S. HRG. 109–1026

THE IMPACT OF THE ELIMINATION OF MTBE

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

MARCH 29, 2006

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ONE HUNDRED NINTH CONGRESS
SECOND SESSION

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THE IMPACT OF THE ELIMINATION OF MTBE

WEDNESDAY, MARCH 29, 2006

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m. in room 628, Senate Dirksen Building, Hon. James M. Inhofe (chairman of the committee) presiding.

Present: Senators Inhofe, Warner, Murkowski, Thune, Jeffords, Boxer, Carper, Lautenberg, and Obama.

Senator INHOFE. Our meeting will come to order. I understand Senator Boxer is almost here, and some others, here she is. We went ahead and decided to start without you, but I was going to talk until you got here. How is that?

Senator BOXER. All right.

Senator INHOFE. We will have others that will be joining us.

We have two panels today, and I want to welcome the first panel. Guy Caruso, it is nice to have you here, and Robert Meyers. You have an extensive background over in the House. You have all the answers and it's always refreshing to know that there is someone on a panel that has all the answers.

[Laughter.]

OPENING STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator INHOFE. We appreciate your being here.

We will have other members here on both sides of the aisle and their staffs are here. There will be questions submitted for the record.

MTBE may be the most carefully scrutinized and debated substance since the 1990 Clean Air Act amendments required its use. Today's oversight hearing on the impacts if the elimination of MTBE is the latest in a long history before this committee. I am going to summarize that history.

The 1990 Clean Air Act Amendments established the reformulated gas program, that's the RFG program, which most regard as an environmental success story. Yet, the inclusion of the oxygenate requirement as a component of RFG resulted in a few unintended consequences. I would like to remind my colleagues that the 2 percent oxygen requirement was not included in the bill passed by this committee which laid on the foundation for the amended Clean Air Act.

Rather, the oxygenate requirement was added after vigorous debate and was the only successful amendment on the Senate floor.

Senators from both sides of the aisle hope that the requirement would lay the groundwork for greater ethanol use, but acknowledged that MTBE would likely be preferred as it is more affordable to the consumers.

Yet, although MTBE exceeded air-related goals, it tainted the taste and the smell of the water in some instances. Further, the 2 percent oxygenate requirement and the air quality concerns of the certain areas created boutique fuel regions, leading to higher prices during supply problems.

Last year, this committee passed S. 606, the Reliable Fuels Act, which called for the elimination of the 2 percent requirement and the phase-out of MTBE within 4 years, but still preserving the MTBE authority for States. As was the case with the bill that passed this committee in 1989, S. 606 was changed in material ways after we reported the bill. Today the Nation faces—although temporary—some potential unintended consequences.

Pursuant to the Energy bill, the 2 percent oxygenate requirement will be repealed this May. A majority of members recommended that oxygenate producers and marketers be afforded liability protection against defective product lawsuits for their mere compliance with the law. Unfortunately, that provision was not included in the Energy bill. To me, that is just remarkable, that we as Government can mandate things to take place and then not offer the protection for those who are simply following the law.

Therefore, refiners have been forced to stop using MTBE more suddenly than stakeholders, industry or the committee have ever considered. They had to stop, because after this is no longer a requirement, then that could be used against them in lawsuits, as we all know.

One of the facts is that MTBE has been the preferred oxygenate used in reformulated gas, and its elimination means a corresponding loss of fuel supply that must be made up. Ethanol is needed to replace MTBE, but the ethanol industry, refiners and marketers, infrastructure operators, are working hard to make sure that the transition is as painless as possible.

We have a chart up here and you can see, in terms of the supply, the green bar on this chart from the EIA illustrates just how much ethanol is currently being produced, a significant amount in a relatively short period of time. However, the sudden elimination of MTBE and the current state of the ethanol industry means that significant volumes of ethanol must be imported.

The orange bar shows that about 130,000 barrels per day of additional ethanol is needed to replace MTBE. In other words, the United States needs to come up with close to half of the ethanol currently being produced domestically.

Actually, the transition means even greater supply loss than this chart illustrates, because the production of ethanol-blended RFG, yields 5 to 6 percent less fuel per barrel. It is critical for the Nation to increase its petroleum and biorefinery capacity. My legislation, the Gas PRICE Act, and then the amendment that we tried to put on LIHEAP, the Energy Price Reduction Act, would have assisted in this transition.

I really believe that the Gas PRICE Act was one of the biggest surprises I had here, to see it defeated right down party lines,

when it was a very moderate bill that would have had a dramatic effect, a positive effect on the refining capacity of this country. We would expedite the permitting process for traditional as well as renewable fuels infrastructure, so that regions of the country would not have to face the temporary supply shortfalls and corresponding price increases likely this summer.

Congress must be mindful of the unintended consequences before considering any future action. I urge my colleagues, stakeholders and the public to allow the recently enacted fuels title of the Energy bill to be fully implemented.

The EIA and our other witnesses will testify that the Nation's fuel system requires infrastructure investment and most importantly, time to develop. The refining industry's position dealing with fuels policy, warning against sudden transition, the need for liability protection and so forth, that is very understandable. This hearing is squarely centered on the imminent future, not the past. I look forward to hearing from our witnesses if they have any policy recommendations for Congress, including the likelihood of importing more ethanol.

[The referenced chart referred to may be found on page 91.]

[The prepared statement of Senator Inhofe follows:]

STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

MTBE may be the most carefully scrutinized and debated substance since the 1990 Clean Air Act amendments required its use. Today's oversight hearing on the impacts on the elimination of MTBE is the latest in a long history before this committee. I am going to summarize that history.

The 1990 Clean Air Act amendments established the reformulated gasoline or RFG program, which most regard as an environmental success story. Yet, the inclusion of the oxygenate requirement as a component of the RFG program resulted in a few unintended consequences.

I would like to remind my colleagues that the 2 percent oxygen requirement was not included in the bill passed by this committee, which laid the foundation for the amended Clean Air Act. Rather, the oxygenate requirement was added after vigorous debate and was the only successful amendment on the Senate floor.

Senators from both sides of the aisle hoped that the requirement would lay the groundwork for greater ethanol use, but acknowledged that MTBE would likely be preferred as it is more affordable for consumers.

Yet, although MTBE exceeded air-related goals, it tainted the taste and smell of water in some instances. Further, the 2 percent oxygenate requirement and air quality concerns of certain areas created boutique fuel regions, leading to higher prices during supply problems.

Last year, this committee passed S. 606, the Reliable Fuels Act which called for the elimination of the 2 percent requirement and a phase-out of MTBE within 4 years, while preserving the authority of States to continue its use.

As was the case with the bill that passed this committee in 1989, S. 606 was changed in material ways after we reported the bill and today the Nation faces, although temporary, some potential unintended consequences.

Pursuant to the Energy bill, the 2 percent oxygenate requirement will be repealed this May.

A majority of members recommended that oxygenate producers and marketers be afforded liability protection against defective product lawsuits for their mere compliance with the law. Unfortunately, that provision was not included in the Energy bill either.

Therefore, refiners have been forced to stop using MTBE more suddenly than stakeholders, industry, or this committee had ever considered.

Fact: MTBE has been the preferred oxygenate used in reformulated gasoline, and its elimination means a corresponding loss of fuel supply that must be made up.

Fact: Ethanol is needed to replace MTBE.

Fact: The ethanol industry, refiners, marketers, and infrastructure operators are working hard to make sure that the transition is as painless as possible.

The green bar on this chart from EIA illustrates just how much ethanol is currently being produced—a significant amount in a relatively short period of time.

However, the sudden elimination of MTBE and the current state of the ethanol industry means that significant volumes of ethanol must be imported.

The orange bar shows about 130,000 barrels per day of additional ethanol is needed to replace MTBE. In other words, the United States needs to come up with close to half of the ethanol currently being produced domestically.

Actually, the transition means even greater supply loss than this chart illustrates because the production of ethanol-blended RFG yields 5 to 6 percent less fuel per barrel.

It is critical for the Nation to increase its petroleum and bio-refinery capacity. My legislation—the Gas PRICE Act and Energy Price Reduction Act amendment to the LIHEAP bill—would assist with the transition away from MTBE.

We would expedite the permitting process for traditional as well as renewable fuel infrastructure so that regions of the country will not have to face the temporary supply shortfalls and corresponding price increases likely this summer.

Congress must be mindful of the unintended consequences before considering any future action. I urge my colleagues, stakeholders, and the public to allow the recently enacted fuels title of the Energy bill to be fully implemented.

As EIA and our other witnesses will testify, the Nation's fuel system requires infrastructure, investment, and most importantly, time to develop.

The refining industry's positions dealing with fuels policy—warning against sudden transitions, the need for liability protection, etc.—are well understood.

This hearing is squarely centered on the imminent future not the past. I look forward to hearing from our witnesses and if they have any policy recommendations for Congress, including the likelihood of importing more ethanol.

Thank you.

Senator INHOFE. Senator Boxer, would you like to be recognized for an opening statement?

OPENING STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator BOXER. I would. I thank you very much, Mr. Chairman. Thank you for holding this hearing and I am pleased to say that we have a ban on MTBE in California already in place, which will without a doubt aid in the prevention of additional damage to our drinking water supply, damage already estimated to reach $7 billion.

Seeing an end in sight to MTBE use nationwide is good. I want to add that MTBE is gone from the gas in California, and the removal of it was never, to my knowledge, and we have researched all the records on this, cited as a reason for high gas prices. Oil companies have been long on notice that MTBE must be phased out of the gas supply. Its use was never mandated by the Clean Air Act. In fact, oil companies have even been found to have acted "with malice" by a California jury in the South Lake Tahoe case. They settled for nearly $70 million.

It has long been obvious that MTBE was the wrong oxygenate to use in gasoline. The oil companies have known for years that MTBE is extremely soluble in water, persistent and smells and tastes foul. Even if it was safe to drink, no one would drink it because of the odor and the appearance. It renders water containing fairly low levels, 20 to 40 parts per billion, unusable for drinking.

There are also potential health concerns with MTBE, including possible carcinogenicity and other toxicity. The oil companies were also put on notice of the serious problems with MTBE when 25 States, including California, enacted some sort of MTBE ban. The question I would have liked to have posed to the oil companies in today's hearing, although they were not invited, is what has taken

them so long to deal with this threat to our drinking water. Why haven't they addressed the MTBE problems years ago?

Unfortunately, again, they were not invited here to explain why they have let this mess go on all these years. We have asked to have them here. The claim that the Government made them use MTBE is patently false. In the Lake Tahoe case, for example, the court found that use of MTBE was permissible, but not required, underscore, not required. We now hear the oil companies intend to phaseout MTBE immediately and may potentially disrupt gas supplies. It's sort of like, let's punish the public again, for something they had nothing to do with. It's the oil companies who chose MTBE.

Interestingly, the oil companies themselves testified in hearings almost 5 years ago on this issue. Mr. Edward Murphy stated in a House hearing on behalf of the American Petroleum Institute that phasing out MTBE would be, and here it is, a walk in the park. He said, making up roughly 300,000 barrels a day of MTBE volumes when we are producing gas at 8 million barrels a day over a 4-year-period is a virtual walk in the park.

So lots of crocodile tears and worries about nothing. That was almost 5 years ago. The oil companies were ready then for a walk in the park, now it would be a stroll in the park all these years later.

That gentleman who testified for the oil companies never said disruption was inevitable, gas price hikes were inevitable, or that consumers would have to pay through the nose. The oil companies failed to remove MTBE for years, even though they knew and they admitted that a reasonable phase-out would smooth the way. The oil companies now claim legal liability due to the elimination of the oxygenate requirement which forces them to act immediately. It is not true. Nothing in the law forces them to act immediately. Period. These liability defenses have not been accepted by the courts.

What are the oil companies taken for now? We've heard waivers from environmental laws are on their wish list, they also again may want waivers of liability for MTBE. That's a get out of jail free card. Tom DeLay led that fight in the House and lost.

There are new initiatives underway in my own State to get big oil off the hook, a proposed ballot initiative in California that would eliminate punitive damages for MTBE. No surprise, the L.A. Times reports this proposal is backed by Chevron.

Mr. Chairman, I see my time is running low. I would ask that the rest of my statement be placed into the record. But the bottom line here is that all the crocodile tears about how they always wanted these liability waivers, the fact is, oil profits have never been as good and they have always been liable for MTBE as they should be, as the courts have so stated. Thank you.

Senator INHOFE. Without objection, all the entire statements will be a part of the record.

Senator Warner.

OPENING STATEMENT OF HON. JOHN W. WARNER, U.S. SENATOR FROM THE COMMONWEALTH OF VIRGINIA

Senator WARNER. Thank you, Mr. Chairman.

First, I supported you on the amendment that this committee very wisely and properly put into the Energy bill, the 4-year phase-out program. I am not a fan of MTBE. All of us who have been around here for a while recognize this is one of the political footballs that is being kicked back and forth. But it really has a serious impact on the health of the Nation and other things. I am fully supportive of whatever initiatives this committee wishes to take regarding this problem.

I think this hearing is timely to try and elevate from politics some of the real serious ramifications in the marketplace of this conference revision of your amendment. So I would simply ask to have my full statement placed in the record and once again commend the Chair for its leadership on this issue.

[The prepared statement of Senator Warner follows:]

STATEMENT OF HON. JOHN W. WARNER, U.S. SENATOR FROM THE COMMONWEALTH OF VIRGINIA

Mr. Chairman. Thank you for calling this hearing today on the impact of the elimination of MTBE from the Nation's fuel supply. Like you, I share significant concerns about our fuel supply system and our ability to meet market demands as well as minimize price volatility. That is why I have long advocated an expansion in the sources of our domestic supply of oil and natural gas and supported efforts to expand the capacity of our refineries.

The supply of transportation fuels in our Nation are subject to myriad influences including national and global politics, increasing worldwide demand, Federal and State policy, and the ever unpredictable Mother Nature. As a result of last year's Hurricanes we saw supply disruptions that this committee attempted to address through a refining capacity bill and we now see the potential for a similar situation with regard to supply as a result of the virtual wholesale replacement of MTBE with ethanol.

With the removal of the oxygenate requirement and industry's decision to effectively eliminate MTBE from our fuel mix, octane boost and emission requirements must be met with some sort of additive. Ethanol is the obvious answer for to near term because of relatively widespread infrastructure, the ability for 99.9 percent of vehicles to accept the fuel, and a generous Federal tax code.

However, as the Energy Information Administration (EIA) has provided in its report, there are regions of the country that will likely see short-term disruptions in supply due to a number of factors. In the mid-Atlantic for example, we currently rely on MTBE and don't have the infrastructure set up for the transportation and distribution of ethanol. Other areas of the country with established distribution systems, an educated marketing and customer base, and boutique fuels requiring ethanol will continue to be a draw on this supply. All the while we are expecting a net increase in ethanol consumption of more than 200,000 barrels a day of ethanol nationwide in a very short period of time. The competition for this demand surely will place pressure on prices.

I have been critical of our Federal policy toward ethanol, especially in the current climate, because I feel that market forces are already strong enough to support the ethanol industry and meet demand. And while I don't agree with all of our current Federal policy in this arena, our mission today is not necessarily to debate those points. We have a responsibility to explore the potential effects during this transition phase to ethanol during the upcoming peak driving season and discuss possible solutions. One thing is clear, the removal of the oxygenate requirement is going to have a significant effect on the market this season and I look forward to hearing from our witnesses about this issue and how Congress may address it.

Senator INHOFE. Thank you, Senator Warner.

Senator Lautenberg.

OPENING STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Senator LAUTENBERG. Mr. Chairman, thank you for calling this hearing.

I sit here as a grandfather of a child who has asthma and that, for those who witness the condition, know that it a blight and often with serious overtones. His life depends on the quality of air and his functioning, as a child, and my daughter's functioning as a mother of four, in many areas during the summertime there are days when parents are advised not to let their children play outdoors if they have asthma.

What my daughter does is when he plays sports and when they go away from the home area, she checks to see where an emergency facility is, just to be prepared. It is painful to hear him wheeze and lose his energy. So in many areas during the summertime, there are days when parents are advised not to let their children play outdoors if they have asthma, because the air is unhealthy and could trigger an attack.

But air pollution is not only a threat to children with asthma. According to a study from the Harvard School of Public Health, as many as 4 percent of premature deaths in the United States can be attributed to air pollution. When we look at the costs for shifting away from MTBE, I don't think we dare ignore the other side of the seesaw which says all kinds of expenses are incurred as a result of the cost of health and family dislocation and other problems. As many as 30,000 Americans die prematurely every year because of problems related to air pollution.

So I support the Clean Air Act and I support the requirement for the past decade for cleaner gasoline in cities with the worst air pollution, something I supported. It is up to the oil companies to decide how they met the requirements for cleaner fuel. Some used ethanol, others chose to use MTBE. The problem with MTBE, we know now, it is polluting groundwater, that's been known for several years. It's considered to be a likely human carcinogen. Many States are banning this chemical, including New Jersey. Now New Jersey is going to take some time for it to be fully in effect, 4 years to be specific. I wish that we could accelerate that pace. Apparently California has done much better in clearing up that problem.

