Provisions of the RFG Program:

Two separate, but overlapping RFG programs were established under the 1990 CAAA. First, under 211(k)(10)(D), the nine "worst" ozone nonattainment areas with a population over 250,000 were required to participate in the RFG program year round. The goal of this program was to reduce volatile organics, and to a certain extent toxic emissions, from conventionally-fueled motor vehicles operating in the large metropolitan areas of the country most out of compliance with the national ambient air quality standard for ozone. A list of these statutorily-required areas is Attachment II.

Second, under 211(m), an oxygenated fuel program was established for carbon monoxide (CO) nonattainment areas, beginning in 1992. This program specifically sought to reduce wintertime CO, defined as "the portion of the year in which the area is prone to high ambient concentrations of carbon monoxide" as determined by EPA, but not to be less than 4 months per year. In such areas, oxygenated fuels containing at least 2.7 percent oxygen by weight must be sold (RFG areas under 211(k) are only subject to a 2.0 oxygenate by weight requirement unless they are also CO nonattainment areas).

With respect to the specific statutory provisions of the RFG program, the following are the basic requirements created by the 1990 CAAA:

EPA Administration and Coverage:

- * Under 211(k)(1), in establishing the RFG program, the EPA Administrator must promulgate regulations to "require the greatest reduction in emissions of ozone forming volatile organic compounds" and toxic air pollutants, "taking into consideration the cost of achieving such emission reductions, any nonair quality and other air-quality related health and environmental impacts and energy requirements . . ."

- * Two types of areas are participants in the RFG program. First, "covered areas" under 211(k)(10)(D) are defined as the nine worst ozone nonattainment areas with populations over 250,000. Second, under 211(k)(6), upon application of the governor of a state, any areas classified as marginal, moderate, serious or severe for ozone nonattainment may "opt in" in the RFG program. A list of these "opt-in" areas is included as Attachment III.

- * RFG requirements are enforceable by the EPA under 211(k)(5). The EPA may impose sampling, testing and recordkeeping requirements on any refiner, blender, importer or marketer to prevent violations of the program.

RFG Specifications:

- * The oxygen content of RFG shall equal or exceed 2.0 percent by weight unless such a requirement would interfere with the attainment of a national primary ambient air quality standard. (211(k)(2)(B)).

- * Emissions nitrous oxides (NO_x) under the RFG program shall be no greater than emissions from "baseline" (pre-RFG) gasoline unless this is technically infeasible. (211(k)(2)(B)).

- * The benzene content of RFG must not exceed 1.0 percent by volume (211(k)(2)(C)) and RFG must not have any heavy metals, including lead or manganese (211(k)(2)(D)) unless this provision is waived by EPA.

RFG Performance Requirements:

- * Under 211(k)(3), RFG regulations must either be based on a specified formula or a performance standard, whichever is more stringent. Pursuant to these provisions, in 1991, EPA issued a proposed rule and conducted a regulatory negotiation (Reg.Neg.) to define RFG standards and to further implement the program. This rule, published on February 16, 1994, developed a "simple model" with three methods for establishing a refiner's 1990 baseline.

In essence, the simple model defines a 1990 annual average baseline for different elements of a specific refiner's gasoline. This baseline then serves both to certify that a refiner's product is RFG and to insure that a refiner is not "dumping" non-RFG gas on the market containing elements removed from RFG. The simple model applies to RFG for years 1995, 1996 and 1997. Thereafter, a complex model, based on mathematical parameters, will be in effect.

Under the simple model, the provisions noted above regarding a minimum oxygen content of 2% by weight and no more than 1% benzene content by volume are specified. Additionally, simple model RFG can contain no more than 15% aromatics, must have a lower " Reid vapor pressure" (RVP), and cannot increase, with respect to a refiner's 1990 baseline, concentrations of sulfur and olefins or have an increase in its boiling point.

RFG Phase I and Phase II:

- * RFG must also meet "performance standards" designed to reduce VOC emissions. Under 211(k)(3)(B), during the high ozone season, aggregate VOC emissions from vehicles using RFG must be 15% below emissions from baseline vehicles. This is known as the "Phase I" RFG standard and is applicable for years 1995-1999.

- * For calendar year 2000 and thereafter, RFG-fueled vehicles must meet a 25% VOC reduction standard. This standard, however, can be adjusted down to a minimum 20% VOC reduction by EPA based on technological feasibility and cost considerations. This standard is known as "Phase II."

- * RFG must also meet similar performance standards for a reduction in toxic emissions under 211(k)(3)(B)(ii). Again, a Phase I 15% reduction and Phase II 25% reduction is specified.

Miscellaneous:

- * As briefly noted above, the RFG program also contains anti-dumping provisions under 211(k)(8). In essence, the effect of this section is to set standards for non-RFG "conventional" gasoline sold in non-RFG areas of the United States. Broadly, such gasoline cannot exceed refiner-specific limits for VOCs, NO, CO and toxins based on 1990 baseline gasoline.

- * RFG emissions, under 211(k)(9) are also calculated on the basis of the entire vehicle. Thus, evaporative, running, and refueling emissions are counted in addition to exhaust emissions. The effect of this section is to highlight the importance of the lower RVP standard. A low RVP means that a fuel is less prone to evaporate and thus less prone to produce "non-exhaust" emissions.

* The statutory deadline for the regulations issued under the RFG program was November 15, 1991. Since this deadline was not met by EPA, a deadline suit was brought by Congressman Waxman. This suit resulted in a consent order specifying final action by September 15, 1993. Regulations respecting RFG were not finalized until mid-1994, however, and portions of EPA's rulemaking are still under litigation.