So this issue doesn't come up overnight. The oil companies have plenty of time to consider other options. They certainly have been making enough money to invest in developing for alternative additives. I hope these companies will not use this phase-out of MTBE as an excuse to manipulate a shortage in the market, drive up prices further.

Mr. Chairman, Exxon reported the largest profit ever, not just for an oil company, but for any company, $36 billion in a single year. That was in the year when Hurricane Katrina struck and Americans were being hit hard at the pump. It was a bad year for everybody, everyday Americans, but a great year for big oil.

We need to put the oil companies on notice that they can't use MTBE as another excuse to boost up oil prices. Mr. Chairman, I appreciate the fact that you've called this hearing and I look forward to the testimony from our witnesses and the opportunity to talk to them.

Senator INHOFE. Thank you, Senator Lautenberg.

We will now proceed to our witnesses. We would like to ask you to try to confine your statements to 5 minutes. Your entire state-

ment will be a part of the record. We will start with you, Mr. Caruso.

STATEMENT OF GUY CARUSO, ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, ACCOMPANIED BY: JOANNE SHORE, LEAD ANALYST, ENERGY INFORMATION ADMINISTRATION

Mr. CARUSO. Thank you, Mr. Chairman, members of the committee. I appreciate the opportunity to appear before you today to discuss possible consequences of eliminating MTBE in U.S. gasoline supplies this summer.

I am accompanied by Joanne Shore, the EIA's lead analyst on this issue.

EIA is the independent statistical and analytical agency in the Department of Energy. We do not promote or formulate policy positions. We do conduct analyses. Last month we completed an analysis of the effects of the elimination of MTBE on gasoline in 2006, which I will be summarizing and updating.

In 2005, a number of petroleum companies announced that they would remove MTBE from their gasoline in 2006, due to a number of State bans and liability concerns. EIA's discussions indicate that the industry is trying to eliminate virtually all MTBE prior to the driving season this summer.

Currently the largest use of MTBE is in reformulated gasoline, or RFG, in Texas and in parts of the East Coast. Other areas are using reformulated gasoline—in the Midwest, California, New York and Connecticut. They have already removed MTBE and moved to ethanol as the oxygenate replacement.

Due to a provision in last year's Energy Policy Act, as the Chairman has mentioned, as of May 2006 the previous oxygen content requirement for reformulated gasoline will no longer be in effect. In theory, this means that suppliers could sell reformulated gasoline made without either MTBE or ethanol. However, given the need to replace the octane and clean-burning properties of MTBE, nearly all companies have been planning to blend ethanol into gasoline as they eliminate MTBE.

This shift from MTBE to ethanol involves major changes in operations and supply sources to the East Coast and Texas, particularly for those reformulated gasoline markets. While refiners, marketers, pipelines, terminal operators and ethanol suppliers have been preparing for the transition, this change is taking place on a tighter time schedule than previous MTBE to ethanol transitions in California, for example, which was noted by Senator Boxer. A shift in this magnitude in this short of time could cause temporary local supply dislocations and price volatility.

To make reformulated gasoline using ethanol, refiners must change their operations to produce a base reformulated gasoline blend stock, so-called RBOB. This change results in some loss of RFG production capability and product volume. Other petroleum blending components can be used to replace the lost volume and meet emissions limitations. But finding supply of suitable blending components may pose a problem for some gasoline producers, limiting their production and requiring other refiners to find or produce more.

The Northeastern gasoline markets receive about 90 percent of their RFG supplies from East Coast refineries and imports into the New York harbor area, with the remainder coming from Gulf Coast refineries. As the shift to ethanol reduces RFG production capability at East Coast refineries, supplies from the Gulf Coast and imports are expected to increase. However, some foreign refiners are currently unable to produce RBOB components, and hence there will be fewer potential foreign suppliers for ethanol blended reformulated gasoline. Shifts in past supply patterns for RFG will add to supply uncertainty during this transition.

Changes are also required to the distribution system. Ethanol-blended gasoline cannot be mixed with other gasolines and cannot be moved through pipelines. RBOB is moved through the petroleum distribution system, but unlike MTBE, ethanol must be transported and sold separately, then blended with RBOB at the end of the distribution chain. This requires time and investment to add blending facilities, to add or convert storage facilities and to convert retail outlets.

Pipelines and terminals are limited in the number of products they can carry efficiently. In many cases, the system would be strained to handle MTBE-blended RFG, ethanol and RBOB. As a result, even if some suppliers had wanted to continue to use MTBE-blended RFG, the distribution system could become a barrier in many areas. The recent FERC decision regarding the Colonial Pipeline announcement raised the question of whether or not suppliers were planning on using MTBE into this summer season. The FERC decision was only directed at how Colonial Pipeline should respond if a supplier wished to continue shipping MTBE RFG. Colonial is still bound by its usual shipping requirements and physical constraints and EIA is not aware of suppliers wanting to provide MTBE-blended RFG this summer.

This large increase in ethanol demand and associated transportation needs implies a tight ethanol market at least the first half of 2006. As noted, January 2006 production of ethanol was 288,000 barrels a day and about 130,000 barrels a day may be needed to replace MTBE.

Moving additional ethanol from the Midwest to the East Coast——

Senator INHOFE. Mr. Caruso, try to wind up, would you, please?

Mr. CARUSO. Yes, sir. Moving additional ethanol from the Midwest to the East Coast also poses a transportation challenge. East Coast ethanol use is expected to increase 90,000 barrels a day, which, if it all came from the Midwest, would result in 3½ times the volume in 2006 compared with 2005.

In conclusion, Mr. Chairman and members of the committee, petroleum and ethanol companies are working diligently to make this transition away from MTBE to ethanol. This transition does pose some of the challenges that I have mentioned for both supply and logistics. As a result, ethanol supplies are expected to remain tight through the summer, and increased potential exists for short-term supply disruptions and associated price volatility.

Mr. Chairman, I would be pleased to answer questions at the appropriate time.

Senator INHOFE. Thank you, Mr. Caruso.

Mr. Meyers.

STATEMENT OF ROBERT MEYERS, ASSOCIATE ASSISTANT ADMINISTRATOR, OFFICE OF AIR AND RADIATION, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. MEYERS. Yes, Mr. Chairman, members of the committee, I appreciate the opportunity to come before you today to testify regarding the impact of eliminating MTBE.

My testimony will address how recent amendments to fuel quality regulations and ongoing implementation of the Energy Policy Act of 2005 affect U.S. fuel programs, in particular, the Reformulated Gasoline Program, or RFG. Following passage of the 1990 Amendments to the Clean Air Act, EPA was tasked with developing and implementing several new motor vehicle emission and motor vehicle fuel quality programs to reduce harmful evaporative and exhaust emissions that negatively impact our Nation's environment and the public health. Among many other new provisions, the Clean Air Act required implementation of new fuel quality programs with prescribed fuel parameters.

In 1992, the Wintertime Oxygenate Fuels Program was implemented, and that program was required in more than 30 areas exceeding air quality standards for carbon monoxide.

Senator BOXER. Would you speak up a little, Mr. Meyers? I'm having a hard time hearing you.

Senator INHOFE. Move your microphone a little closer to you, Mr. Meyers.

Mr. MEYERS. I apologize. I was just referencing the implementation in the 1990 Amendments, and in 1992, we began that implementation in our fuel quality programs by implementing the Oxygenated Fuels Program at that point in time. This program required gasoline to contain 2.7 weight oxygen and it was instrumental, actually, in bringing many of the areas that had been in carbon monoxide non-attainment into attainment.

Subsequently, in 1995 after a period of regulatory negotiations, we began implementation of the RFG program. The 1990 amendments, I think as people are well aware, required RFG to contain 2.0 weight percent oxygen and established essentially a two-phase program in 1995 and 2000. Historically, the RFG program has used large quantities of MTBE. In 1995, I think our figures showed about 2.5 billion gallons of MTBE was used in RFG compared with about 300 million gallons of ethanol.

Today, after roughly 10 years of the program, 35 percent or thereabouts of our gasoline is RFG. Both ethanol and MTBE have been used in the program, but until recently, the MTBE percentage was approximately 85 percent or so.

Over the last 6 to 7 years, concerns have arisen with respect to groundwater contamination from leaking underground storage tanks having gasoline containing MTBE. As the Senator from California referenced, these concerns have prompted some States to ban MTBE, including such large markets as California, New York and Connecticut. That has had an impact on MTBE usage over the last 2 or 3 years.

Altogether, EPA estimates that about 3.2 billion gallons of MTBE were used in the RFG program in 1997. This level increased about

3.4 billion gallons in 2000. In 2004, following California's ban, the use of MTBE declined to around 2.1 billion gallons. Correspondingly, ethanol usage in the RFG program has grown from 420 million gallons since 1997 to 1.7 billion gallons in 2004.

I mentioned before at the beginning of the testimony the Energy Policy Act, which Congress passed in August of last year. So far, in response to the law's enactment, EPA has promulgated a direct final rule of the RFG regulations in order to eliminate regulatory standards requiring the use of oxygenates in RFG. This rule, when it becomes effective, will remove the current regulatory standards nationwide. The rule will also serve to implement provisions regarding commingling of ethanol and non-ethanol blended reformulated gasoline.

In terms of other energy-packed provisions, we have published a direct final rule regarding the default rule for RFS compliance in 2006. We are continuing to work on the renewable fuels standard regulation, which will be necessary for 2007 and beyond.

I don't have much time left, so I would just sum up to say that the Agency understands as a result of the changes made by the Energy Policy Act of 2005, in particular the removal of the RFG oxygen requirement, MTBE use in the RFG program will decline significantly. As noted by EIA, some providers are already transitioning away. The Northeast market may undergo substantial conversion to ethanol RFG. Southern RFG markets, too, such as Houston and Dallas, are likely experiencing a changeover to ethanol RFG as well.

While we defer to EIA on the broad economic analysis, as an Agency we remain committed to successful implementation of the Energy Policy Act. I want to thank the Chairman of the committee and members of the committee for your attention. This concludes my prepared statement and I am willing to answer whatever questions you might have.

Senator INHOFE. Thank you, Mr. Meyers, for that excellent statement.

Mr. Caruso, I am going to pick up on his last statement concerning what will result from the oxygenate elimination. For years, refining and related industries urged Congress to protect them from product liability lawsuits for following the law and using MTBE under the oxygenate requirement. The Energy bill repealed that requirement but did not include the product liability protection. We spent a long time on the floor looking at this, because this is one of the things that seemed to be so logical.

Yesterday, the Wall Street Journal, I suspect everyone in here has read that article, it is an excellent article, they published a piece about the elimination of MTBE from gasoline without liability protection, noting that Congress was well aware that high prices would result. I imagine that you are familiar with that article.

Would you agree that much of the industry made the public aware that it would stop using MTBE without the liability protection? To me, it's a no-brainer. In a court of law, I would assume if they had the oxygenate requirement, that would offer some defense. But you take that away, then they would be without defense. Would you agree with that, and what's your assessment of the conclusions of the article that I referred to?

Mr. CARUSO. Well, the specific issue of how well informed the public was, that's very difficult to know. But certainly it's clear that the refining interests sought the MTBE liability protection, based on testimony before this committee and the Energy and Natural Resources Committee during the debate on EPACT last year. So I don't think there's any doubt about that part of it.

It's also my impression that they generally favored the repeal of the oxygenate requirement and/or were actually opposed to an explicit near-term Federal ban on MTBE during those hearings.

Senator INHOFE. All right, thank you. Mr. Meyers, you testified that MTBE was among, I'm quoting now, "the primary product used to implement both the winter oxy and RFG programs." According to the information we have seen, implementing these Federal mandates would have been practically impossible without MTBE. Would you agree with that?

Mr. MEYERS. Well, as I noted in my testimony, the RFG program heavily utilized MTBE from the initial start of the program in 1995. I cited 2.5 billion gallons.

If you look at the regulatory history of the program, I think it is also instructive to look at what the EPA did in 1999. At that point in time, there was concern about the utilization of ethanol and the Agency promulgated what was known as the renewable oxygenate requirement, which would have established a 30 percent renewable standard for the RFG program. That requirement was later overturned in the courts, but is instructive in terms of the views at that point in time concerning renewables and the RFG program.

If you step it up a little bit further after that, in 1999, there was a blue ribbon panel commission on this issue on the use of oxygenates in RFG. In that report, it seems to indicate from the 1999 perspective that moving away from MTBE would be very difficult in the short term, because of the heavy reliance of MTBE in the program. Although it urged that in terms of recommendations it noted the difficulties, since MTBE at that point was so integral to the program.

I think going further, until very recently, MTBE has certainly been the most predominant oxygenate utilized in the program. In 2000, it was about 87 percent of the entire RFG program.

Senator INHOFE. Well, I think that it's been stated by a lot of the strongest supporters of ethanol. I remember Senator Daschle made the statement that MTBE would still be necessary. Of course, what all this translates in, back in supply and demand, is increased costs.

Mr. Caruso, your report notes that ethanol production is at capacity, and tight capacity leads to higher prices, a situation facing the refinery industry for years. I have tried twice now to introduce legislation that would increase capacity at the traditional and biorefineries. The Gas PRICE Act was one that I thought was a very moderate and modest proposal that would encourage additional refineries, really at virtually no cost.

Now, I would ask you the question, is it true that consumers want reasonably or lower priced fuels? Since tight capacity leads to higher prices, wouldn't it make sense that greater capacity leads to lower prices? In other words, do you believe in supply and demand?

Mr. CARUSO. Most definitely. As an economist and the head of a statistical, analytical agency, all of our studies indicate that one of the reasons prices are so volatile and the market inflexible now is lack of spare capacity from the upstream all the way through the downstream.

Senator INHOFE. Yes, it's obvious.

Senator Jeffords, let's go ahead and have 6-minute rounds, because we're going to have to confine this to one round. I will recognize Senator Jeffords.

Senator JEFFORDS. Mr. Caruso, in gathering information for its report in February, did EIA learn whether the oil companies had an extensive planning effort in place to minimize price impact of removal of MTBE from gasoline, and ease any supply disruptions?

Mr. CARUSO. I'm not aware of any information that we may have gotten on the price aspect of it. Most of our focus was on asking the industry how they were going to deal with the requirement in EPACT 2005 to eliminate or remove the oxygenate requirement in 270 days, which comes up in early May of this year.

So we are focused on how are they going to meet this and how are they going to deal with their statements that they felt that without the oxygenate requirement they no longer had product liability coverage. Most of them said to us that they were going to move out of MTBE into ethanol as quickly as possible. So that's the information we gathered from not only those companies, but the distribution companies, to see if it could be done—are the rail cars there, the whole logistical chain of this moving out of MTBE within 270 days from the passage of EPACT 2005.

Senator JEFFORDS. Do you believe your report spurred the market to begin grappling with possible supply issues this spring?

Mr. CARUSO. Well, we'd like to think that one of the roles we play is to inform the market participants when we think an issue such as this is impending. Because oftentimes, for either legal or competitive reasons, some of the market participants aren't talking with each other, and especially an issue where there are so many moving parts from the production of ethanol to the transportation to the distribution. We'd like to play that role as an information agency.

Hopefully it did perhaps stimulate some movement. We know that the economic incentives were there, ethanol prices were rising. So clearly the incentive for the refiners is to have adequate supplies for their customers. So it was a question of, is there going to be enough time to overcome some of these logistical challenges.

Senator JEFFORDS. Since the release of your report, Colonial Pipelines' plans to phaseout MTBE from gasoline shipments have changed. On St. Patrick's Day, the Federal Energy Regulatory Commission denied their request to stop shipping these products. Have you examined this issue, and do you know its potential to alleviate supply problems?

Mr. CARUSO. Well, we have talked to the Colonial Pipeline people, and they will honor their regular contractual agreements to move the product as specified in the arrangements with the company. So we have looked at it. But it doesn't really alleviate the problems mentioned because, if the companies are essentially all moving out of MTBE, the only issue that was on the table for

FERC was whether companies who wanted to continue shipping reformulated gasoline containing MTBE would still be able to do it. Colonial Pipeline officials have told us the answer is yes, in response to the FERC decision.

Senator JEFFORDS. Will you commit to updating your report before early May, and including an actual price prediction?

Mr. CARUSO. Well, we certainly are following this very closely. I would be happy to make sure that we do have an updated report by May.

The second thing is, on price, we do on a monthly basis make gasoline and other product price projections and the next one will be presented on April 11 at our Summer Fuels Outlook Conference in conjunction with the National Association of State Energy Officials, NASEO, here in Washington. So we will have a summer outlook projection which includes our latest expectations for meeting the MTBE phaseout on April 11.

Senator JEFFORDS. Mr. Meyers, in your testimony you stated the EPA is now working on an implementation plan for future years of the renewable fuels standard. When do you expect to issue that plan?

Mr. MEYERS. It's our current intention, we have to go through normal process of a proposed rule, at the end of this summer or early fall, it would be our projection when we will have a proposed rule out.

Senator JEFFORDS. Mr. Meyers, the new energy law allows unformulated gasoline in tanks that contain MTBE to be mixed with reformulated gas that does not, a practice known as commingling. EPA has yet to issue rules to implement this section of the law. Would this practice help supply situations this summer?