Program Operation to Date:

Beginning this past January, RFG was sold to consumers in the mandatory and "opt-in" RFG areas. While it is too early to precisely determine all aspects of the program's operation, several issues have either emerged or have not been settled in the transformation of RFG from theory to reality.

Price and Supply Issues:

During oversight hearings held by the Energy and Power Subcommittee on September 29, 1994 (and previous hearings by the Oversight and Investigations Subcommittee on June 22, 1994) concern was expressed regarding the potential for "spot shortages" and price hikes associated with the introduction of RFG into the marketplace. At the time, a common element of complaint was that delayed rulemaking had jeopardized the ability of RFG suppliers to meet December 1, 1995 and January 1, 1995 deadlines to have RFG in supply tanks and available for sale to consumers.

Although anecdotal evidence would seem to indicate that RFG has largely been available since implementation of the program, the effect on gasoline prices in various markets is one of the possible issues of this hearing. In September 1994, EPA predicted that it would cost refiners between 3 and 5 cents per gallon to make RFG (although it noted that pump prices would vary depending on market conditions). Overall, EPA predicted that RFG would cost the average family around \$20 per year, in its words, "a small price to pay for cleaner air" ("Reformulated Gasoline: A Major Step Toward Cleaner Air," U.S. EPA, September 1994).

The Department of Energy (DOE) on September 29, 1994, predicted in testimony that the price of RFG would be, on average, about 5 to 7 cents per gallon more expensive than conventional gasoline between 1995 and 1999. A more recent survey by the American Automobile Association of market areas with and without RFG demonstrated a price differential of approximately 4 cents per gallon for the period December 1, 1994 to January 11, 1995.

Whatever the eventual market price of RFG may be, cost has been cited as a reason for the decision of some areas of the country to "opt out" of the RFG program. (A list of all areas presently seeking "opt out" is Attachment IV). Especially in areas where RFG may not be needed for meeting the ozone standards of the CAA, price may be a relevant factor in assessing the operation of the program.

Additionally, price has become an issue in areas which must sell RFG, but which are contiguous with areas that are not required to sell RFG. In such areas, complaints have been heard from retailers who must sell higher priced RFG and who must compete with retailers "just down the road" who do not have to sell RFG.

"Opt Out"

As noted above, RFG presently has both a mandatory market and a voluntary market (in areas that have "opted in" the RFG program). Thus, it is possible that market size may fluctuate for RFG depending on the action of voluntary RFG areas. In theory, at least, the RFG market could become smaller if non-mandatory areas decide to forego participation in the program, possibly raising costs for mandatory RFG areas.

This possibility is somewhat tempered by the CAA benefits conferred by RFG "opt in." For areas seeking to achieve attainment with national ozone standards, RFG offers an initial 15% reduction in VOCs from mobile sources as well as other emission benefits. Thus, RFG can obviate the need for additional CAA emission limits and can offset the need for reductions from stationary sources in a particular area.

In considering the "opt out" question, it is important to recognize that there is a substantial capital investment associated with RFG and that the fuel supply system requires some time to adjust to new fuels.

Overall, the National Petroleum Council has predicted that between 1991 and 2000, refiners will spend about \$14 billion to produce cleaner fuels. Some have noted that the "final" cost of RFG, perhaps as much as \$30 billion, would exceed the present book value of all U.S. refineries.

EPA is presently developing a rulemaking to govern the transition of an area out of the RFG program and a specific proposal from EPA is predicted in the near future. Possible issues in this proposal are the extent to which the "opt out" provisions are clear and workable for present RFG areas and the time allowed for the market to readjust to conventional fuels.

In this regard, at the beginning of December 1994, the State of Pennsylvania petitioned EPA to remove 28 counties from the RFG program. An Energy Information Administration report, estimated that this market represented about 170 thousand barrels per day, or about 7 percent of the entire U.S. RFG market.

Methanol/Ethanol/MTBE/ETBE:

As noted above, RFG is partly based on a "performance standard," or its ability to achieve certain levels of VOC and air toxins reductions while not exceeding specified parameters of various constituent elements. This structure of the RFG program is far from incidental or coincidental. A major aspect of the debate on the 1990 Clean Air Act Amendments was the issue

of "fuel neutrality." In essence, since various fuels and fuel constituents compete for the RFG and alternative fuels market, an effort was made to avoid dictating any particular fuel choice.

On this matter, the May 17, 1990, report of the Committee on Energy and Commerce on H.R. 3030 could not have been more clear. The Committee stated at the time that, "It is not the Committee's intention to prejudge the emissions reduction potential of any fuel. It is intended that this (clean alternative fuels) be a fuel neutral program. Although some believe that EPA has a strong preference for methanol, the Committee intends no such preference for that or any other fuel. All should compete." (H.Rept. 101-490, p. 284).

As might be expected given the size of the market (roughly one-third of the U.S. gasoline market) with at least the potential for expansion, various industries and companies have competed for production of RFG meeting the Phase I requirements. In general, RFG's requirement for at least 2% oxygenate may be met by the addition of alcohols and ethers. Possible additives thus include ethanol and ethyl tertiary butyl ether (ETBE) made from renewable resources such as corn and methyl tertiary butyl ether (MTBE) made from natural gas and petroleum.

Given the particular chemical properties of each additive, there are noted benefits and detriments to each. Roughly speaking, ethanol contains more oxygen than other additives, thus less ethanol is needed to meet the 2% RFG oxygenate requirement. However, ethanol contains a higher RVP which can increase pollution through evaporation, especially in warmer weather. In addition, ethanol must be shipped by truck, not pipelines, limiting its distribution potential.

Methanol, primarily derived from natural gas, can be used as a primary fuel by motor vehicles which are specifically designed to use this fuel or as an optional fuel by certain flexible-fueled vehicles. For purposes of the RFG program, however, MTBE derived from methanol has been increasingly used as an additive. MTBE production is projected to be around 2.4 billion gallons in 1995.