Mr. MEYERS. In actuality, that was contained in our direct final rule that we placed for removal of the oxygen standards. So we actually have, we included it in our direct final rule which removed the oxygen requirement and we specified, as the Act specified, the circumstances under which commingling could occur.

Senator JEFFORDS. Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Jeffords.

Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

Mr. Meyers, on the subject of the environment, can you speak to the expected effects on the environment and health of ethanol replacing the MTBE?

Mr. MEYERS. I can speak in terms of the air program.

Senator WARNER. Yes.

Mr. MEYERS. As you know, the effects of MTBE are multi-media and they have water quality effects. In moving from MTBE to ethanol, the way our RFG program works is a series of performance specifications, plus some actual formulated requirements for the gasoline. So both MTBE based RFG and ethanol based RFG have to meet the same requirements. They will have to meet the benzene cap, they will have to——

Senator WARNER. I'm not getting what you're saying. Once again, more slowly. Both have? Go ahead, once again.

Mr. MEYERS. Both have to meet the same requirements.

Senator WARNER. Correct. But have you done an evaluation of which is least detrimental to the health?

Mr. MEYERS. From an air emissions standpoint, I don't believe we have any analysis. Again, we are dealing with a program that utilizes, it is a little bit complicated, but uses refiner baselines as a measurement for the gains of the program. So we'd measure the performance requirements against the gas that refiners actually use to produce, and it's a percentage. So both MTBE and ethanol will meet the same percentage air quality gains under the requirements that we have.

Senator WARNER. Is there any basis for assuming that ethanol would be better for the future in terms of the environment?

Mr. MEYERS. There are different emission profiles in terms of what would come out the tailpipe. But I don't believe from an air quality standpoint, if we are talking about non-attainment, that we would have substantial differences between the performance.

On that point, though, I would be happy to provide for the record anything that we do have. My knowledge may not be comprehensive of the analysis that we have. I would be happy to provide that.

Senator WARNER. Well, I thank you for your candor. I do believe, Mr. Chairman, it would be important for the record if you would canvass the Federal Government——

Mr. MEYERS. Of course, sir, I will.

Senator WARNER [continuing]. To determine what is out there. Because I have to assume that someone has run some fairly significant tests and evaluations on this subject.

Mr. MEYERS. Well, we have evaluated the impact of the RFG program and certainly think it's produced large environmental gains. After 1995, we studied its impact and previously we have testified as to the reductions in VOx, NOx and the air toxics that occur from the program.

Your specific question as to the emission performance between ethanol and MTBE, that I'm not aware of a specific study, but I will check that and get back to the committee as soon as possible.

Senator WARNER. What about the water quality? Is someone at the EPA looking at that?

Mr. MEYERS. That falls under the Office of Water. Right now, there's an action level for MTBE between 20 and 40. The Office of Water has been looking at it in terms of the Safe Drinking Water Act and establishment of regulatory standards under the Safe Drinking Water Act.

Senator WARNER. Presumably they would be in favor of shifting to the ethanol? It seems to me somebody, we have to begin to reach some conclusions down here.

Mr. MEYERS. I need to stay within my office.

Senator WARNER. All right, you're being very careful and very accurate and very candid. Do what you can to bring that information before the committee.

Mr. MEYERS. Thank you.

Senator WARNER. Mr. Caruso, on the supply and demand thing, it's a complicated responsibility you have. Do you think that the EIA had any thoughts about the ability of imports to meet the demand?

Mr. CARUSO. Yes.

Senator WARNER. Nobody has a free lunch. What about the tariffs that are likely to be put on these imports and the effect of the tariffs?

Mr. CARUSO. One of the reasons ethanol imports have been down is that there is a high tariff—it's 54 cents a gallon plus the 2½ percent ad valorem. So that ethanol imports have been very low, as recently as even 2005. They are ramping up now in 2006. We already saw that at the end of 2005, imports of ethanol from Brazil were up over December 2004. We would expect that that would be part of the answer, because the price of ethanol has gone up as demand has increased. Therefore, even with a 54-cent-a-gallon tariff, it's economic to bring in ethanol.

However, there is a limit as to how much ethanol is available on the foreign market.

Senator WARNER. Right. Maybe we ought to address the issue of tariffs. Clearly there's tremendous demand for the domestic supply, and maybe it doesn't need such protection as a tariff may afford. You're nodding your head.

Mr. CARUSO. Well, as an economist I would agree with you.

Senator WARNER. Beg your pardon?

Mr. CARUSO. As an economist, I certainly would agree with you. But obviously as the head of EIA, I can't take a position on the policy issues.

Senator WARNER. I appreciate that nod. Will the record indicate, Mr. Chairman, that he is in assent?

[Laughter.]

Senator INHOFE. The record will so indicate.

[Laughter.]

Senator INHOFE. Thank you, Senator Warner.

Senator Boxer.

Senator BOXER. Thank you very much, Mr. Chairman.

Mr. Caruso, you make it sound very difficult for the oil companies to make this transition away from MTBE. So on that, you disagree with the sentence, again, I am going to read to you, Edward Murphy, American Petroleum Institute, said, "making up roughly 300,000 barrels a day of MTBE volumes will be producing gas at 8 million barrels a day over a 4-year-period is a virtual walk in the park."

So I just wanted to note that the oil institute, the Petroleum Institute itself in testimony said it was no big deal to do this. Then you said in answer to Senator Jeffords' question, something I found very interesting, I wanted to probe you a little bit on it. You said that you learned from the oil companies, and this is true, because this is what they're saying, but I just wanted to ask you about it. That with no more oxygenate requirement, oil companies no longer have product liability coverage. Those were your words.

Now, they never have had waiver of product liability. So what are you talking about? Are you talking about the fact that when they go to court to fight these cases, they say, "Well, Your Honor, don't hold us liable, Congress made me do it?" Isn't that what you mean?

Mr. CARUSO. That's what the companies have been saying.

Senator BOXER. That's what they're saying.

Mr. CARUSO. Yes.

Senator BOXER. But isn't it a fact that Congress has never given them a waiver of liability?

Mr. CARUSO. That's correct.

Senator BOXER. Isn't it a fact that although they've had this liability on their shoulders, and believe me, I know about it, because they polluted Lake Tahoe, they destroyed 75 percent of the water supply in Santa Monica, CA, they went to court, we have discovery, we saw what they were writing to one another almost as jokes. The fact is during that whole time that they had liability, between now and that time, haven't they had record profits? So clearly this burden hasn't been such a burden, is that right?

Mr. CARUSO. Well, they see the burden being in the future—without the oxygenate mandate, they wouldn't have a product, a legal argument, that is what they are telling me.

Senator BOXER. But they've lost in court. They haven't ever won in court. So the fact of the matter is, I would like you to give them a little bit of a reality check. They have never had a liability waiver. They don't deserve it. The courts have found they have no excuse. All of a sudden now they're coming and crying again. I just love it. It's just extraordinary.

Now, Mr. Meyers, did the Clean Air Act legally mandate the use of MTBE in gasoline?

Mr. MEYERS. The Clean Air Act contained the 2 percent oxygenate requirement.

Senator BOXER. Did the Clean Air Act legally mandate the use of MTBE in gasoline, yes or no?

Mr. MEYERS. The Clean Air Act did not specifically reference MTBE. It required a 2 percent oxygenate requirement.

Senator BOXER. Right. So there is, no mandate for MTBE ever was in the law?

Mr. MEYERS. The language of the Clean Air Act does not contain a reference to MTBE.

Senator BOXER. Correct. So, yes or no, did the Clean Air Act legally mandate the use of MTBE in gasoline, yes or no?

Mr. MEYERS. The issue in your question is with respect to legally mandating——

Senator BOXER. Can you answer yes or no? You've said it didn't, why can't you just say no?

Mr. MEYERS. I thought I had said that the Clean Air Act did not require the specific use of MTBE in the statutory terms.

Senator BOXER. So there is no mandate for MTBE, is that correct?

Mr. MEYERS. It's not in the statute in terms of a specific legislative reference to MTBE.

Senator BOXER. Thank you. Because you've just supported my argument and the argument that the court has found in favor of, and the fact that Mr. Caruso, the next time you see the oil companies, you might mention that Mr. Meyers, who certainly knows about this, says there has never been a mandate for MTBE from this Congress.

I would ask to place into the record a document that dates back to 1995, Special Counsel Robert Meyers, who was the counsel to the House Energy and Commerce Committee, in which he said, "In essence, since various fuels and fuel constituents compete for the

RFG and alternative fuels market, an effort was made by Congress to avoid dictating any particular fuel choice." Now, that could be used in court.

Senator INHOFE. Without objection, that will be included.

[The referenced information follows on page 92.]

Senator BOXER. Thank you.

So let's get off this business of the poor oil companies were forced into MTBE when they clearly were not. It's important for us, if this issue of a liability waiver comes up again, let me just say now, that it isn't going to go anywhere on the Senate floor. It's going to go down.

Mr. Meyers, the Houston Chronicle reported on March 24, 2006 that Lyondell Chemical Company, a major MTBE producer, sent EPA a letter urging the Agency to extend a rule that Lyondell believes will help them avoid paying MTBE cleanup costs. Do you know about this letter?

Mr. MEYERS. I don't have personal knowledge of the letter. I would be happy to provide a response for the record.

Senator BOXER. I would be delighted if you would please send me a copy of the letter and any response that you plan to make.

I think, Mr. Chairman, that I will stop here. I just feel very, very strongly, that if this new bill that we passed is another excuse for the oil companies to try to get off the hook for poisoning so much of our Nation's water supply, it would be a travesty if this Congress went along with it. Thank you.

Senator INHOFE. Thank you, Senator Boxer.

Before you start, Senator Lautenberg, I will ask unanimous consent to submit for the record statements from the National Petrochemical and Refiners Association and the American Petroleum Institute. Without objection, those will be entered.

[The referenced information follows on pages 80–91.]

Senator BOXER. Mr. Chairman, I'm not going to object, but I want to clarify a matter with respect to putting these letters here. As you know, we wanted to have the oil companies and they were not invited here. I just want to make sure, on behalf of Senator Jeffords and myself——

Senator LAUTENBERG. And me.

Senator BOXER [continuing]. Senator Lautenberg, I want to make sure that these documents you are putting in the record are not regarded as testimony, but rather as additional written material offered to you, the chairman, in the form of a letter, and accepted into the record to inform members of the NPRA's point of view.

Senator Jeffords and I want to make this clear, because we have some questions about the content of these letters. We would have liked to have asked the oil companies about them and we were not able to do so. But I will not object.

Senator INHOFE. I would respond, that's always the case. They will be in as submitted letters.

Senator BOXER. Thank you.

Senator INHOFE. Senator Lautenberg.

Senator LAUTENBERG. Thank you. Is it possible, if these letters are not particularly lengthy, to have the general context of these explained here or read here?

Senator INHOFE. Well, why don't you go ahead with your time, and I will look at these and see if that would fit into this.

Senator LAUTENBERG. I think it would be very helpful.

Senator INHOFE. Thank you.

Senator LAUTENBERG. Mr. Chairman, I'd like to ask Mr. Caruso a question about something that is in his testimony that I'd like to be more certain about. That is, it's page 6, he'll know as soon as I identify it. Where you talk about the cost for ethanol imports generally less attractive than domestic production, because imports are subjected to an ad valorem tariff of 2.5 percent, second duty of 54 cents a gallon, which offsets the 51-cent-per-gallon tax credit for blending 10 percent ethanol into gasoline.

Could you in quick form tell me exactly what the 51-cent-per-gallon credit is for, why that derives in here? It's obviously an offset to the tariff. What happens with the 51-cent-a-gallon credit? Who does that go to? What's the mission, what's the purpose of that offset?

Mr. CARUSO. With the permission of the Chairman, if I could ask the author of the report, Joanne Shore, to answer that question?

Senator INHOFE. Without objection.

Ms. SHORE. Actually where it goes I'm not sure.

Senator INHOFE. State your name and your title, please.

Ms. SHORE. Joanne Shore, Senior Analyst with the Energy Information Administration.

Where it goes at this point I don't know, but there is a credit that's allowed, that the blenders are allowed to take. I believe it's 51 cents a gallon right now. The import tariff is roughly the same amount, so when that ethanol gets blended——

Senator LAUTENBERG. It creates sort of a trust fund from which to take——

Ms. SHORE. Exactly.

Senator LAUTENBERG. So is that designed to relieve the gasoline companies of some part of the cost for having to make this transfer to ethanol?

Ms. SHORE. No, I believe the 51 cents has always been there as a credit. The ethanol producers will be able to realize a higher price. Then the blender is able to take that credit down the road at that point where it is blended to be able to make it more competitive with alternative materials as it is blended.

Senator LAUTENBERG. So it saves the companies some part of the cost of producing the product?

Ms. SHORE. Yes, it saves the blenders.

Senator LAUTENBERG. Are the blenders separate and apart from the gasoline companies?

Ms. SHORE. They can be. Some companies do their own blending and there are many independent blenders out there as well.

Senator LAUTENBERG. I see. So that if they didn't have this waiver, then they would have to pick up the costs? I just want to be sure, tax credit, sorry, they would have to pick up the cost out of their revenues, perhaps pass it on to the public or otherwise?

Ms. SHORE. Yes, or the ultimate price, then, of ethanol would drift accordingly to settle at a new price, whatever the market balance would bear at that point.

Senator LAUTENBERG. Yes. I guess what I see is that we want to help the companies make a reasonable profit on their activities, like $36 billion. Anybody know whether Exxon has its own blending structure?

Ms. SHORE. Yes, they have both, in the sense that they sell product to others who do blending. They also would have some of their own blending. But the price that they pay at that point for the ethanol that comes in would effectively be, for example, 50 cents higher than the price of gasoline. Frequently ethanol prices, when the market is relatively well balanced, will be at the price of gasoline after the credit.

Senator LAUTENBERG. There are offsetting amounts?

Ms. SHORE. Right.

Senator LAUTENBERG. OK. I just wonder at what point they pitch in and say, OK, it costs us more to do a little more business. But we've got a pretty good business without that. So the profits are enormous and it's just amazing when we look at this how the gasoline companies perform. There was a $5 billion punitive award for the spill in Prince William Sound. It's never been paid, it's gone to court and they keep on, it's about 15 years now I guess, since that judgment was made. But they manage to stave off paying their share of responsibility. It's very interesting.

Mr. Caruso, you said that you would be creating, or releasing a projection for the cost in the coming months, on April 11, was it?

Mr. CARUSO. Yes, Senator.

Senator LAUTENBERG. Do you have any idea of the range of what the increased costs might be? Is it a nickel, is it a dollar?

Mr. CARUSO. Our current outlook is for about $2.50 average price of gasoline for the summer. I think that's about 12 cents higher than last summer per gallon.

Senator LAUTENBERG. I thank you.

Senator INHOFE. Thank you, Senator Lautenberg. We want to hear from Senator Thune, but before we do let me just, Senator Boxer, since you had mentioned several times that you wanted the oil companies to be present at this hearing, I've been advised that your staff made that clear and we said that we'd be happy to have them as your witnesses if you wanted to name them as witnesses. You declined to do so.

Senator BOXER. Well, that's because you said we couldn't have any of our other witnesses.

Senator INHOFE. Well, we have a limited number that is very consistent with the way we've done it in the past. If you wanted them here, you had the opportunity.

Senator Thune.

Senator BOXER. Mr. Chairman, I guess since you brought it up, I don't understand why you wouldn't have wanted them here.

Senator INHOFE. I didn't say I didn't want them.

Senator BOXER. I mean, this is about them. If you read their letter, by the way, they claim that we mandated MTBE and other falsity, right in there. By the way, they put out a press release about their letter to you.

Senator INHOFE. Thank you, Senator Boxer.

Senator Thune.

Senator THUNE. Thank you, Mr. Chairman. I will reserve most of questioning for the next panel. I thank you, by the way, for holding this hearing.

I think this is a critical issue obviously to our economy. As we head into the summer season, dealing with gasoline costs in a State like South Dakota, where we are very agricultural intensive and tourism intensive, that has a profound impact on the economy. I think we need to be examining all the policies that we have in place that will impact adversely the cost of fuel oil in this country. I think that—I'm hoping we will get a chance to move another Energy bill this year that will help address some of those concerns as well.

But this hearing is obviously very important in terms of what we are doing to take a very close look at this.

I will reserve most of my questions for the next panel, but I do want to ask Mr. Caruso a question, if I might. That has to do with the supply and stock data that EIA publishes and the timing of that publication tends to track about 2 months behind. How do you determine the availability of ethanol in the marketplace with numbers that are so outdated once they're published?

Mr. CARUSO. You're correct, the actual final data on a monthly basis has about a 60-day lag, on the monthly data. We do collect on a weekly basis some blendstock information. So it gives us some idea of what the blending components that go into the reformulated gasoline are doing. So we have incomplete information on a weekly basis, but we do have to wait for that 60 days.

So one of the things we try to do—people like Joanne Shore and other experts in EIA—is to communicate with companies that are producing ethanol, with refiners and blenders to get the sense on a real-time basis of how things are going when we are in a situation that requires more close monitoring. We couldn't afford the resources to have this done on a regular basis, but now that we know there's an issue, for example, this 270-day phase-out of oxygenate, in this case MTBE, Joanne immediately started communicating with the participants in the marketplace. Are you going to be able to do this, what problems do you anticipate? That's what led to the analysis that I presented this morning.

Senator THUNE. It seems at least that not having real time data available would make it awfully difficult to track with any specificity what's happening right now. If you're getting information that is dated, it seems to me at least that closer coordination with the industry and to understand exactly, and I know you're doing that, sounds like you're doing that, communicating with the industry to figure out what their capacity is going forward, but if you have a 2-month lag in this day and age, I think it's going to be awfully difficult to predict with any reliability what prices or supplies or anything else are going to be.

So I guess my follow-up question would be, what would it take to close that 2-month gap? What do we have to do to get to where this is, we're getting more of a real time assessment of where things are?

Mr. CARUSO. There was a provision within the Energy Policy Act of 2005 that we do a survey on a weekly basis of ethanol production in more detail. However, there was no budgetary—excuse me,

on a monthly basis. However, there was no budgetary authority that went along with that request.

So we looked at what it would take, and we initially made an estimate that there would be about a $2 million cost of starting up a survey to allow us to collect that data on a monthly basis, and about $800,000 a year thereafter. But as of yet, this budgetary authority has not been made available.

Senator THUNE. Well, I guess in light of the fact that now with the phase-out of MTBE and that ethanol is becoming the additive of choice or perhaps necessity, and the importance of knowing on an I think more day-to-day basis rather than month-to-month or 60-day- to 60-day-basis what the real situation is in the marketplace would suggest that the steps be taken. You do, my understanding is you do real time tracking of petroleum. Now the blends that are going to be required to be used in the future, it seems to me that you would want to use a similar type process, a more timely type process of keeping availability, supply, capacity of ethanol at your disposal as well. Because otherwise, I just think that the reliability of the data is really questionable, if you're talking about data that's 60 days old, and trying to make any predictions about capacity or supply, demand, price, anything going forward.

Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Thune.

Senator Murkowski.

Senator MURKOWSKI. Thank you, Mr. Chairman.

I apologize to the committee and to the witnesses that I haven't been able to be here to hear your testimony. This is an issue that I think people in the country are looking at. They want to know what's going to happen to the price of gas. We can talk about the specifics of MTBE and the liability issue, but at the end of the day, what Americans want to know is, so what am I going to be paying at the pump?

I understand that a couple of the questions that I had prepared for you gentlemen have already been asked and answered. But do you have a simple answer for me in terms of what we can expect to be paying this summer?

Mr. CARUSO. Our latest outlook, which is our best judgment and assumes no disruptions, is about a $2.50 a gallon average price for gasoline.

Senator MURKOWSKI. So about 20 cents over what we're seeing here in this region right now? Is that about right?

Mr. CARUSO. Actually this week I think our numbers are just about $2.50, maybe slightly under that, on a national average basis. I mentioned in the testimony that the issue that we think is before us is the possibility that there could be some logistical dislocations in this transition and therefore on a regional basis you could have price volatility. We don't see that as likely to be a national issue. But clearly in places like Houston, Dallas, Fort Worth, and the East Coast, where they have not already phased out MTBE, you could get price volatility, which could go certainly above the national average.

Senator MURKOWSKI. If that assumption holds true, then, how long do you anticipate that these prices stay at these levels? When will it settle?

Mr. CARUSO. We think it's a short-term problem. That's the other point I mentioned. It's a temporary issue. We do think the ethanol producers are ramping up and will meet the demand increase. However, it takes time and we're very tight for the first half of 2006. But it's a summer driving season problem that we think we face, and we'll be presenting that in more detail at an April 11th Summer Fuels Outlook Conference.

Senator MURKOWSKI. We'll look forward to that.

Let me ask you just in terms of the liability aspect of MTBE, do either one of you want to venture an opinion on whether the MTBE processing industry has any greater legal exposure now than it's faced since the 1990's for the water quality impact of the MTBE if it leaks into the groundwater? Is there any greater exposure now than we saw before?

Mr. MEYERS. I think the question is a good one, but would require a very studied legal analysis that I would not be prepared to offer.

Senator MURKOWSKI. Mr. Caruso, any comments on that?

Mr. CARUSO. I think that's a legal question I really have no competence to answer.

Senator MURKOWSKI. If we had a legal expert here, he would probably say, it's a legal complex question. Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Murkowski.

We thank the panel very much for their indulgence. I would ask the next panel to come forward, which would be Bill Douglass, CEO of the Douglass Distributing Company, on behalf of the National Association of Convenience Stores; Blakeman Early, American Lung Association; Bob Dinneen, president and CEO for the Renewable Fuels Association.

Please take your seats. Gentlemen, thank you for your presence here. We are going to kind of watch the clock a little closer this time, because we are running out of time. We would like to have you confine your statements to 5 minutes, but your entire statement will be made a part of the record. I will definitely let you know when your time is up. The same will go for the timing of the questions that will be asked.

We will start with you, Mr. Douglass.

STATEMENT OF BILL DOUGLASS, CHIEF EXECUTIVE OFFICER, DOUGLASS DISTRIBUTING COMPANY

Mr. DOUGLASS. Good morning. My name is Bill Douglass, and I serve as the chief executive officer of Douglass Distributing in Sherman, TX. My company owns and operates 14 fuel outlets in the Dallas-Fort Worth area and supplies gasoline and diesel fuel to 165 additional retail outlets in the area under long-term supply contracts.

I appear before the committee representing the National Association of Convenience Stores, which we call NACS, and the Society of Independent Gasoline Marketers of America, which we call SIGMA. Together NACS and SIGMA members sell approximately 80 percent of the gasoline and diesel fuel purchased by motorists in the United States each year.

Over the past 3 months, I've witnessed such a blizzard of announcements in developments regarding gasoline production and distribution that even I, who study and participate in gasoline marketing every day, am uncertain as to what to expect over the next 6 months. This hearing is an attempt to sort through these announcements, rumors and questions.

You've heard testimony this morning from Government experts regarding the facts and statistics associated with the transition from MTBE to ethanol. I will not duplicate their testimony. Instead, I will move beyond the statistics and examine my real world situation.

First, the use of MTBE as a gasoline additive will decline in the future, whether rapidly as some have predicted this spring and summer, or more gradually. This decline is a direct result of Congress' failure to adopt liability reform provisions for MTBE as part of last year's Energy bill.

I'm not seeking to get into the debate as to whether Congress should have adopted the MTBE Safe Harbor last year, but this committee and the Congress as a whole must understand the decisions made last year are having repercussions in the gasoline market this year.

Second, ethanol is the most likely and immediate substitute for MTBE in RFG. EIA has estimated on average refiners lose approximately 5 percent of their production capacity when making RFG with ethanol, when compared to RFG with MTBE. This is a significant reduction in domestic gasoline production capacity that should be of a concern to policymakers, marketers and consumers.

Third, in general the Nation's refiners are not positioned to produce substantial quantities of clear RFG, which is not blended with either ethanol or MTBE, which will be authorized for the first time in May. Fourth, it's clear that the domestic ethanol industry is doing its utmost to maximize of ethanol it will produce and sell this year. But it's uncertain whether these best efforts will be sufficient to meet the demand for ethanol in the next 6 months, as the Nation transitions away from MTBE.

Fifth, boutique fuels continue to complicate the supply and distribution of gasoline. As noted in the EIA study, the Energy bill's cap on the number of boutique fuels does not cover State boutique renewable fuels mandates. Such mandates constrain the availability of ethanol in other areas of the Nation and limit the supply flexibility in the marketplace.

Sixth, the bulk gasoline storage and terminal infrastructure in many parts of the Nation is not prepared for a transition from MTBE to ethanol. Finally, the transition from MTBE additized gasoline to ethanol additized gasoline will be problematic for motor fuel retailers like me. Retailers will be undertaking preparations to market gasoline blended with ethanol, at the same time they are preparing to switch from winter to summer gasoline blends.

While many retailers have been selling ethanol blended fuels for years, there are others like myself that will be making the transition for the first time. I recently received a 20-page document from one of my gasoline suppliers, explaining the steps I must take to prepare to sell ethanol-blended gasoline. Increasing my challenge is the fact that I do not have the lead time many of my colleagues

in other parts of the Nation had to prepare for this conversion. This could be problematic, as there are many others in my situation.

Unfortunately, there are few public policy options open to Congress to mitigate potential gasoline or ethanol supply shortages and price volatility in the short run. NACS and SIGMA propose that the action that would have the greatest significant positive effect on supply and the consumer prices in the next 6 months would be a temporary suspension of the tariff on imported ethanol. Such a move would help supplement the efforts of the domestic ethanol industry to satisfy the rapidly escalating demand without penalizing the consumers with a 54-cent-per-gallon tariff. This would be meaningful, sound public policy enacted for the good of the consumer.

In the medium term——

Senator INHOFE. Thank you, Mr. Douglass, your time has expired. Thank you very much.

Mr. Early.

STATEMENT OF A. BLAKEMAN EARLY, AMERICAN LUNG ASSOCIATION

Mr. EARLY. Mr. Chairman and members of the committee, I appreciate the opportunity to appear today on behalf of the American Lung Association.

The American Lung Association supports the removal of MTBE from gasoline. As you know, MTBE has been found to contaminate ground or surface water in nearly every State, and has rendered thousands of public and private drinking water sources unusable. Addressing the cleanup or replacement of these sources has been estimated to cost upwards of $25 billion. These statistics provide reason enough to eliminate MTBE from the Nation's fuel supply.

But the American Lung Association is particularly interested in eliminating MTBE from reformulated gasoline because many areas with unhealthy levels of ozone have avoided adopting RFG for fear of contaminating local water supplies. Therefore, we see the recent trend of refiners choosing to eliminate MTBE from RFG as a welcome development, which may facilitate the option of RFG in more areas that need it. If so, the public will benefit from the reduced exposure to ozone and toxic air pollution.

The elimination of the oxygen requirement in RFG in combination with the sulfur limit in all gasoline implemented as part of Tier II rules, and the limitation on boutique fuels adopted in EPACT should eliminate the proliferation of boutique fuels, while providing clean fuel choices to areas that need them. We believe that any additional limitations on States' ability to select clean fuels would have an adverse air quality impact and are unnecessary, given all the changes I just described.

Refiners are eliminating MTBE from RFG this spring entirely voluntarily. The American Lung Association endorsed a ban on MTBE phased in over 4 years, a timeframe that was originally identified by the industry itself in testimony before this committee. The Congress chose not to adopt such a measure during its consideration of EPACT, but did remove the oxygen requirement. This enables each refiner to use as much or as little MTBE as it chooses.

Now this spring, refiners are attempting to remove MTBE from RFG all at once, rather than pursuing a phased elimination. The current action to remove MTBE from the remaining RFG supply is voluntary and is not required to meet any law. We see no credible basis for finding that the use of MTBE in RFG in 2006 gives rise to special liability, given the nature of MTBE groundwater contamination and the difficulty of distinguishing when contamination occurred. Whatever liability refiners may be subject to will be based largely on past actions, not future actions.

It has long been predicted that the removal of MTBE from RFG would spike a demand for ethanol. I provided testimony to this effect before this committee in June 2000. The fact that refiners are voluntarily and precipitously withdrawing MTBE from use, knowing that such action would cause a spike in RFG prices, provides testament to the indifference the refining industry has to the calls of consumers to restrain fuel prices.

As you know, in EPACT the Congress provided EPA with the authority to temporarily waive a fuel additive or additive requirement under the Clean Air Act, in cases of an extreme or unusual fuel or fuel additive supply circumstance. The statute explicitly states that shortages that reasonably could have been foreseen or derive from a lack of prudent planning do not qualify. We believe the ethanol and fuel shortage we are discussing today was foreseeable and in fact, is exactly the result of a failure of prudent planning. The American Lung Association hopes no one will suggest the need for invoking the need for the EPACT waiver authority.

Under EPACT, 9 months after the enactment, EPA is required to establish standards for each refiner and importer designed to maintain the level of toxic air pollutant reduction achieved on average during 2001 and 2002. This so-called anti-backsliding provision was enacted to ensure that as refiners reduce the amount of MTBE they use in RFG, the level of toxic air pollution from the use of such fuel did not increase.

The dramatic shift away from MTBE use occurring this spring well illustrates why this provision is needed. EPA recently announced it will not implement these provisions, but will defer these protections until the mobile source air toxics rule is implemented in 2011. This allows at least 5 years for refiners to increase toxic air pollution in RFG from past levels, the very backsliding the law requires EPA to prevent.

We call on the EPA to issue backsliding rules as expeditiously as possible to prevent toxic air pollution increases in RFG over the next half decade.

This concludes my remarks. Thank you.

Senator INHOFE. Thank you.

Mr. Dinneen.

STATEMENT OF BOB DINNEEN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, RENEWABLE FUELS ASSOCIATION

Mr. DINNEEN. Good morning, Mr. Chairman, and thank you. This is an important and timely hearing and I am certainly pleased to be able to be here today to discuss with you all that the industry is doing in coordination with refiners, gasoline marketers and the

fuel distribution network to make sure that the transition from MTBE to ethanol is indeed a success.

As you know, Mr. Chairman, the ethanol industry is growing rapidly. In addition to the 97 ethanol biorefineries that produce more than 4.5 billion gallons of ethanol today from a billion and a half bushels of grain, there are 33 plants and several major expansions that will add another 2 billion gallons of ethanol production capacity very shortly.

This remarkable growth can most certainly be attributed in no small part to passage of the Energy Policy Act of 2005, which included a renewable fuels standard that provided a clarion call to our industry and the financial community to grow with confidence. Mr. Chairman, I hope that you and the members of this committee are very proud of the role that you had in getting a renewable fuels standard passed as part of the Energy Policy Act. It has done exactly what it had been intended to do in terms of stimulating the production of ethanol and biodiesel. We certainly are very appreciative of the role that you had and others on the committee, like Senator Thune and Senator Obama and others, that worked so hard to get that passed.

One of the consequences of the Energy bill, though, is that refiners have begun to hemorrhage MTBE from the marketplace. It's important to note, though, that no provision of EPACT or the Clean Air Act or any other congressional action has compelled such a rapid transition away from MTBE. This decision is the refiners' alone. I can assure you, though, that there will be sufficient ethanol supplies to meet this new demand.

First, as noted, domestic ethanol supply is growing rapidly. We anticipate more than 500 million gallons of new capacity coming online before the end of the summer. Another 900 million gallons will be completed by the end of the year. That reflects a 37 percent growth rate this year alone. That's a phenomenal pace, particularly given the rate of growth we have already seen over the past several years. Moreover, several ethanol producers and refiners have been building ethanol stocks in anticipation of this increased demand.

Second, several refiners have contracted with Brazilian and/or Caribbean ethanol suppliers for product. Approximately 130 million gallons were imported last year. We anticipate even higher imports this year. I would note parenthetically that as Senator Lautenberg was sort of getting to, the secondary tariff that is imposed on imported ethanol is repaid essentially as soon as the refiners get the tax incentive that's available. To remove the secondary tariff, all you're doing is then subsidizing already subsidized Brazilian ethanol to come into the marketplace.

The marketplace is doing it fine already today. There will be increased imports. There is really no need for the U.S. taxpayer to pay Brazilian sugar growers and Brazilian ethanol producers, it is already subsidized to come into the marketplace.

The other important point I would like to make is that there will be migration from existing conventional gasoline markets to areas of the country where ethanol will be needed to replace MTBE. Already many gasoline marketers and ethanol producers are arranging exchange agreements to make sure that that happens.

Finally, it's important to note that the ethanol industry is indeed working very closely with our refiner customers, gasoline marketers, terminal operators and the fuel distribution network, to secure a successful transition. Over the past several years, the ethanol industry has worked hard to expand a virtual pipeline using rail, barge and truck traffic. As a result, we can now move product quickly to any area where it is needed. Many plants today have the ability to load unit trains of ethanol to ship to terminals in key markets.

I give great credit to the refiners and gasoline marketers that are working with us to build that infrastructure. Working together, we can make the transition from MTBE to ethanol in these areas as successful as it was in California, New York and Connecticut.

Mr. Chairman, you were wise to hold this hearing and hold everyone's feet to the fire. Clearly this transition presents challenges. But the refiners have chosen to remove MTBE from gasoline. They would not have done so if they didn't think they could successfully switch to ethanol. We are ready to work with them and this committee to ensure the continued supply of high quality clean burning gasoline to the motoring public.

Thank you.

Senator INHOFE. Thank you very much.

We will confine our questions to 5 minutes and be rather rigid. First of all, your last statement there I thought was very good. There is a lot of discussion about whether or not an MTBE is actually mandated. In reality it is. I think that we, well, I have asked you this question, to Mr. Douglass and Mr. Dinneen, if you do away with the 2 percent oxygenate requirement, doesn't that expose them, if they continue to use MTBE, in terms of a court of law?

Mr. DOUGLASS. Mr. Chairman, my supplier has so indicated that that's their reason for withdrawing, the use of MTBE.