MTBE as an additive can be blended at the refinery and shipped through pipelines. MTBE also raises octane levels (which are reduced in RFG as aromatics are removed). Thus, MTBE offers some distinct advantages over ethanol.

Critics of MTBE primarily cite potential cost and availability as well as the "non-renewable" nature of the fuel. Spot prices of MTBE rose from 62 cents per gallon in January 1994 to \$1.10 per gallon in November, 1994, due to a number of factors. Additionally, in some instances, health effect questions concerning MTBE have been raised (discussed more fully below).

ETBE, as a derivative of ethanol, is also a potential oxygenate for the RFG market. ETBE offers the benefits of a lower RVP than ethanol and the ability to be blended and transported through the pipeline system. Thus, some have claimed that ETBE can "solve" the limitations of ethanol and promote U.S. energy independence.

At present, however, ETBE does not appear to be economically viable in the broad RFG market. Advocates of ETBE argue that the ethanol tax credit (estimated at \$500 million per year) should be extended to ETBE. Critics contend that such a subsidy is unwarranted and anticompetitive.

(Note: A fuller discussion of various oxygenate choices can be found in the Energy and Power and Oversight and Investigations hearings cited above as well as the staff memos prepared for these hearings. Both are available through the Commerce Committee. Suffice it to say that the debate over oxygenates has been ongoing for at least the last five years with a number of public policy arguments raised for and against each fuel or additive. It is simply beyond the scope of this memo to fully discuss every pro and con issue with respect to each oxygenate).

Altogether, according to the Energy Information Administration (EIA), demand for oxygenates has been growing steadily over the past few years and will grow considerably in 1995 with the RFG program. The annual demand for MTBE is projected to grow from 320 thousand barrel per day (MBD) to 480 MBD in 1995. In December 1994, the EIA further projected that while ethanol provided about half the MTBE-equivalent oxygenate volume in 1993 and 1994, this percentage would fall to about 40 percent in 1995 due primarily to the difficulty of transporting ethanol to areas such as the Northeast.

Health Effects:

While ethanol, methanol and MTBE have been in use for many years, concerns have arisen regarding the potential health effects of fuel oxygenates. In addition, while ethanol and MTBE may be sold in the same market, most complaints to date have centered on MTBE.

To date, however, health effect claims have not been broadly substantiated. According to a December 1994 EPA report, "concurrent with the start of the federal oxygenated gasoline program in 1992, acute health complaints such as headaches, coughs, and nausea arose. These complaints occurred primarily in Alaska, but were also registered in Montana and New Jersey. Despite over \$2 million of scientific studies conducted by EPA and others, the reported symptoms have not been replicated or explained. These studies included both experimental human studies with pure MTBE and larger population studies of MTBE mixed with gasoline."

More recently, in February 1995, similar complaints were received in Milwaukee, Wisconsin, following implementation of the RFG program in that area. EPA responded to the Milwaukee situation in several ways, including establishing an 800 number for complaints, sending technical experts to the area and conducting a town hall meeting with citizens. EPA did not, however, grant a request for temporary suspension of the program.

Most recently, on May 30, 1995, the Wisconsin Department of Health and Social Services issued a final report regarding its investigation of health concerns attributable to RFG. In essence, while the study could not rule out subtle effects or the possibility that some individuals have a greater sensitivity to RFG, according to a State of Wisconsin statement issued in conjunction with the report, the study "does not support the conclusion that exposure to RFG is associated with widespread or serious, acute adverse health effects in Milwaukee . . . people in Milwaukee were more likely to report symptoms if they had a cold or the flu, smoked cigarettes, or were aware of RFG. . ." A copy of the report is Attachment V.

Renewable Oxygenate Requirement (ROR):

On December 27, 1993, EPA issued a notice of proposed rulemaking regarding the establishment of a renewable oxygenate requirement for RFG. In essence, EPA proposed that 30% of the oxygenate requirement of RFG come from renewable sources. While EPA indicated that such oxygenates could come from corn, grain, wood, or organic waste, many critics of the rule considered it to be an ethanol and/or ETBE mandate.

In August, 1994, EPA issued final regulations regarding the renewable oxygenate requirement. The final rule required a 15% renewable oxygenate requirement in the first year of the RFG program, escalating to a 30% requirement in the second and subsequent years of the program. However, the final rule was met with litigation by the American Petroleum Institute (API) and the National Petroleum Refiners Association (NPRA).

On September 13, 1994, the U.S. Court of Appeals for the D.C. Circuit issued a stay of the renewable oxygenate requirement. This stay remained in effect until April 28, 1995, when the court ruled in favor of the API and NPRA.

Although EPA had argued that 211(k)(1) granted the Agency the ability to establish a ROR for RFG to "optimize the resulting impacts on cost, energy requirements, and other health and environmental impacts," a three judge panel of the United States Court of Appeals for the District of Columbia disagreed.

In addressing EPA's authority under 211(k)(1), the Court stated, "We conclude that the plain meaning (of the section) precludes the adoption of RFG rules that are not directed toward the reduction of VOCs and toxins emissions, and, since that statute is unambiguous, EPA improperly interpreted the section as giving it the broader power to adopt the ROR . . . The sole purpose of the RFG program is to reduce air pollution, which it does through specific performance standards for reducing VOCs and toxins emissions. EPA admits that the ROR will not give additional emission reductions for VOCs or toxins . . . and has even conceded that use of ethanol might possibly make air quality worse."

Most recently, EPA has indicated a desire to further pursue the renewable oxygenate requirement through the court system. In a June 2, 1995 letter to Senator Tom Daschle (Attachment VI), EPA has indicated that it will ask the Department of Justice to seek a rehearing

on the ROR. According to Administrator Carol Browner, "We believe that our initial rule was legally sound and defensible, and we will exhaust all of our legal options. . ."