Senator INHOFE. Do you agree with that, Mr. Dinneen?

Mr. DINNEEN. I'm not hampered by a law degree, so I wouldn't want to state with any degree of confidence, but I will tell you that the refiners themselves have stated for a long time that they could produce reformulated gasoline in the absence of oxygen and as was made pretty clear by the last panel, there is nothing in the Act that requires the addition of MTBE.

Senator INHOFE. Thank you very much.

Mr. Douglass, Mr. Dinneen, you both testified that a tight capacity of fuel production side, both in traditional refining and biorefineries, are a problem because they raise prices for you and for your consumers. That's the consumer that we're concerned about out there. I'm encouraged that both industries are increasing capacity as fast as possible, and that challenges do remain.

I had two pieces of legislation, one is the Gas PRICE Act and the other was an amendment that we referred to as the Energy Price Reduction Act. I would ask the two of you if you are familiar with those two pieces of legislation that failed, and if that would have helped, would you have been supportive of those bills, to increase capacity?

Mr. DOUGLASS. Mr. Chairman yes, we are familiar with that. NACS and SIGMA both wrote and supported this committee last

year when you proposed that Act, that those measures be incorporated in the bill.

Senator INHOFE. I appreciate that. It is a supply and demand thing.

Mr. Early, I would like to ask you about——

Mr. DINNEEN. Mr. Chairman, I'm sorry, did you want an answer from me?

Senator INHOFE. I thought you were nodding in agreement.

Mr. DINNEEN. Staff really wanted to get me on the record.

Senator INHOFE. Yes, please do. Real quick.

Mr. DINNEEN. As amended by Senator Thune, certainly we have also supported that bill. Clearly we believe getting additional refinery capacity online is extraordinarily important, and that includes biorefinery capacity.

Senator INHOFE. I thought it was done very well. I'm still just pretty dismayed as to why it was defeated on a partisan vote. It just is—here's a way you could utilize some of the closed bases from the BRAC process. You could have allowed cities and communities to apply for EDA grants to help them attract refineries. So I regretted it did not pass.

Mr. Early, I would like to ask you about a document you submitted for the record and your reasons for doing so. I understand the company which drafted the document, KOMEX, is a litigation support company hired by the trial lawyers. In addition, their work was thrown out of court by a California court as being too speculative and for double accounting of damages and other cases, and that their cost estimates for MTBE are reportedly 25 times the actual cost.

I'd like to first of all ask you the question, what is your purpose for submitting this report on the record? You're the American Lung Association. Do they endorse this report? Is this something that they are requesting you to have as a part of the record? Are you working in conjunction with the trial lawyers on this?

Mr. EARLY. The report, Mr. Chairman, was prepared by the American Water Works Association. I submitted it simply to support the——

Senator INHOFE. Where's KOMEX come in, then?

Mr. EARLY. I guess KOMEX was hired by the American Water Works Association. American Water Works Association needs to stand behind its report. I submitted the report in order to support the contention that there's upwards of a $25 billion potential cost. This is in the public domain, obviously, and can be examined.

Senator INHOFE. The specific question is, KOMEX was used as the foundation of this report, isn't that correct?

Mr. EARLY. Yes.

Senator INHOFE. If you say no for the record, then I will submit something to show that it was.

Mr. EARLY. No, I agree that Komex is cited.

Senator INHOFE. The question I had asked you also was, is the American Lung Association supportive of the product of this case of Komex?

Mr. EARLY. The American Lung Association takes the report on its face value. I'm not aware of the information that you just mentioned, that it's been challenged. We would certainly look at that.

Senator INHOFE. On their own Web site, "KOMEX is one of the leading environmental consulting companies in California. Since 1992, we have been assisting California attorneys in environmental related litigation by providing unparalleled technical, regulatory and data management expertise." That's what they say about themselves, and that's what you're using as a foundation for your report.

My time has expired. Thank you very much.

Senator Jeffords.

Senator JEFFORDS. Mr. Early, who were the principal advocates for the removal of the 2 percent oxygenate standard? Is it fair to say that the repeal of the oxygenate mandate or the need to remove MTBE from gasoline due to either groundwater protection or liability concerns comes as a surprise to the oil industry? How long has the oil industry known it had a problem with MTBE?

Mr. EARLY. Well, of course the oil industry has known it had a problem with MTBE from literally decades ago, they knew and did not disclose some of the properties of MTBE that caused it to contaminate groundwater. But really going back to the blue ribbon committee that Mr. Meyers mentioned, and on which the American Lung Association served the blue ribbon committee looking at oxygenates and gasoline, which recommended phasing out of the use of MTBE, the signal was very clear that that was going to happen.

The industry has known obviously since EPACT was enacted last August that the oxygen requirement was going to be eliminated this May. They could have been planning to remove MTBE since last August, but all of a sudden, they rushed to do it just this spring. We think this is precipitous and unnecessary and simply punishes the consumer for a decision that they are making voluntarily.

Senator JEFFORDS. As you stated in your written testimony, the new energy law does provide EPA the authority to temporarily waive a fuel or additive requirement under CAA in an extreme and unusual supply circumstance. Do you foresee any legitimate claim for a waiver under the current circumstances?

Mr. EARLY. I do not. As my testimony indicated, any shortages that occur are a result really of bad planning that could have been avoided. They certainly don't qualify as any kind of extreme circumstance as occurred, for instance, with Hurricane Katrina, where the Agency legitimately waived requirements, in the case of a national need.

Senator JEFFORDS. Mr. Dinneen, several representatives of the oil industry have recently stated that there will be enough ethanol to meet increased demands during the transition away from MTBE. This seems to be at odds with the findings of the EIA report.

What do you think is the cause of this discrepancy?

Mr. DINNEEN. I think what the EIA did was take a snapshot in time a couple of months ago. I think at that time they were hearing some things that gave them cause for concern. I think your question earlier to Mr. Caruso about whether or not his report had any impact, I think his report may have had some impact. I think people may have taken a much more careful look at supply and de-

mand balances. Clearly, as that occurred, people have understood that there is going to be enough ethanol supply and people have gotten busy and the marketplace is responding.

I think if EIA were to redo their analysis today, they'd be a little bit more hopeful about what the situation is actually going to be. I think there is an increasing recognition that the marketers, the refiners, the ethanol industry are working awfully hard to make sure that there aren't any consumer impacts.

Senator JEFFORDS. Some in the oil industry seem to be suggesting that EPA should issue a waiver of reformulated gasoline requirements in light of EIA's February report. I am concerned that though we have, say we want cleaner gasoline, if we keep waiving the requirements to make it, at some point we affect the market's decisions about completing a transition getting MTBE out of gas and finding substitutes, like ethanol.

Have the waivers issued after Hurricane Katrina or the prospects of future waivers affected plans for ethanol plant construction?

Mr. DINNEEN. Senator, we are moving forward in anticipation of the demand that we know is going to be there. I do not believe that any waivers will be necessary or will be granted. I'm confident the marketplace is going to respond and have the product where it needs to be.

Senator JEFFORDS. Thank you. Thank you, Mr. Chairman.

Senator INHOFE. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

To you, Mr. Douglass, all these things you know, but I'd like to recite them for the record and others who might be following it. You can't transplant or transport the ethanol in a pipeline, correct?

Mr. DOUGLASS. That's correct.

Senator WARNER. You have to ship it in a truck?

Mr. DOUGLASS. Yes, sir, or a tank car or barge.

Senator WARNER. Train or likewise?

Mr. DOUGLASS. Yes, sir.

Senator WARNER. Furthermore, it has to be blended with the gas at the wholesale terminals, correct?

Mr. DOUGLASS. Correct.

Senator WARNER. In your written testimony, you note storage capacity at the terminals is already stretched to the limit, so this is another choke point?

Mr. DOUGLASS. Yes, sir.

Senator WARNER. Especially in Texas and the Mid-Atlantic regions. In your home State and my home State, there seems to be, that's Virginia, there seems to be a significant problem on the horizon because of this lack of our own infrastructure. What are you and other distributors and marketers doing to overcome these hurdles?

Mr. DOUGLASS. You understand our interest in supply, and in supply at a price the consumer will pay. We have moved in our particular case to start cleaning our tanks and preparing very rapidly for the introduction of ethanol. But in the process of doing that, we find that there are not enough contractors, because your requirements are to flush out your tanks. The second thing is that our suppliers are forcing us to different terminals, because they

don't have enough storage in their base units in the Dallas-Fort Worth area. So we're having to hire people and get additional trucks in order to make those longer runs.

Senator WARNER. Well, that's the best you can do. But I just think it's important for the American public to be aware of this thing and the difficulty of this proposed transition. Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Warner.

Senator Boxer.

Senator BOXER. Thank you, Mr. Chairman.

Just for the record, I want it to be clear that this committee voted in a bipartisan way against that special deal for the refineries. It was a bipartisan vote that brought it down. It was about grants to refineries, it was about giving refineries access to Federal lands and at a time when they're making record profits. I feel like sometimes——

Senator INHOFE. For clarification of the record, without taking your time, it was, all the Democrats plus Senator Chafee.

Senator BOXER. Yes, I would call that bipartisan.

Senator INHOFE. That's fine.

Senator BOXER. That's all we need, is one of you——

[Laughter.]

Senator BOXER. We have it. OK, glad for that clarification.

Mr. Douglass, you are the second witness to make the case that there should be a liability waiver for the oil companies for MTBE and therefore, I think it's very important for me to put a few things on the record, because I think that's what is coming at us maybe, unless we can deter it. So in this whole issue I always ask myself, why should the taxpayers have to step up to the plate and pay for the mistakes of the oil companies? They didn't have to choose MTBE. We've had a Bush administration witness say clearly today there was no mandate from the Congress.

So since there was no mandate and since this was a free choice, as a matter of fact, I would ask unanimous consent to place into the record a document from discovery on a court case in South Lake Tahoe, in which the executives were bandying about with a sense of humor what MTBE stands for. One of the things they suggested in this kind of joke-filled presentation was Menace Threatening our Bountiful Environment, MTBE. That's what it could stand for. Or Most Things Biodegrade Easier. Or Money To Be Extracted.

This is the truth, folks, about what was going on. So there was a settlement in this case, because the drinking water, South Lake Tahoe, was so tainted that they had to sue, as did the city of Santa Monica. Now, the jury in that case found clear and convincing evidence that defendant Shell Oil acted with malice in selling gasoline containing MTBE. So you bet your bottom dollar I am going to fight against giving folks who knew better protection in court, when they destroyed drinking water supplies, when there was never any mandate. That was clearly stated here today.

Now, Mr. Douglass, in your testimony, you said that you were very worried about price increases because of the transition.

Mr. DOUGLASS. Yes.

Senator BOXER. But I want to ask you this. You have here put out an eight point card that you said could be factors that could affect the petroleum markets. This is your tool kit from your organization. You list eight reasons. You do not list the transition to MTBE. And I wondered, if it's such an important part of your testimony, why it's not even listed in a group of eight reasons?

Mr. DOUGLASS. The transition to MTBE, as you probably know, our concern is primarily supply. We are not particularly concerned about the legalities of the issues in this thing, but its supply at retail. We are focused primarily on getting sufficient supplies. I hope Mr. Dinneen is correct that there will be sufficient supplies.

Senator BOXER. Well, yes, I think he had some good news for you, very good news for you.

Mr. DOUGLASS. Excuse me, Senator, but the only difference we have here is the price of ethanol has doubled in the past year and we have not yet had the ethanol put into the fuel. We will as of April 1. But suffice to say when it doubles, we have a concern, and our price at Dallas-Fort Worth is already in excess of what——

Senator BOXER. Well, sir, if I might, I asked you a very simple question. Here you put out a tool kit. Here's a look at some of the factors that will affect what consumers pay at the pump in 2006: elevated price of crude, impact of speculation, spring transition to summer blends, and it goes on. No mention of MTBE.

My point is, it seems to me that this hearing, which my good Chairman called and he has deep feelings on this, and I respect his feelings on this, we just disagree on this, you seem to be creating kind of what could be a false crisis here. You know, I know what suffering from high gas prices means, because believe me, California has been the leader. I have done many things in an attempt to shed light on that.

But MTBE transition wasn't listed on your list as one of those causes. I wanted to make that point, as well as how much I would fight a waiver on liability for MTBE. Thank you.

Senator INHOFE. Thank you, Senator Boxer.

Senator Thune.

Senator THUNE. Thank you, Mr. Chairman. I do think that gas prices where they are today, and if they do end up at the range that some suspect they will before we get through the summer season is, creates an economic crisis, I think in a State like South Dakota, where we rely heavily, we have a lot of very fuel-intensive industries.

I want to follow up if I might with Mr. Dinneen. There's been a lot of discussion today about what is driving up the price of a gallon of gasoline. It seems to me at least that there are a lot of factors associated with that, and I would come back to a point that was made earlier and that is that the bill that was reported out of this committee did allow for a 4-year phase-out of MTBE that would have smoothed the transition as ethanol production was ramping up. I think that was the expectation that we would have a bill that would accomplish that and enable us to get to a point in terms of the capacity that this would be a very, hopefully much smoother transition. As it is, we're being asked to fill the demand much more quickly I think than had been anticipated.

But just a very simple question, Mr. Dinneen, do you believe that ethanol is driving up the price of gasoline today?

Mr. DINNEEN. No, Senator, I don't. There are lots of reasons why gasoline prices are going up. It has to do with crude oil prices, it has to do with the transition to summer grade gasoline, it has to do with the rising demand as we move toward the summer season. Ethanol is a very small component of the motor fuel market. Ethanol prices are indeed going up, they are. It's still cheaper than MTBE was a year ago, however. Those prices are going to come down.

More importantly, what's being looked at is the spot market prices for ethanol. Eighty-five percent of the ethanol that's sold is sold under long-term contracts. Contract prices typically are much, much lower. What's happening is, those companies that planned for the transition to MTBE and contracted their ethanol are set. They're looking at a pretty decent price. Ethanol, as it has in the past, is likely to lower their gasoline costs.

For those companies that didn't anticipate such a rapid transition to ethanol away from MTBE, and they're having to scramble to find product on the spot market or have to go to the import market or have to look to migrate product from the existing conventional gasoline market, those prices are going to be higher. That's just a fact of life. It's going to be a short-term situation even for them, however. I think overall, ethanol is going to continue to help to lower consumer gasoline prices as it has throughout its history.

Senator THUNE. Well, I would make an observation about that, because I think we use about 140 billion gallons of gasoline fuel in the country today. We are right now producing about 4½, slightly higher than that, billions, billion gallons of ethanol. It seems to me at least that given that proportion that the price of crude obviously is driving a lot more than then price of ethanol the cost of gasoline in this country.

But that being said, some in the past have suggested, in fact it has been intimated today that the ethanol industry is highly concentrated, that a very few companies are in a position to manipulate prices. Testimony today has suggested that the ethanol industry ought to be investigated because of rising ethanol prices.

How do you respond to that?

Mr. DINNEEN. Senator, this committee last year had included a provision in the Energy bill that required the FTC to look at that very issue. The FTC released its report in December and found that the ethanol industry is not at all concentrated. Indeed, that reflects what we have known all along with as many ethanol companies that are coming into the business today and our industry is highly competitive and will remain so.

Senator THUNE. I appreciate it. I know my experience with the industry too is, you have a number of companies that are involved in production, obviously a lot of investment by individuals like farmers, many of them cooperatively owned. It seems to me at least an industry that has tremendous up side potential in terms of addressing the energy needs we have in this country. We are in the short term because of the phase-out, because of the oxygenate standard, in a position where we need to have more ethanol sooner.

I know that folks are working very hard to meet the demand out there, and I fully expect that they will be able to do that.

So I thank you, Mr. Chairman and yield back the balance of my time.

Senator INHOFE. Thank you, Senator Thune.

Senator Obama.

Senator OBAMA. Thank you very much, Mr. Chairman.

I apologize, I missed the first panel, so some of this may be going over new ground. I just want to make clear that I understand the nature of the debate that's taking place.

As I understand it, essentially, as a consequence of suppliers eliminating MTBE quicker than I think many anticipated, there's now going to be an uptake in demand for ethanol as an additive. Your argument, Mr. Douglass, as I best understand it, is that because of some of the distribution issues involved with ethanol that that may contribute to a modest boost in gas prices this summer. Is that basically the argument?

Mr. DOUGLASS. Yes, sir.

Senator OBAMA. OK. The assumption that I'm hearing from Mr. Dinneen is that although you may see a little, a few bumps in the road, that overall this is a process that ethanol producers will be able to deal with adequately, that there may be a few difficulties in terms of making sure supplies are sufficient, but that over the course of 2, 3, 4, 5 years, this is not going to be a significant problem. Am I correct about that?

Mr. DINNEEN. Senator, I would say 2, 3, 4, 5 months.

Senator OBAMA. OK.

Mr. DOUGLASS. The marketplace is responding pretty effectively.

Senator OBAMA. So as far as you can tell, you would expect that to the best of your knowledge, this is not going to be a major contributor to a spike in oil, gasoline prices at the pump this summer? That's your assessment?

Mr. DOUGLASS. Absolutely not, sir.