While the legal basis for this new effort is unknown, in the past, EPA has considered that 211(k)(1) provides EPA with discretion to establish "any and all reasonable requirements that are designed to achieve the results stated in the second sentence (of the subsection)." This sentence states that RFG regulations shall require the greatest reductions in VOCs and air toxins achievable through the reformulation of gasoline taking into consideration cost and "any nonair-quality and other air-quality related health and environmental impacts and energy requirements."

Given the past history of litigation on this matter, it is likely that any new EPA/Justice effort with respect to ROR will be contentious.

RFG Performance:

While not entirely quantified, complaints have been registered respecting the performance of RFG as a fuel. Broadly, complaints have arisen regarding RFG gas mileage in automobiles and light-duty trucks and RFG performance, particularly with regard to "two-stroke" engines. Two stroke engines are normally used in off-road vehicles such as snowmobiles and boats and small gasoline-powered equipment such as snow blowers and lawn mowers.

With respect to the first concern, EPA estimated in April 1995, the RFG may result in a 1 to 2 percent reduction in gas mileage in some vehicles. The Agency noted, however, that gas mileage is affected, "to a greater extent - by type of engine, driving habits, weather conditions, and vehicle maintenance." Comprehensive data on mileage must await fuller implementation of the program.

As to the second concern, the Agency has noted that manufacturers of older engines "are concerned that seals and gaskets . . . could experience leakage." Otherwise, the Agency noted that modifications to the air/fuel ratio may be necessary for certain two-stroke engines to ensure that the mix is not "too lean," resulting in engine damage.

Both concerns are real, but must be judged against the relative benefits of the RFG program. Additionally, as EPA has noted with respect to the health effects of RFG, conventional gasoline is not a benign substance, but rather carries with it certain advantages and disadvantages based on its chemical composition.

If you have any questions, please feel free to contact either Bob Meyers or Stephen Sayle of the Committee staff at extension 5-4441.

Attachments

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**U.S. House of Representatives
Committee on Commerce**

Room 2125, Rayburn House Office Building
Washington, DC 20515-6115

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

DATE: Wednesday, June 7, 1995

TIME & PLACE: 10:00 a.m., 2322 Rayburn House Office Building

SUBJECT: The Implementation and Enforcement of the
Clean Air Act Amendments of 1990, focusing
on Title II, the Reformulated Gasoline
Program

WITNESS LIST

Panel I

The Honorable Mary D. Nichols
Assistant Administrator for Air and
Radiation
U.S. Environmental Protection Agency
400 M Street, S.W.
Washington, D.C. 20460

Mr. John A. Riggs
Deputy Assistant Secretary for Policy,
Planning, and Program Evaluation
Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Panel II

Mr. William E. Greehey
Chief Executive Officer
Valero Energy Corporation
530 McCulloch Avenue
San Antonio, Texas 78292

Mr. Edward Dineen
Vice President
Worldwide Co-Products and Raw
Materials
ARCO Chemical Company
3801 West Chester Pike
Newtown Square, Pennsylvania 19073

Mr. Charles J. DiBona
President
America Petroleum Institute
1220 L Street, N.W.
Washington, D.C. 20005

Mr. Urvan R. Sternfels (or designee)
National Petroleum Refiners Association
Suite 1000
1899 L Street, N.W.
Washington, D.C. 20036

ATTACHMENT II

List of Reformulated Gasoline Program Areas

May 4, 1995

Required Areas

Los Angeles - Anaheim - Riverside, CA

- Los Angeles County
- Ventura County
- Orange County
- San Bernadino County (partial)
- Riverside County (partial)

San Diego County, CA

Hartford - New Britain - Middletown - New Haven - Meriden - Waterbury, Connecticut

- Hartford County (partial)
- In Litchfield County (partial)
- In Middlesex County (partial)
- In New London County (partial)
- Tolland County (partial)
- In Middlesex County (partial)
- In New Haven County (partial)

New York - Northern New Jersey - Long Island - Connecticut area

- Fairfield County, CN
- Litchfield County, CN (partial)
- Bergen County, NJ
- Essex County, NJ
- Hudson County, NJ
- Hunterdon County, NJ
- Middlesex County, NJ
- Monmouth County, NJ
- Morris County, NJ
- Ocean County, NJ
- Passaic County, NJ
- Somerset County, NJ
- Sussex County, NJ
- Union County, NJ
- Bronx County, NY
- Kings County, NY
- Nassau County, NY
- New York County, NY
- Queens County, NY
- Richmond County, NY
- Rockland County, NY
- Suffolk County, NY
- Westchester County, NY
- Orange County, NY
- Putnam County, NY

Philadelphia - Wilmington - Trenton - Cecil County, MD area

- New Castle County, DE
- Kent County, DE
- Cecil County, MD
- Burlington County, NJ
- Camden County, NJ

- Cumberland County, NJ
- Gloucester County, NJ
- Mercer County, NJ
- Salem County, NJ
- Bucks County, PA
- Chester County, PA
- Delaware County, PA
- Montgomery County, PA
- Philadelphia County, PA

Chicago - Gary - Lake County, IL - Indiana - Wisconsin area

- Cook County, IL
- Du Page County, IL
- Kane County, IL
- Lake County, IL
- McHenry County, IL
- Will County, IL
- In Grundy County, IL, the townships of Aux Sable and Goose Lake.
- In Kendall County, IL, Oswego township.
- Lake County, IN
- Porter County, IN

Baltimore, MD

- Anne Arundel County
- Baltimore County
- Carroll County
- Harford County
- Howard County
- The City of Baltimore

Houston - Galveston - Brazoria, TX

- Brazoria County
- Fort Bend County
- Galveston County
- Harris County
- Liberty County
- Montgomery County
- Waller County
- Chambers County

Milwaukee - Racine, WI

- Kenosha County
- Milwaukee County
- Ozaukee County
- Racine County
- Washington County
- Waukesha County

ATTACHMENT III

"OPT-IN" AREAS

THE ENTIRE STATE OF CONNECTICUT
(i.e. that portion of the
state which is not already
cited as required in
"required" areas list.)

DELAWARE

Sussex County

KENTUCKY

Boone County
Campbell County
Kenton County
Jefferson County
Bullitt County (partial)
Oldham County (partial)

MAINE

Knox County
Lincoln County
Androscoggin County
Kennebec County
Cumberland County
Sagadahoc County
York County

MARYLAND

Calvert County
Charles County
Frederick County
Montgomery County
Prince Georges County
Queen Anne's County
Kent County

THE ENTIRE STATE OF MASSACHUSETTS

NEW HAMPSHIRE

Hillsborough County
Rockingham County
Merrimack County
Strafford County

NEW JERSEY

Warren County
Atlantic County
Cape May County

NEW YORK

Dutchess County
Essex County (partial)

THE ENTIRE STATE OF RHODE ISLAND

TEXAS

Collin County
Dallas County
Denton County
Tarrant County

VIRGINIA

Alexandria
Arlington County
Fairfax
Fairfax County
Falls Church
Loudoun County
Manassas
Manassas Park
Prince William County
Stafford County
Charles City County
Chesterfield County
Colonial Heights
Hanover County
Henrico County
Hopewell
Richmond
Chesapeake
Hampton
James City County
Newport News
Norfolk
Poquoson
Portsmouth
Suffolk
Virginia Beach
Williamsburg
York County

Washington, D.C.

ATTACHMENT IV

Opt-outs

A proposed rule to remove these areas from the requirements of the reformulated gasoline program will soon be published. A temporary stay of the RFG requirements in these areas is in effect from January 1, 1995 to July 1, 1995 in anticipation of a completed rulemaking to allow opt-out.

MAINE

Hancock and Waldo Counties, ME

PENNSYLVANIA

Allentown, PA - Bethlehem, PA - Easton, PA

- The following Pennsylvania counties:
 - 1) Carbon County
 - 2) Lehigh County
 - 3) Northampton County

Altoona, PA

- The following Pennsylvania counties:
 - 1) Blair County

Erie, PA

- The following Pennsylvania counties:
 - 1) Erie County

Harrisburg - Lebanon - Carlisle, PA

- The following Pennsylvania counties:
 - 1) Cumberland County
 - 2) Dauphin County
 - 3) Lebanon County
 - 4) Perry County

Johnstown, PA

- The following Pennsylvania counties:
 - 1) Cambria County
 - 2) Somerset County

Lancaster, PA

- The following Pennsylvania counties:
 - 1) Lancaster County

Pittsburgh - Beaver Valley, PA

- The following Pennsylvania counties:
 - 1) Allegheny County
 - 2) Beaver County
 - 3) Fayette County

- 4) Washington County
- 5) Westmoreland County
- 6) Armstrong County
- 7) Butler County

Reading, PA

- The following Pennsylvania counties:
 - 1) Berks County

Scranton - Wilkes-Barre, PA

- The following Pennsylvania counties:
 - 1) Columbia County
 - 2) Lackawanna County
 - 3) Luzerne County
 - 4) Monroe County
 - 5) Wyoming County

York, PA

- The following Pennsylvania counties:
 - 1) Adams County
 - 2) York County

Youngstown, OH - Warren, OH - Sharon, PA*

- The following Pennsylvania counties:
 - 1) Mercer

* Ohio counties have not opted-in.

NEWYORK

Albany - Schenectady - Troy, NY

- The following New York counties:
 - 1) Albany County
 - 2) Greene County
 - 3) Montgomery County
 - 4) Rensselaer County
 - 5) Saratoga County
 - 6) Schenectady County

Jefferson County, NY

Buffalo - Niagara Falls, NY

- The following New York counties:
 - 1) Erie County
 - 2) Niagara County

WISCONSIN

The governor of Wisconsin rescinded his request that the following Wisconsin counties be included. Thus, they have not been in the program and will not be in the program in the future:

- 1) Sheboygan
- 2) Manitowish
- 3) Kewaunee

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ATTACHMENT V

An Investigation of Health Concerns Attributed to Reformulated Gasoline Use in Southeastern Wisconsin

Final Report

May 30, 1995

**Wisconsin Department of Health and Social Services
Division of Health
Bureau of Public Health
Section of Environmental Epidemiology and Prevention**

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Acknowledgements

This survey was designed and the report prepared by:

Henry A. Anderson, MD
Chief Medical Officer
Bureau of Public Health

Lawrence Hanrahan, PhD
Senior Epidemiologist
Bureau of Public Health

Jay Goldring, PhD
Toxicologist
Bureau of Public Health

Bryan Delaney, PhD
Toxicologist
Bureau of Public Health

The Department of Health and Social Services wishes to recognize the invaluable assistance, technical expertise and professionalism of the University of Wisconsin - Extension Survey Research Laboratory, Madison, WI (WSRL) in implementing this survey. We thank the Wisconsin Department of Natural Resources for conducting the air monitoring studies and providing the results for use in this report. We also wish to recognize the valuable advice provided by the National Center for Environmental Health, Centers for Disease Control and Prevention, and their funding assistance to the Environmental Committee of the Association of State and Territorial Health Officials (ASTHO). We also thank ASTHO for rapidly organizing and convening a peer review group, and we especially wish to thank the peer reviewers for their valuable advice and insight. Funding for the survey was provided by the United States Environmental Protection Agency.