Senator OBAMA. OK. I guess I don't have a lot of questions, I would just make a simple point. MTBE appears to have the potential of causing health problems. Congress did not ban the use of MTBE, it simply refused to protect MTBE suppliers from potential liability. They made a decision that they did not want to expose themselves to that liability and hence eliminated the use of this additive. It was a market decision.

I don't see any reason why we would reverse our refusal to protect them from liability if in fact MTBE causes a serious health concern. Now, if it doesn't, presumably they will win in court. If it does, then it's something that we should not want out there affecting our kids.

Ethanol seems entirely extraneous to that debate. I think that there is a legitimate concern as to whether we have the distribution mechanisms in place to get ethanol to market and people like myself and Senator Thune have been working diligently to make sure that happens. My expectation and my hope is that in the coming months and the coming years, you're going to see the ethanol market become extraordinarily robust.

I think that's a good thing. I think we all should want to be encouraging biofuels as a means of weaning ourselves off dependence

on Middle Eastern oil. I think there are national security, economic as well as environmental reasons for us hoping for that future.

So I would just end by saying that although none of us want to see additional costs at the pump, and I recognize, Mr. Douglass, from your perspective, you don't want a bunch of irate customers who are complaining and thinking that you're the cause of it. I will tell you that this is not, from my perspective, at least, based on testimony here, there is not much of a relation between the decline in MTBE use and prices at the pump, at least not compared to potential disruptions in supply in Nigeria or Venezuela or Iran and the world spot market.

So that's my assessment, Mr. Chairman. I would yield back the remainder of my time.

Senator INHOFE. Thank you, Senator Obama. My staff advises me, Mr. Early, that I didn't give you a chance to answer the question. Since I think you would like to think it over a little bit first, you can do it for the record in writing. The question was, does the American Lung Association embrace the methodologies of the trial lawyers support group, KOMEX, which was part of the foundation of your report. You can just submit that in writing.

I thank all the witnesses for coming, and we're adjourned.

[Whereupon, at 11:32 a.m., the committee was adjourned.]

[Additional statements submitted for the record follow:]

STATEMENT OF HON. JAMES M. JEFFORDS, U.S. SENATOR FROM THE STATE OF VERMONT

Mr. Chairman, thank you for holding this hearing. We will hear testimony today on the effects of eliminating MTBE as a gasoline additive. I hope we will look carefully at this issue.

I do not believe that the elimination of MTBE will have a significant impact on the gasoline market. I do believe it is the right thing to do for the environment.

MTBE is an additive that helps gasoline burn more cleanly. It has been used since 1979. But we now know that MTBE is also a groundwater contaminant. Low levels make water undrinkable due to offensive taste and odor. High levels are potentially cancer-causing in humans. Although the Clean Air Act does require the use of re-formulated gasoline in areas with unhealthy levels of air pollution, it does not specify that MTBE must be used. Refiners have the ability to use other additives to clean up their gasoline, and many are using ethanol and other petroleum-derived compounds.

The Energy Information Administration issued a report in February about the effect of our new energy law and market forces on the use of MTBE. Our hearing is in response to this report. But the report is only one piece of information. It is not really a price prediction. It is a snapshot of market conditions, and it is now more than a month old.

My real concern is that we get a better understanding of how markets have responded to this report. Actions to eliminate MTBE from the marketplace are certainly not new. Twenty-five States now have full or partial bans on MTBE. The Environmental Protection Agency recommended that MTBE be banned in the late 1990s.

It is my view that we should have acted long ago to swiftly remove MTBE from gasoline. Instead, this committee responded with legislation to phase out MTBE over 4 years. Unfortunately, this phase-out was not included in the Energy bill that became law last August. That was one of the reasons I voted against it.

I say this to highlight the fact that we routinely try to implement our environmental laws in a deliberate and measured way. The Clean Air Act's compliant motor fuels have been phased in over long time frames in consultation with industry. We have done this specifically to try to avoid market shocks and price spikes. These are not new requirements, they are not a surprise, and the costs associated with meeting them are known. The oil industry has had plenty of time to phase out MTBE and has resisted doing so. But suddenly, after years of foot-dragging, it has decided to stop using MTBE in gasoline in early May, in an abrupt and potentially disrup-

tive manner. The industry is now faced with a crisis of its own making, and I fear it will use this as an excuse to hike prices at the pump.

I am sorry that there are no witnesses at this hearing today to represent the oil industry so that we could better understand why they are responding to the new energy law in this way. In the future, particularly as we examine issues related to the new energy law's fuels provisions, we should have them here.

Over the past year, we have seen record-breaking gas prices, the national average exceeding $3 a gallon after Hurricane Katrina. This comes, perhaps not surprisingly, as oil companies continue to enjoy record profits. Exxon-Mobil announced a record quarterly profit of $10.7 billion in the fourth quarter of 2005. Its annual profits increased to $36 billion, up 43 percent from 2004. Now, we are being told that the elimination of MTBE will mean even higher prices and undoubtedly more profits. I believe what we should really be examining today is why these oil companies are amassing record profits while Americans pay record prices for gas. It is time for answers.

During this hearing, I will be listening closely for any documented, real evidence to show that switching away from MTBE is contributing to increases in gasoline prices in a significant way. What we do know is that our country still has much to do to improve air and water quality, and it is this committee's first and foremost responsibility to assure that the Nation's laws are protective of public health and the environment.

Thank you again, Mr. Chairman for holding this hearing. I look forward to hearing from the witnesses.

STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR FROM THE STATE OF ALASKA

Thank you Mr. Chairman for holding this hearing on the problems we may well be facing on the East Coast and in parts of the South later this spring and summer because of the rapid discontinuation of use of the additive MTBE in gasoline.

Coming from a cold-weather state like Alaska, MTBE was certainly never popular. While it is easier to transport and cheaper to blend in gasoline than ethanol; in the extreme cold, MTBE fumes caused skin rashes. To say my Fairbanks constituents do not miss MTBE is an understatement.

But reading the testimony before us this morning, East Coast, Northeast and Texas motorists may well miss MTBE greatly since the phase out of MTBE appears to be coming before the Ethanol industry, and the refinery industry, can be prepared to fully utilize ethanol in reformulated gasoline.

The predictions of ethanol shortages to put into gasoline and regional fuel shortages resulting from the blending characteristics of ethanol itself paint a pretty unpleasant forecast. A cloudy forecast of rising prices in the Northeast, almost guarantees that Congress is going to be hearing thunderous complaints from motorists before summer's end. Given what may be happening to fuel prices already because of the costs of producing ultra-clean diesel, the pressures of global demand increases and any supply disruptions that result, mean it is going to be raining down complaints on Congress for the price of gasoline and diesel this summer.

I hope to hear more suggestions to mitigate fuel price problems during this hearing. The suggestion that we ask the Finance Committee to temporarily waive the import tariff on ethanol to allow foreign imports probably from Brazil to lessen the supply shortage was something. I hope the hearing will produce even more ideas from the witnesses.

Greater reliance on ethanol will be good for our farmers and our energy security in the future, but it may raise a bumper crop of complaints this summer if we can't relieve the additive shortages that the rapid phase out of MTBE is about to cause. I await the testimony, thank you.

STATEMENT OF HON. BARACK OBAMA, U.S. SENATOR FROM THE STATE OF ILLINOIS

Mr. Chairman, thank you for holding this timely hearing today.

We're here to examine the costs of eliminating MTBE as a fuel additive. But in examining these costs, we need to look at more than just the price that consumers pay at the pump. We need to look at the health impact of MTBE as a carcinogen and its effect on drinking water. And we need to look at the costs of the alternative additive, namely, ethanol.

Certainly, the production of ethanol isn't where it should be. But lawmakers on both sides of the aisle are working to change that. Last year, I was pleased to work with a number of colleagues on this committee to create a renewable fuel standard.

And this year, I have introduced comprehensive legislation with Senator Lugar to further stimulate the production of biofuels.

The challenge we face with ethanol—and biofuels in general—is getting them out of the labs, out of the farms, and onto the wider commercial market. This is an issue that politicians from both parties clamor about when gas prices are the headline of the month, only to fall back into inaction once things calm down.

So, for me, the answer to insufficient ethanol supplies isn't to delay the switchover from MTBE; the answer is to pursue policies for greater expansion of ethanol, and to strengthen the infrastructure to transport it.

In his State of the Union address, President Bush told us that it was time for America to get serious about its addiction to foreign oil. A day or so later, Energy Secretary Bodman assured the world that the President didn't mean it literally. Why? Well, apparently, the Saudi government wasn't too happy with the President's statement. To me, that level of foreign influence over our domestic affairs is the exact reason why we need to do more to increase our production of renewable fuels.

And, even if there would be some minimal price increases from replacing MTBE with ethanol—and I know this assumption is disputed by the witnesses—we shouldn't lose sight of the larger reason for high gasoline prices—the tightfisted control that a handful of foreign governments have over the world's oil supply.

Every single hour of every single day, we spend $18 million on foreign oil. It doesn't matter if these countries are budding democracies, despotic regimes, or havens for the madrassas that plant the seeds of terror in young minds—they get our money because we need their oil. We have to start changing this now, and the way to do to that is to encourage greater development of home-grown fuels.

I look forward to hearing today's witnesses, and I thank the Chair.

STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Thank you Mr. Chairman for calling this hearing to review Department of Energy warnings that the oil industry's abrupt decision to switch from MTBE to ethanol as an oxygenate or octane enhancer could lead another summer of gasoline shortages and high prices.

I support the goal of phasing out MTBE—or methyl tertiary butyl ether—in favor of ethanol. In fact, the bipartisan Vehicle and Fuel Choices for American Security Act I have sponsored, along with Sen. Brownback and 10 other Senators, encourages the development ethanol and other renewable fuels as a way of lowering our dependence on foreign oil.

My home state of Connecticut is one of seven states that have already banned the use of MTBE as a gasoline additive because of the dangers it poses to public health and environment as a possible carcinogen leaking into the ground water.

But I fear that the oil industry—already drowning in record profits—will use the sudden switch from MTBE to ethanol as a backdoor means of raising prices if the ethanol industry cannot deliver the quantities needed, as the Energy Information Administration thinks likely, according to its recent report.

The oil industry says it was forced to switch from MTBE to ethanol because Congress did not provide a waiver of liability from damage caused by MTBE when it dropped the oxygenate requirement in the 2005 Energy Policy Act. Unfortunately, we do not have a representative of the oil industry at this hearing today, so we can not explore more fully how they would defend their decisions.

As we consider the actions of the oil industry, we should remember several points. First, the industry chose to use MTBE as an oxygenate to make gasoline burn cleaner in heavily polluted areas. MTBE was the industry's choice, not a Congressional mandate, and there is no reason to release the industry from liability for a choice it made.

As stated succinctly by the representative of the Renewable Fuels Association today, "Refiners are not compelled to use MTBE in [Reformulated Gasoline], nor are they compelled to use ethanol once the oxygenate requirement is eliminated. The decision to stop using MTBE is the refiners' alone."

The industry knew the day would come that it would have to phase out MTBE and has had plenty of time to plan for the transition and make sure there were adequate supplies of the ethanol or another alternative.

There is no excuse for unnecessary shortages and discretionary price increases. That, if anything, should be the focus of Congressional investigation. Any resulting price spikes and higher profits should be taxed as an undeserved windfall.

Legislation I introduced in December year would impose an excise tax on oil companies for 50 percent of their windfall profits. This one-time tax would provide a

one-time payment to partially offset increased home heating and energy costs, as well as a portion of gasoline cost increases.

Thank you Mr. Chairman.

STATEMENT OF GUY CARUSO, ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY

Mr. Chairman, and members of the committee, I am pleased to be with you today to testify on the effects of the removal of methyl tertiary-butyl ether (MTBE) from gasoline.

The Energy Information Administration (EIA) is an independent statistical and analytical agency within the Department of Energy. We are charged with providing objective, timely, and relevant data, analysis, and projections for the use of the Congress, the Administration, and the public. We do not take positions on policy issues, but we do produce data, analysis, and forecasts that are meant to assist policymakers in their energy policy deliberations. Because we have an element of statutory independence with respect to our analyses, our views are strictly those of EIA and should not be construed as representing those of the Department of Energy or the Administration.

I have been asked to focus my testimony on a recent analysis entitled, "Eliminating MTBE in Gasoline in 2006," which EIA issued on February 22, 2006. A copy of that analysis is attached and provides the substance of my written testimony.

Although EIA's analysis is now approximately a month old, we feel that it still provides a timely and pertinent description of our perspective on the market situation with regard to the widespread removal of MTBE from reformulated gasoline and the significantly increased use of ethanol that is likely to occur as a result. I will be providing an update of market conditions, based on information available in the past few days, in my oral remarks.

Thank you for your consideration of the following analysis. I look forward to answering any questions you may have.

Release Date: 02/22/2006

Eliminating MTBE in Gasoline in 2006

Summary

In 2005, a number of petroleum companies announced their intent to remove methyl tertiary-butyl ether (MTBE) from their gasoline in 2006. Companies' decisions to eliminate MTBE have been driven by State bans due to water contamination concerns, continuing liability exposure from adding MTBE to gasoline, and perceived potential for increased liability exposure due to the elimination of the oxygen content requirement for reformulated gasoline (RFG) included in the Energy Policy Act of 2005. EIA's informal discussions with a number of suppliers indicate that most of the industry is trying to move away from MTBE before the 2006 summer driving season.

Currently, the largest use of MTBE is in RFG consumed on the East Coast outside of New York and Connecticut (Figure 1) and in Texas.[1] The other RFG areas in the Midwest and California have already moved from MTBE to ethanol. Most companies eliminating MTBE in the short-run will blend ethanol into the gasoline to help replace the octane and clean-burning properties of MTBE. The rapid switch from MTBE to ethanol could have several impacts on the market that serve to increase the potential for supply dislocations and subsequent price volatility on a local basis. These impacts stem mainly from:

- Net loss of gasoline production capacity
- Tight ethanol market, limited in the short-run by ethanol-production capacity and transportation capability to move increased volumes to areas of demand
- Limited resources and permitting issues hampering gasoline suppliers abilities to quickly get terminal facilities in place to store and blend ethanol
- Loss of import supply sources that cannot deliver MTBE-free product, or that cannot produce the high-quality blendstock needed to combine with ethanol

The different properties between MTBE and ethanol affect not only production, but distribution and storage of gasoline as well. Ethanol-blended gasoline cannot be intermingled with other gasolines during the summer months,[2] and ethanol, unlike MTBE, must be transported and stored separately from the base gasoline mixture to which it is added until the last step in the distribution chain.[3] Many areas of the distribution system cannot handle additional products without further investments.

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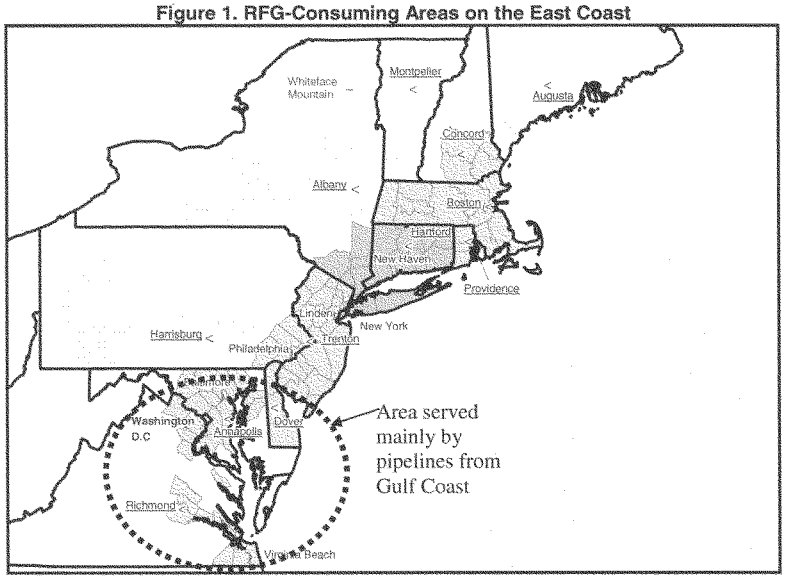
[1] Areas using reformulated gasoline either by Federal requirement or by States opting into the program to meet their specific air quality needs can be found at: http://www.epa.gov/otaq/rfg/whereyoulive.htm

[2] EPACT 2005 (Section 1513) allows retail stations to switch summer-grade ethanol gasoline with non-ethanol blended gasoline 2 times, which provides an increase in future flexibility during the summer months. EPA expects to issue a ruling on this provision in late January or February.

[3] The petroleum distribution and storage system contains water. Petroleum remains separate from the water, but ethanol has an affinity for water. If ethanol-blended gasoline interfaces with water, the ethanol is pulled from the gasoline into the water. As a result, ethanol is delivered and stored separately until delivery to retail stations.