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I. Executive Summary

A. Introduction

During hot, humid summers, ozone concentrations in the six-county Milwaukee metropolitan area have exceeded the Federal Ambient Air Quality Standard of 0.12 parts per million (ppm). Exposure to ozone at concentrations exceeding the Federal standard can cause shortness of breath, a condition which may be especially hazardous among asthmatics and the elderly. The U.S. Centers for Disease Control has stated that minorities living in urban areas suffer disproportionately from exposure to ambient air pollutants including ozone. In a 1994 study, the Wisconsin Division of Health found that populations living in areas with high air pollutant concentrations were more likely to have asthma symptoms and be admitted to hospitals with a diagnosis of asthma.

The Clean Air Act Amendments of 1990 mandated that areas in which ozone concentrations consistently exceeded the Federal standard reduce their emissions of ozone precursors. Under the Amendments, by January 1, 1995, gasoline station operators in most urban areas in the US, including the Milwaukee and Chicago metropolitan areas, were required to exclusively sell reformulated gasoline (RFG). The United States Environmental Protection Agency (EPA) has estimated that use of such fuel will reduce emissions of ozone precursors by 15%.

RFG has a distinctly different odor from traditional gasoline. During December, 1994 and the first two weeks of January, 1995 less than 20 calls with questions about RFG were received. Television, radio and newspaper coverage of the issue in mid-January raised public awareness of the reformulated gasoline program and questions about potential health of RFG use increased. In response to public concerns, a television news story announced on Jan. 23 that complaints about the program should be directed to a local telephone number at the Wisconsin Department of Natural Resources Southeastern District Office. On Jan. 30, a toll-free complaint line was established at the U.S. Environmental Protection Agency (USEPA) Region V office in Chicago and by February 20, 1995 over 700 callers had reported health concerns.

At the direction of the Governor, the Wisconsin Division of Health (DOH) issued a public health alert to physicians in early February (Appendix E). In mid-February, after consultation with the Centers for Disease Control and Prevention, other State Health Departments, and USEPA, DOH implemented a public health evaluation protocol to investigate the reported health problems.

B. Methods

1. Air Monitoring Study

The Wisconsin Department of Natural Resources and the United States Environmental Protection Agency (USEPA) initiated a monitoring program to determine the ambient air concentration of reformulated fuel components at different locations within the Milwaukee metropolitan area. The locations selected for monitoring were: (1) University of Wisconsin-Milwaukee campus at WIS-PASMS; (2) zoo interchange at I-94 and highway 45; (3) Bradley Center Parking Ramp

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at 5th and Chase; (4) Riley School at 4th and Hayes; (5) A service station with a vapor recovery system using ETBE as its oxygenate in all three fuel grades (Station #1); (6) A service station with a vapor recovery system using ethanol in its lower grades and MTBE in the higher grades (Station #2) (7) A service station with no vapor recovery and using MTBE in all three grades of gasoline (Station #3); (8) a station outside the six-county Milwaukee area not using reformulated gasoline (Station #4) and (9) at two service stations not using reformulated gasoline, one from Madison and one from Green Bay. At several service stations, gasoline composition was also determined.

2. Composition of Gasoline in Milwaukee and Chicago

In early 1995, The U.S. Environmental Protection Agency analyzed gasoline from areas throughout the United States required to use RFG, including Milwaukee and Chicago. The results of this EPA analysis together with statements from oil company representatives were used to determine potential differences in Milwaukee and Chicago RFG composition. The proportion of stations in Milwaukee using Stage II vapor recovery was also determined.

3. Health Complaints Received by State Health Departments

In February and March, 1995, DOH sent a brief survey to state health departments throughout the U.S. about RFG-related health complaints. The results of this survey are reported in this study.

Analysis of health complaints received by Wisconsin state agencies will be completed at a later date.

4. Random Digit Dial Health Survey

This report describes the results of a survey of 527 Milwaukee metropolitan area residents, 485 Chicago metropolitan area residents and 501 individuals from the remainder of Wisconsin. The respondents were interviewed between February 24, 1995 and March 19, 1995. A total of 29,314 telephone calls were made to complete the 1,513 interviews required.

Using a random digit dial (RDD) process, respondents were randomly selected from five areas: 1) the city of Milwaukee, 2) metropolitan Milwaukee consisting of counties required to use RFG (Kenosha, Racine, Milwaukee, Waukesha, Ozaukee, and Washington Counties), 3) the City of Chicago, 4) metropolitan Chicago consisting of counties required to use RFG (Cook, McHenry, Lake, Dupage, Kane, and Will Counties), and 5) the State of Wisconsin exclusive of areas required to use RFG.

For this report, regions one and two were combined (ie., Milwaukee + metro Milwaukee) as were regions three and four (ie, Chicago + metro Chicago) to yield three regional study areas:

1) the six county, southeastern Wisconsin area with required RFG use (called "Milwaukee" in the report); 2) the northeastern Illinois area of required RFG use (called "Chicago" in the

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report); and 3) the state of Wisconsin exclusive of the southeastern non-attainment area (called "Wisconsin" in the report).

The three regions were chosen based on common characteristics of likelihood of "exposure" to reformulated and traditional gasoline:

Wisconsin - A control region with minimal or no use of reformulated gasoline.

Chicago - A region identical to Milwaukee in the required use of reformulated gasoline.

Milwaukee - The region of concern, exclusively using reformulated gasoline.

C. Summary of Results

1. Air Monitoring Study

- Reformulated gasoline components were detected in 24 hour ambient air samples in Milwaukee. The oxygenates MTBE and ETBE ranged from below the limit of detection of .025 parts per billion (ppb) to .85 ppb and .20 ppb respectively.
- Of the measured gasoline components, toluene and benzene were present at the highest concentrations in Milwaukee ambient air. Benzene and toluene were also present in the highest concentrations at service stations in Milwaukee, Madison and Green Bay.
- The highest exposure to gasoline components, including MTBE and ETBE were found during refueling a vehicle.
- Higher concentrations of gasoline components, including MTBE, were measured during refueling at gasoline stations lacking phase II vapor recovery systems.

2. Composition of gasoline sold in Chicago and Milwaukee

- According to a U.S. Environmental Protection Agency survey, confirmed by oil industry representatives, most service stations in Chicago and Milwaukee were selling RFG as of December 1, 1994. By January 1, 1995, a similar proportion (approximately 50%) of RFG sold in the two areas contained MTBE as its oxygenate. In contrast, nearly all gasoline sold in other areas of the U.S. participating in the RFG program contained MTBE as its oxygenate.
- Thirty seven percent of service stations in the Milwaukee area have installed stage II vapor recovery equipment (Wisconsin Department of Natural Resources survey). The proportion of stations in Chicago with such equipment was unavailable.

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3. Health Complaints

- Of the 20 responses received from the February, 1995 DOH survey of state health departments, none reported more than 10 health complaints related to RFG during the period November 1, 1994 - February, 1995. In March and April, 1995, 82 complaints were received by health departments in Connecticut and an unspecified number were received in Maine, Massachusetts, New Jersey, and North Carolina.
- Using the same survey questionnaire as the random survey the characteristics of approximately 1,500 Wisconsin callers reporting health complaints are being gathered. Results will be reported after completion of all interviews.

4. Random Digit Dial Health Survey

- An overall response rate of 58% was achieved.
- The sampled populations accurately reflect the known demographic characteristics of the three areas studied. For example, the prevalence estimates of asthma and cigarette smoking closely track other studies of these characteristics in the populations. These findings suggest that the survey participants are representative of the populations.
- In Milwaukee, 23% of the respondents reported experiencing unusual symptoms since November, 1994. Less than 2% of Milwaukee respondents reported their symptoms resulted in an emergency room or physician visit for evaluation.
- In Chicago and Wisconsin, 6% of the respondents reported experiencing unusual symptoms since November, 1994. The proportion in Chicago was not statistically different from that found in Wisconsin.
- Prevalence of each specific symptom in the questionnaire was significantly higher in Milwaukee than in either Chicago or Wisconsin. This higher prevalence was seen for symptoms previously reported as likely related to reformulated gasoline (eg headache, dizziness, nausea) as well as those included because they had never been associated with gasoline exposures (backache, fever). Prevalence was not different between Chicago and Wisconsin for any symptom in the questionnaire.
- There were no statistical differences between Milwaukee, Chicago, or Wisconsin in the prevalence of winter colds or the flu. However, Milwaukee residents who reported experiencing a cold or the flu since November 1994 were more likely to report unusual symptoms than Chicago or Wisconsin residents.
- Individual exposure to specific components of RFG could not be definitively determined. However, an estimate of exposure to one RFG component, MTBE, derived from information about where the individual "usually" purchased gasoline, was not associated

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with symptom prevalence in any region. Similarly, self-reports of "usually" purchasing gasoline not labelled ethanol (presumed to contain MTBE or ETBE) were not associated with symptom prevalence.

- Familiarity with MTBE as an RFG additive was reported by 54% of Milwaukee residents, 23% of Chicagoans and 40% of Wisconsinites.
- In Milwaukee and Wisconsin, individuals stating that they had purchased RFG since November 1, 1994 were more likely to report specific "unusual" symptoms than those stating they had not purchased RFG since that date or did not know what type of gasoline they purchased.
- Chicago and Wisconsin residents "noticed an unusual smell associated with the gasoline they purchased" with a similar frequency since November 1, 1994. However, unusual smells associated with gasoline were noted by Milwaukee residents at a greater frequency than the other two areas. Exposure to one RFG component, MTBE, derived from information about where the individual "usually" purchased gasoline, was associated with unusual smells in Chicago (RR 2.6) and Milwaukee (RR 1.6) compared to Wisconsin (RR 1).

D. Conclusions

- Ambient air monitoring in Milwaukee detected reformulated gasoline components. The levels found were not unusually high and did not exceed any health guidelines. As seen in other studies, refueling a vehicle at a station without stage II vapor recovery equipment resulted in the highest exposure potential.
- Symptom prevalence in Milwaukee differed significantly from both Chicago and Wisconsin. In Milwaukee, people were more likely to report unusual symptoms if they had experienced a cold or the flu, smoked cigarettes, or were aware that they had purchased RFG since November 1, 1994.
- Symptom prevalence in Chicago, an area required to use RFG fuels, was not different from that in Wisconsin, an area not required to use RFG fuels. This finding suggests that factors, other than RFG use, significantly contributed to the differences in symptom prevalence between Milwaukee and the other two areas studied.
- Individual symptoms and symptom patterns attributed to exposure to reformulated gasoline are non-specific and similar to those experienced with common acute and chronic illnesses such as colds, flu and allergies. The fact that every symptom was statistically more prevalent in Milwaukee than the other two areas, including symptoms not associated with gasoline or chemical solvent exposure, suggests that factors, in addition to the introduction of RFG in that city, contributed to the survey responses.