A large number of changes are required to the supply and distribution system to make the transition from MTBE-blended RFG to ethanol-blended RFG: contracting for and moving more ethanol to the East Coast and Texas, converting terminal tanks from petroleum to ethanol, adding blending equipment at many terminals, and finding new sources of supply – both ethanol and RFG blending components. In general, areas on the East Coast served by imports into the Northeast and East Coast refineries will likely need more gasoline supply from imports and from the Gulf Coast than previously used. The areas further south in Maryland, Delaware, Washington DC and Virginia will still receive the reformulated gasoline blendstocks for oxygenate blending (RBOB) for their RFG from the Gulf Coast, but ethanol must be brought in by rail car to major terminals serving those areas.

Figure 1. RFG-Consuming Areas on the East Coast



Legend: Green and blue shaded areas represent areas using RFG. New York and Connecticut RFG areas are in green to highlight regions already banning MTBE.
Source: Environmental Protection Agency http://www.epa.gov/otaq/regs/fuels/rfg/rfgarea.pdf
Note: EPA lists as an RFG opt-in region the area of Whiteface Mountain that lies above 4,500 feet in elevation. This area is in Essex County, but is not shaded on the map.

The largest challenge in the transition may be supply availability and transportation of ethanol. Ethanol capacity in the United States is running near capacity and therefore is

not adequate to replace the MTBE lost at this time, although the additional capacity under construction should eventually be able to meet demand. As a result, gasoline suppliers will likely remove some ethanol from conventional gasoline in the Midwest[4] and increase ethanol imports from places like Brazil.

RFG Production Capacity Losses

As companies move to ethanol-blended RFG, they experience some loss in production capability in the summer months (about 5-6 percent outside of California), due to changes necessary to accommodate ethanol's higher evaporative properties, as measured by Reid vapor pressure (RVP), and to counter ethanol-blended gasoline's higher toxic emissions and distillation characteristics. When New York and Connecticut moved away from MTBE, the ethanol-blended volumes were small enough that refiners had some flexibility to keep from experiencing much volume loss.[5] But when a refiner producing mainly RFG-type gasoline eliminates all MTBE-blended RFG, volume loss is unavoidable in the short run without capacity investments.

While individual refineries vary, and companies are still working through their ability to bring in outside blending components to counter some of this loss, a sizeable net decline is expected. Extra components and imports must be brought in to make up the difference.

At this time, little RFG is expected to be produced without ethanol, although oxygenates like ethanol are no longer required. Replacing the octane previously provided by MTBE is difficult, and, while ethanol is not as clean-burning as MTBE, it is a cleaner component than most petroleum components, so it helps refiners to meet their fuel emission requirements.

In general, companies strive to assure their firm contractual commitments to supply fuel and fuel components are met. However, some fuel buyers cover all or part of their needs with opportunistic purchases on the open market, which can sometimes offer savings over firm contract prices. Volumes available to such opportunistic buyers could initially fall short of typical supply levels if companies that have historically provided short-term volumes of finished gasoline or blending components do not have those volumes available.

RFG Imports

Table 1 shows sources of RFG imports than can be identified. RBOB imports have been increased by the addition of 10-percent ethanol or 11.4-percent MTBE in this table to

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[4] Minnesota has mandated 10-percent ethanol use in gasoline, which would limit moving product from this State (*Minn. Stat.* 239.791, Subd. 1)..

[5] See http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/mtbebans/mtbebans.pdf

represent finished gasoline volumes. Canada is the largest supplier with Europe and the Virgin Islands being the next largest. Venezuela, which used to supply more RFG to the United States, only provided 17 thousand barrels per day in 2004. As we move away from MTBE, we expect that we will lose volumes from some areas, but Western Europe, Canada, and the Virgin Islands all have some potential to provide more volume to help fill the gap.

Table 1. 2004 East Coast Imports of Finished RFG and RFG Blending Components*
(Thousand Barrels Per Day)

Country/Region	Thousand Barrels Per Day
Canada	125
Virgin Islands	62
Venezuela	17
Western Europe	67
Eastern Europe	6
Other Countries	3
Blending Components Used to Produce RFG (All Countries)**	160
Total Imported Volumes	440

*The RBOB imports were increased by volumes to represent an 11.4-percent MTBE or 10-percent ethanol finished gasoline mixture. All but about 15 thousand barrels per day of imports flow into the States north of Maryland and Delaware.
** Motor gasoline blending components such as alkylate are used in the production of both conventional gasoline and RFG. This line represents an estimate of the volume of these components used in the production of RFG, but it is not possible to determine the country of origin.

Source: Form EIA-814, Petroleum Supply Annual 2004, and EIA estimates.

Preparations at Pipelines and Terminals

The distribution chain presents another challenge when moving from MTBE to ethanol. Because ethanol-blended gasoline cannot be intermingled with other gasolines during the summer months, and ethanol must be transported and stored separately, terminals will need to carry both RBOB and ethanol. Many areas of the distribution system cannot handle additional products without further investments, creating the need to restrict how many gasoline types a given terminal can carry.

Based on their customers' requirements, the two pipelines moving product from the Gulf Coast into the East Coast RFG areas (Colonial and Plantation Pipelines) have announced they will not be carrying MTBE-blended gasolines beginning with their delivery cycles in March.

The current transition and associated changes in distribution caught some companies that were planning on eliminating MTBE at a later date off guard. Not only do these companies have to change their refinery operations earlier than anticipated, they must add blending facilities at their terminals, convert some tanks to ethanol, convert their retail outlets, and obtain ethanol contracts sooner than expected. The hurricanes and the equipment changes needed to meet this summer's ultra-low sulfur diesel fuel program have created shortages of both contract labor and hardware, and permitting of new facilities takes time.

Currently only about 1/3 of the RFG used on the East Coast is blended at terminals. The remainder is produced or delivered as finished product. Terminal facilities, including those handling imports, will have to add capability to accommodate blending an additional 850 thousand barrels per day of gasoline.

Ethanol Supply and Distribution

Both capacity and transportation issues imply a very tight ethanol market for at least the first part of the year. Table 1 shows that about 130 thousand barrels per day of additional ethanol may be needed to replace the MTBE currently used in RFG. The East Coast will need an additional 90 thousand barrels per day of ethanol, and Texas will need most of the remaining 40 thousand barrels per day. Table 2 shows that today's ethanol production of 275 thousand barrels per day is fully utilizing the available capacity of 283 thousand barrels per day. Although planned ethanol capacity could fill the additional 130 thousand barrel per day requirement, these new facilities will not start soon enough to meet 2006 demand needs as companies are making changes during the first quarter 2006.

Table 2. PADDs 1 and 3 RFG in 2004 (Thousand Barrels per Day)

Regions	RFG Demand	Estimated Ethanol	Estimated MTBE	Ethanol Needed to Replace MTBE
PADD I RFG	**1255**	**36**	**102**	**90**
- NY & CT	360	36		0
- MA, NH, RI, PA, NJ	595		68	60
- MD,DE, DC, VA	300		34	30
PADD 3 MTBE-Blended RFG *	**390**		**44**	**39**
Total Ethanol to Replace MTBE				**129**

* PADD 3 MTBE-Blended RFG includes a small volume of RFG produced for PADD 2. Most of this production is used in Texas.
Sources: Energy Information Administration Petroleum Supply Annual 2004 and EIA estimates.

Table 3. Ethanol Demand and Capacity

	Thousand Barrels Per Day	Billion Gallons
Production November 2005	275	4.22
Capacity February 2006	282	4.32
Additional Demand in 2006	129	1.98
Planned Capacity	133	2.04

Sources: Volumes – Form EIA-819 for 2005, EIA Estimates for 2006. Capacity – Renewable Fuels Association Capacity as of 2/4/2006 at http://www.ethanolrfa.org/industry/locations/

The availability of ethanol storage and transportation infrastructure may be an even greater challenge than finding additional ethanol supply during the first half of 2006. The 90 thousand barrel per day increase in ethanol to the East Coast represents 2.5 times the quantity of ethanol moved to the East Coast in 2005. Rail cars and barges may not be available.

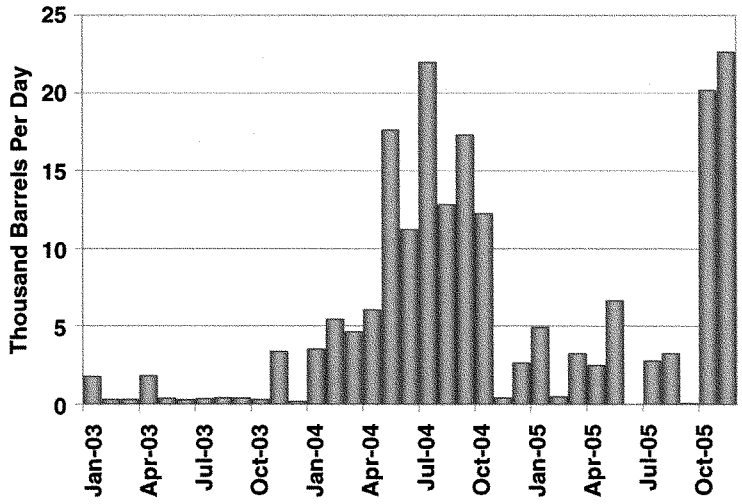
The increased volumes of ethanol to be used in RFG during the first half of 2006, and perhaps for the entire year, will not be met by increased domestic ethanol production alone. Some of the increased use of ethanol in RFG will be met by increased domestic production, some by increased imports from areas like Brazil, and the remainder by taking ethanol currently used in conventional gasoline in the Midwest and shipping it to the East Coast and Texas for RFG blending. Removing ethanol from conventional gasoline reduces conventional gasoline volumes, but replacing lost conventional gasoline is easier than replacing lost RFG volumes.

Fuel ethanol imports have not been large historically, although they have surged in recent years to average over 20 thousand barrels per day in some months, including recently in October and November 2005 (Figure 2). Ethanol imports are generally less attractive than domestic production because imports are subject to an ad valorem tariff of 2.5 percent and a second duty of 54 cents per gallon, which offsets the 51-cent-per-gallon tax credit for blending 10-percent ethanol into gasoline. However, under the Caribbean Basin Initiative (CBI), a limited volume[6] of ethanol from selected Caribbean countries

[6] Up to 7 percent of the previous year's domestic ethanol production can be brought into the United States duty free from 24 countries covered under the Caribbean Basin Initiative. Some additional volumes can

can be brought in duty free. Still, in 2004 and 2005, some volumes of fuel ethanol came to the East Coast with full duty. The growth in ethanol demand has generally kept the U.S. ethanol market tight. Furthermore, East Coast facilities were better suited to bringing in product by water rather than rail (the preferred path for ethanol from the Midwest). The combination made it more economic for some buyers to import ethanol with the full import duty than to bring supplies from the Midwest. Given the increase in ethanol demand expected from the elimination of MTBE and expected transportation bottlenecks delivering material from the Midwest, imports of ethanol could rise significantly in 2006.

Figure 2. Fuel Ethanol Imports



Source: Form EIA-814

If ethanol experiences large price increases, some gasoline suppliers will find it economic to reduce the quantity of ethanol being blended from 10 to 5.7 percent.[7] The RBOB to

come from these countries duty free if they have some defined local sugarcane content. Although Brazil is not on the list, Brazilian ethanol can be reprocessed in the CBI countries and then be delivered duty free to the United States.

[7] Different base reformulated gasoline blendstocks for oxygenate blending (RBOBs) are designed to have defined amounts of ethanol to assure proper emission control and engine performance. The 10- and 5.7-percent RBOBs derived from when RFG required a minimum of 2-percent-by- weight oxygen content, which required a minimum of about 5.7-percent volume of ethanol, and the maximum tax break for using ethanol, which occurred at 10 percent. As a result, pipelines defined 5.7-percent and 10- percent RBOB's for shipment. While the oxygen content and tax credit constraint no longer exist, pipelines will still have to define RBOB qualities for their product batches.

which the ethanol is added is more expensive to produce for 5.7-percent ethanol blends than for 10-percent blends, the tax credit is proportionally less, and suppliers experience an even greater loss of total RFG volume than when using the 10-percent blends. Also, such changes may not be the decision of individual companies. The 5.7-percent RBOB must be kept separate from the 10-percent RBOB, and terminals and pipelines may not be able to handle both products. In these cases, substantial time may be needed to implement such a change. In many areas, such as those served by pipeline, it can take 30 days to move from one RBOB type to another due to travel time for new base gasolines and tank turnovers.

Putting Together the Balance for the East Coast

RFG markets on the East Coast are supplied differently. The Northeastern RFG markets in New York, Connecticut, Massachusetts, New Hampshire, Rhode Island, Pennsylvania and New Jersey receive most of their supplies from East Coast refineries and imports via New York Harbor. A small amount comes from Gulf Coast refineries. By contrast, about 90 percent of the supply for RFG markets in Maryland, Delaware, District of Columbia and Virginia comes from Gulf Coast refineries via the Colonial and Plantation Pipelines.

The Northeastern market described above received about 51 percent of its RFG supply from East Coast Refineries (including ethanol additions), and about 43 percent of its supply from imports. Less than 10 percent came from the Gulf Coast. Table 3 summarizes the flows in 2004 and compares them to two illustrative supply variations in 2006. With a reduction in production capacity for RFG on the East Coast as a result of the change from MTBE to ethanol, supply volumes into the Northeast are expected to increase from the Gulf Coast and imports, as shown in Table 4.

Table 4. RFG Supply Sources for Northeast States
(Thousand Barrels Per Day)

	2004	2006 Estimate
East Coast Refiners	470	425
Gulf Coast Supplies	60	100
Imports (Blending & Finished)	425	435

Note: Northeast RFG States include Connecticut, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, and Rhode Island.
Source: Form EIA-810, Petroleum Supply Annual, Estimates

Although we may very well see increased import volumes into the Northeast in 2006, foreign supply sources are also being affected by the removal of MTBE. Some foreign refiners are not now capable of providing MTBE-free finished gasoline to U.S. markets. Fewer suppliers will be able to produce the high-quality, low-RVP blending components needed for ethanol-blended RFG. How much extra volume will be needed will not be known until the change from MTBE to ethanol is nearing completion. If planned

volumes begin to run short, additional volumes from abroad can be obtained, but such volumes take time to be produced and delivered. Consumers could see some price surges while the market rebalances.

The East Coast RFG areas in Maryland, Delaware, District of Columbia, and Virginia may experience the most difficulty in changing from MTBE-blended RFG to ethanol-blended RFG due to difficulty in obtaining and delivering ethanol to terminals that are primarily located at inland locations. These areas have historically relied on petroleum product supply from the Gulf Coast via pipelines. Any companies having trouble getting ethanol supplies or getting terminals ready for ethanol receipts and blending will have to arrange for other sources to meet their customers' needs.

In the event that ethanol supplies or blending facilities fall short, companies are considering contingency plans. For example, non-oxygenated RFG, referred to as clear RFG, is an option. This is a finished product that does not have to be blended at the terminal. However, in most cases refiners have not structured their refineries to produce clear RFG. Also, due to the difficulty of replacing octane from either MTBE or ethanol and the loss of the MTBE and ethanol volumes, the quantity of clear RFG that can be produced would be even less than ethanol-blended RFG. Furthermore, as the system downstream of the refinery gates will already be stretched distributing and storing ethanol and RBOB, the ability to ship and store clear RFG is likely to be limited.

Texas RFG

Texas uses about 356 thousand barrels per day of RFG in the Houston and Dallas-Fort Worth areas. These areas also are experiencing logistical challenges in making the transition. Getting ethanol to the major terminals is difficult, due to limited rail access. Pipeline deliveries of petroleum products are also still being worked out. Still, the industry is planning on providing RFG without MTBE by this summer.

Conclusion

As highlighted in the summary, the rapid change from MTBE-blended RFG to ethanol-blended RFG on the East Coast and in Texas will likely occur before the summer driving season begins. The many changes that must take place to convert production from finished RFG to RBOB and to add equipment to terminals not now equipped for blending is a large challenge by itself. In addition, supplies of ethanol will be tight, and the need to move increased volumes of ethanol from the Midwest to the East Coast will strain transportation capabilities. Overall, the complexity of the transition away from MTBE-blended RFG may give rise to local imbalances between supply and demand and associated price surges during the change. As the summer progresses and demand grows, the tight supply situation is not likely to ease significantly, leaving the market exposed to the increased potential for price volatility in the East Coast and Texas RFG regions.

For questions, contact Joanne Shore at joanne.shore@eia.doe.gov

RESPONSE BY GUY CARUSO TO AN ADDITIONAL QUESTION FROM SENATOR THUNE

Question. I want to thank you for participating in our recent hearing regarding the impact refiners' decision to eliminate methyl tertiary butyl ether (MTBE) will have on U.S. gas markets and prices. As refiners switch to ethanol from MTBE, I wanted to follow up with you concerning a question I asked during our hearing with regard to the Energy Information Agency's policy regarding the reporting of oxygenate data.

Given the growing importance ethanol is playing in America's motor fuels market, I am concerned by the fact EIA's monthly oxygenate reports represent data that is at least 60 days old. In this day and age, EIA should be able to compile and report the data with the same frequency with which petroleum data is reported. Given how closely both markets are tied to each other, a more recent and accurate accounting of what is taking place in the ethanol industry would be of tremendous benefit to both petroleum companies and ethanol producers.