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- All three sample areas experienced the same rate of winter colds and flu during the 1994-1995 season (55 - 60%). However, having had a cold or the flu was the strongest predictor of unusual symptoms attributed to gasoline use among the Milwaukee respondents, but it was not a predictor for such symptoms in Chicago or Wisconsin. The most plausible explanation for this finding is that many symptoms reported by Milwaukee residents may have actually been due to colds or flu and not RFG exposure.
- Individuals in Milwaukee and Wisconsin who reported purchasing RFG since November 1, 1994 (question 10 on the survey; see Appendix) were more likely to report specific symptoms than individuals reporting they had not purchased RFG since that date or did not know the type of gasoline they purchased. Since all gasoline purchased in Milwaukee was RFG, this suggests that knowledge about RFG, including the likely awareness of the potential negative effects of reformulated gasoline in Milwaukee and Wisconsin, may have heightened perception of current health status and resulted in the assumption that any health symptoms experienced were unusual and attributable to gasoline exposure.
- Individuals in Chicago and Milwaukee who reported that they had purchased RFG since November 1, 1994 were more likely to report unusual smells from the gasoline than individuals who reported they had not purchased RFG since that date or did not know the type of gasoline they purchased. This finding is consistent with the fact that in chamber tests, many individuals noted that RFG had a different odor than traditional gasoline.

This study is only one step toward understanding the public health consequences of reformulated gasoline use in southeastern Wisconsin. No one study can effectively answer all questions. Each study design has inherent strengths and weaknesses. This study methodology was chosen in order to obtain health status information on the general population as rapidly and as close in time to the initial complaints as possible. It accomplished those goals. However, the study design had limitations which could not be avoided. These included: the subjectivity of self reported symptoms; recall bias of symptoms and type of gasoline use; unavailability of objective, individual exposure measurement data to relate to health outcomes; health outcomes not validated through clinical assessment; cross-sectional nature of the study design. A longer term prospective study design, of the type being discussed by a recently convened USEPA workgroup, which would include serial, objective exposure measurements (blood and breath analyses), unbiased symptom reporting with clinical confirmation, might address the limitations present in a study such as ours.

This study was unable to attribute the increased prevalence of symptoms in Milwaukee to RFG use. It does not rule out subtle effects of RFG exposure, or the possibility that a relatively small number of individuals may have a greater sensitivity to RFG mixtures. Characteristics of those complaining to health agencies are also not analyzed in this study; future comparisons of this population to these randomly selected groups may identify other risk factors that were not apparent here.

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E. Recommendations

This study does not support the conclusion that exposure to RFG is associated with widespread or serious, acute, adverse health effects in Milwaukee. However, DHSS recognizes that gasoline vapors contain many compounds known to cause health problems and recommends that exposure to these vapors, whether from traditional or reformulated gasoline, should be avoided.

The study also concluded that the presence of a Stage II vapor recovery system greatly reduces concentrations of gasoline fumes in the vicinity of the pump and station. DHSS recommends that individuals concerned about minimizing RFG exposure and avoiding the potential for gasoline-related health problems patronize stations with such systems.

F. Scientific Peer Review

In order to assure that this report and the survey design and statistical analyses upon which it is based are scientifically sound, the Department of Health and Social Services requested assistance from the Centers for Disease Control and Prevention to conduct a scientific peer review. This was done through the Environment Committee of the Association of State and Territorial Health Officials. Reviewers represented 11 State Health Departments (OH - Chair, CT, IL, IN, LA, MI, MN, NC, ND, NY, TX), 4 universities (Georgetown University, Johns Hopkins University, University of Pittsburgh, University of North Carolina), the Centers for Disease Control (1) and the United States Environmental Protection Agency (1). The reviewers met in Chicago, May 1-2, 1995 and issued six consensus statements. A complete listing of the Peer Reviewers is provided in Appendix D.

G. ASTHO Scientific Peer Review Statements



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

June 2, 1995

THE ADMINISTRATOR

The Honorable Tom Daschle
Democratic Leader
United States Senate
Washington, D.C. 20510-7020

Dear Senator Daschle:

Thank you for your recent letter regarding renewable fuels, such as ethanol. We, too, strongly believe that every possible effort should be taken to promote renewable fuels in the nation's gasoline market. Renewable fuels are good for the environment because they burn cleanly, good for the economy because they are domestically produced, and good for all Americans because they promote energy security and independence.

As you know, I was deeply disappointed by the decision last month by the Federal Court of Appeals holding EPA lacked authority to require renewable fuels such as ethanol in reformulated gasoline. However, I am still committed to do everything within EPA's power to promote renewable fuels. We will begin by taking the following three steps.

First, we are asking the Department of Justice to seek a rehearing with the Court of Appeals regarding its decision on our requirement for renewable fuels in reformulated gasoline. We believe that our initial rule was legally sound and defensible, and we will exhaust all our legal options.

Second, I will propose that existing summertime limits on ethanol use be modified to allow Governors to request lifting the so-called "oxygen cap" altogether. We no longer believe there is any good environmental reason for limiting the use of renewables in this manner. This action should immediately expand the market for ethanol.

Third, EPA will work with the states to develop a model gas pump labeling system that states can use to educate consumers about the content of the gasoline they are purchasing. We believe there is a great desire among the public to purchase environmentally beneficial products, such as gasoline containing ethanol.

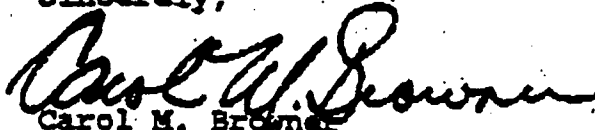


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Along with these steps, we have carefully evaluated the additional options about which you have inquired. We feel the options listed above have the best prospect for advancing our mutual goals.

President Clinton has long been an advocate of renewable fuels. The Administration's rule for requiring renewables in reformulated gasoline would have boosted demand for corn by 250 million bushels a year. And it would have helped the 54 million Americans who live in cities with smog problems. We hope the actions outlined above will help our efforts to meet demand for cleaner, home-grown energy.

Sincerely,



Carol M. Browner