During your testimony you cited budgetary restraints as the main reason for the lack of real time reporting of oxygenate data. In particular, you estimated it would take $2 million to get such a reporting system up and running and $800,000 a year thereafter to maintain it.

Given that EIA already has staff committed to publishing oxygenate data and much of the data is reported electronically, it would seem that more timely reporting could be done in coordination with EIA's Weekly Petroleum Status Report within existing budget authority. If that is not the case, I am requesting a detailed accounting on what the additional $2 million and $800,000 annually thereafter would be spent. It would seem to me that such an adjustment would not be a monumental task for EIA to overcome.

I firmly believe that the petroleum industry and the ethanol industry should be kept current on production and supply data concerning their products. Such timely information would go a long way in reducing price volatility and provide the government and private companies more accurate information on which to base their short and long term forecasts.

I want to formally express my appreciation for the work EIA does and assure that I am committed to working with you and providing the resources required to provide more current and relevant data concerning the oxygenate market.

Response. EIA works within a limited budget, prioritizing needed investments. While EIA has undertaken activities to improve efficiency (e.g., increased collection of information using the Internet), the efficiency savings have not completely offset additional resources required to satisfy the increasing information demands on EIA. As a result EIA identified selected surveys and programs that must be eliminated. For example, after collection of data for July 2006, EIA will discontinue two petroleum surveys, Forms EIA–182 and EIA–856 (Federal Register/Vol. 71, No. 56/Thursday, March 23, 2006/Notices).

We agree that collecting weekly ethanol data would be beneficial, however there are higher priority activities that we are funding. As indicated above and in our FY 2006 budget documents, we are not able to maintain our full petroleum data collection program, much less add to our forms and systems at this time.

Regarding your specific question on monthly ethanol data collection costs, we need to clarify a misunderstanding. During the hearing, the $2 million one-time cost estimate and associated ongoing costs mentioned were budgetary requirements to comply with Section 1508 of the Energy Policy Act of 2005. This section directs EIA to collect various renewable fuel data on a monthly basis. Data for a given month are published about 2 months after the month ends to allow time for companies to assemble the data and submit it to EIA and for EIA to process the data. Attached is a brief explanation of that requirement, and a breakdown of resources.

This attachment and its accompanying table illustrate the cost issues associated with our data collection efforts. Data survey work goes beyond simply gathering some forms and adding up the data. It must comply with the Information Quality Guidelines of the Office of Management and Budget, the Department of Energy, and the Energy Information Administration. These Guidelines are designed to ensure the quality (i.e., objectivity, utility, and integrity) of information. The validation, statistical analysis, system design/changes, integration into existing production systems and so forth are where much of the cost lies.

ATTACHMENT:

Energy Policy Act of 2005 Status Report on Section 1508

Section 1508 includes two requirements for EIA (EPAct Section 1508 adds subsection (m) to Section 205 of the DOE Organization Act that established EIA.):

1. Monthly surveys of renewable fuels demand in the motor vehicle fuels market on a national and regional basis (subsection (m)(1))
2. Collection or estimation of information on renewable fuels demand in the motor vehicle fuels market on a national and regional basis for the 5 years prior to implementation of the Act (subsection (m)(2))

It would require significant resources to collect, process, and disseminate the specified information in a manner designed to ensure the information complies with the Information Quality Guidelines of the Office of Management and Budget, the Department of Energy, and the Energy Information Administration. Those Guidelines are designed to ensure the quality (i.e., objectivity, utility, and integrity) of information that agencies disseminate.

EIA estimates that to comply with the first requirement for an on-going monthly survey of renewable fuels demand in the motor vehicle fuels market on a national and regional basis would require $1,965,000 in one-time development funds as well as $870,000 annually, as detailed in the attached table. It should be noted that the estimate is only to cover fuel ethanol and biodiesel, because EIA believes the use of other renewable fuels in motor vehicle fuels is negligible.

EIA estimates that to comply with the second requirement for five years of historical information on renewable fuels demand in the motor vehicle fuels market on a national and regional basis would require a one-time expenditure of $300,000. However, even with resources it may be difficult to collect information of adequate quality for the five-year period prior to implementation of the Act. It should be noted that the estimate is only to cover fuel ethanol and biodiesel because, as stated above, EIA believes the use of other renewable fuels in motor vehicle fuels is negligible.

COST ESTIMATES FOR MONTHLY RENEWABLE FUEL DATA REQUIREMENTS IN EPAct 2005

Funding Areas To Meet Ethanol Demand Data EPAct Requirements	Costs ($000)	
	Startup/One-time	Ongoing
Ethanol Production: Production types need to be added (survey form change & system changes)	$500	$120
Ethanol Blender frames: improved frame development for blenders		$120
Ethanol Stocks & InterPADD Movements: Deal with unit train, tanker, barge problem -- frames expansion issue -- both survey and system changes	$500	$120
Ethanol Imports & Exports -- Validation/collection issues	$300	$50
Ethanol Reporting system changes: Change reports to show balances	$50	
Biodiesel: Integrate data.	$100	
Reconcile supply disposition with CNEAF provided regional biodiesel supply	$100	$50
Prices: Ethanol (purchase & develop reports for publication)	$150	$25
Remaining Biodiesel data collection	$265	$385
Total	$1,965	$870

STATEMENT OF ROBERT MEYERS, ASSOCIATE ASSISTANT ADMINISTRATOR, OFFICE OF AIR AND RADIATION, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. Chairman, and members of the committee, I appreciate the opportunity to come before you today to testify regarding "The Impact of Elimination of MTBE." My testimony will address how recent amendments to fuel quality regulations and ongoing implementation of the Energy Policy Act of 2005 affect existing U.S. fuel programs, in particular the Reformulated Gasoline Program (RFG), which has historically utilized large quantities of methyl tertiary butyl ether (MTBE) in order to meet requirements imposed by the 1990 Clean Air Act Amendments.

As the Associate Assistant Administrator for the Agency's Office of Air and Radiation, my responsibilities include supporting the Assistant Administrator on all air-related activities of the Environmental Protection Agency (EPA or Agency), including programs addressing industrial and vehicle pollution, acid rain, stratospheric ozone depletion, radiation protection, indoor air quality and global climate change. I am pleased to be here representing my colleagues at EPA who are responsible for implementing the various laws and provisions that protect our Nation's air quality. An important element of this task is the successful development and implementation of programs affecting our Nation's fuel supply.

Following passage of the Clean Air Act Amendments of 1990, EPA was tasked with developing and implementing new motor vehicle emissions and motor vehicle fuel quality programs to reduce harmful evaporative and exhaust emissions that negatively impact our Nation's environment and public health. Among many other new provisions, the Clean Air Act required the implementation of several new fuel quality programs with prescribed fuel parameters that supported attaining our Nation's clean air standards. The Agency developed specific controls on fuel component parameters, such as seasonal controls on Reid vapor pressure and the RFG oxygenate requirements. Where available under applicable legislative provisions, the Agency also utilized a performance based approach to afford fuel producers greater flexibility in bringing these new cleaner fuels to market.

In 1992, the Wintertime Oxygenated Fuels Program was implemented, requiring more than thirty areas exceeding air quality standards for carbon monoxide to use oxygenated fuels. This program, as specified in the 1990 Clean Air Act Amendments, required gasoline to contain 2.7 weight percent oxygen and the program has been instrumental in bringing many of these areas into attainment of the national standard for this pollutant. Both MTBE and ethanol were the primary products used to meet these new quality standards.

Subsequently, following successful regulatory negotiations with the oil industry stakeholders, oxygenate producers, states, and other interested parties, another landmark fuel quality program was implemented the RFG program. The 1990 Clean Air Act Amendments specifically required RFG to contain on average 2.0 weight percent oxygen and established a two phase program designed to reduce vehicle emissions that cause or contribute to ozone (smog) and toxic pollution in our cities. The first phase of the RFG program introduced cleaner gasoline in January 1995, followed by the more protective Phase 2 in January 2000. This program was required in the ten metropolitan areas with the most serious air pollution levels. Although not required to participate, some areas in the Northeast, Kentucky, Texas, and Missouri elected to join, or "opt-in" to the RFG program as a cost-effective measure to help combat air pollution problems. Today, roughly 35 percent of this country's gasoline consumption is cleaner-burning reformulated gasoline. The RFG program has also often been referred to as one of the most successful air quality programs implemented. As in the Wintertime Oxygenated Fuels Program, MTBE and ethanol were again the primary products used to meet these new quality standards.

For more than a decade prior to the implementation of these fuel quality programs, refiners worldwide had been using MTBE, an oxygenated hydrocarbon derived from methanol and petroleum, to augment gasoline supplies and provide a source of octane. Ethanol was also used in the Nation's fuel supply for several decades. With the implementation of the RFG and the Wintertime Oxygenated Fuels Program, however, the use of fuel oxygenates, almost exclusively MTBE and ethanol, increased dramatically. In meeting RFG requirements and other state-specific requirements, ethanol was primarily utilized in the Midwest. MTBE is primarily used elsewhere, including large areas of the Northeast, the State of California, and metropolitan Philadelphia, Baltimore and Washington.

Over the last 6 to 7 years, however, concerns have arisen with respect to groundwater contamination from leaking underground storage tanks having gasoline containing MTBE. These concerns prompted some states to ban the use of MTBE in gasoline, including large gasoline markets such as California, New York, and Con-

necticut. This resulted in a significant reduction in the use of MTBE and a corresponding increase in the use of ethanol in these areas.

THE ENERGY POLICY ACT OF 2005

The Energy Policy Act of 2005 (Act) made several alterations to the RFG program, including removal of the 2 percent oxygenate mandate for RFG. In response to the law's enactment in August of last year, EPA promulgated a direct final rule to amend the RFG regulations in order to eliminate regulatory standards requiring the use of oxygenates in RFG. The direct final rule provides that these regulatory standards will no longer apply nationwide, outside of California, as of May of this year. Within California, the RFG oxygenate regulatory standards will no longer apply as of April of this year. The rule also serves to implement provisions of the Energy Policy Act respecting the commingling of ethanol-blended and non-ethanol blended reformulated gasoline.

The Energy Policy Act of 2005 also set forth a new national renewable fuels program that established renewable fuel volume standards beginning in 2006. The renewable fuel standard, or RFS, requires an increasing volume of renewable fuel to be utilized in the continental United States starting in 2006. In order to implement this requirement, EPA published a direct final rule in December 2005. This "default" rule for RFS compliance applies only in 2006.

Under the RFS default rule, refiners, importers, and gasoline blenders will collectively be held responsible to meet a 2.78 percent nationwide renewable volume standard. This equates to approximately 4.0 billion gallons toward which both ethanol and biodiesel can count. The Energy Policy Act specified 4.0 billion gallons as the RFS level for 2006. This level increases year by year through 2012 under a specific statutory schedule and increases afterwards according other statutory provisions. If the 2.78 percent volume standard is not met, the default rule specifies that this deficit would carry over to the RFS requirement for 2007. However, based on data demonstrating ethanol use in 2005, and stakeholder projections for 2006, it is expected that far greater than 4.0 billion gallons of renewable fuels will be used in 2006 in the United States.

As the Agency continues to address other provisions of the Energy Policy Act which have the potential to impact the US gasoline market, we are paying close attention to the specific directions set forth in the Act in designing future programs and making required revisions to existing ones. Recognizing that fuel oxygenates, such as MTBE and ethanol, have played a significant role in these programs and are a significant volume portion of the overall US gasoline market, the Agency will continue to strive to maintain and advance the air quality protection gains through these programs, while minimizing potential market impacts when possible.

Looking forward, it is the Agency's understanding that as a result of changes made by the Energy Policy Act of 2005, in particular the removal of the RFG oxygenate requirement, MTBE use in the RFG program will decline significantly. Some fuel providers are already transitioning away from using MTBE with most moving to blend ethanol in their RFG products. It is not anticipated that large volumes of non-oxygenated RFG will be in the RFG market areas.

In order to accomplish this change in the RFG market, fuel producers will produce reformulated gasoline blendstock for oxygenate blending (RBOB) that, compared with MTBE RFG, may require adjustments to lower the Reid vapor pressure of the RBOB in order to accommodate ethanol blending. In addition, some stakeholders have indicated that the removal of MTBE from the RFG pool may also result in some refiners using ethanol in order to meet the RFG toxics requirements.

Altogether then, RFG is likely to absorb a significant percentage of ethanol utilization in this country. The Northeast market alone, with areas in New Jersey, Pennsylvania, Delaware, Maryland, the District of Columbia, Northern Virginia, Richmond and Norfolk, may undergo a substantial conversion to ethanol RFG. The Houston and Dallas markets are already experiencing a change over to ethanol RFG.

While EPA would defer to the Energy Information Administration to make assessments concerning overall impact of this conversion on fuel price and supply, it is likely that without a minimum oxygenate standard in place, traditional market supply, demand and economic behavior will have a greater role in determining the production and blending of compliant RFG. With the removal of the RFG oxygenate standard, refiners will have greater flexibility as to when and where to blend ethanol or other oxygenates. As a result, refinery volumes may be affected since using ethanol to support volume replacement is not a one to one equivalent with MTBE blended RFG.

Depending on decisions made in the private marketplace, there are also potential upstream distribution impacts that may occur as a result of conversion from MTBE to ethanol-based RFG. Responses may involve designated tanks, tank management practices and terminal blending equipment. Retail facilities may also need to prepare for any switch to ethanol blended fuels, by emptying and cleaning their storage tanks and removing any water.

There are also several other provisions of the Energy Policy Act which will affect the fuel supply and potentially affect or mitigate supply issues. For example, unification of RFG northern and southern volatile organic compound (VOC) controls, as required by section 1504(c) of the Act, will allow RFG product to move to markets more freely. Further, the development of a boutique fuels limitation required under section 1541 of the Act will affect EPA's future consideration of state requests for fuel controls or prohibitions.

EPA also recently proposed the Mobile Source Air Toxics (MSAT) rule. Pursuant to section 1504(b) of the Energy Policy Act of 2005, EPA must adjust the toxics emissions baselines for reformulated gasoline to reflect 2001-2002 fuel qualities. However, this section also provides that this action becomes unnecessary if EPA takes action which results in greater overall reductions of toxics emissions from vehicles in areas with reformulated gasoline. As proposed, EPA believes that the MSAT rule would result in greater reductions than would be achieved through adjusting the baselines under section 1504(b). Accordingly, if the EPA were to finalize an MSAT rule meeting the directives of this section, the need for readjusting baselines for reformulated gasolines would be obviated.

EPA will also be taking action this year to propose a rulemaking to implement the RFS for 2007 and subsequent years. While this proposal is still under development, EPA is cognizant of the need to propose an RFS implementation plan that maximizes existing fuel production and distribution market dynamics and minimizes impacts on production, supply, distribution and price. In general, the proposed rulemaking will define who the liable parties are for the RFS, establish a credit trading program, assign appropriate credits for additional renewable fuel products and establish compliance assurance provisions.

Altogether, through a combination of removal of the RFG oxygenate standard and implementation of the new renewable fuels requirement, ethanol use in the U.S. will undoubtedly increase and MTBE use will likely decrease by a substantial margin. The precise impact of these events will depend on many different factors, including the reaction of the private marketplace to the elimination of previous regulatory requirements. As indicated above, EPA is committed to helping ensure a successful transition to greater use of renewable fuels and will work with other federal agencies and departments on issues affecting fuel supply and distribution.

Again, I want to thank you, Mr. Chairman and the members of the committee for your attention to this important issue. This concludes my prepared statement. I would be happy to answer any questions that you may have.

RESPONSES BY ROBERT MEYERS TO ADDITIONAL QUESTIONS FROM SENATOR INHOFE

Question 1. Mr. Meyers, when you were before the committee, you were asked if MTBE had not been available as an option at the outset, would that fact have made the Federal fuel oxygen standard practically impossible to implement. In part, you responded by directing the committee to the findings of the September 16, 1999 report of the EPA MTBE Blue Ribbon Panel created under a Charter from the EPA Clean Air Act Advisory Committee. Upon review of that report, the committee finds that the report states that the "infrastructure to support such [ethanol] blending on a wide scale does not currently exist" (p. 65) and that, "The likely oxygenate replacement for MTBE is ethanol. Current and near future ethanol production (i.e., on-line in less than 2 years), however, is not adequate to meet the volume of oxygenate required nationally." (p.72).

Based upon this analysis, is it reasonable to conclude that implementation of the Federal mandate would not have been possible if MTBE had been unavailable at the time the program was required to go into effect?

Response. My testimony before the committee included reference to both the Blue Ribbon Commission Report as well as efforts by EPA in 1994 to promulgate a Renewable Oxygenate Requirement (ROR) for the Reformulated Gasoline (RFG) program. Regarding the latter, this reference was made since the effort to promulgate a ROR predated the first phase of the RFG program, which began in January 1995. Therefore, the EPA rulemaking record for the ROR reflected conditions that existed

after congressional enactment of the RFG program, but before its initial implementation.

In the development of the ROR, EPA conducted extensive analysis of the then-current ethanol supply and demand. Table 1–3 of the Regulatory Impact Statement for the ROR summarized the ethanol supply/demand situation and indicated that there was a potential shortfall (or displacement from existing markets already using ethanol) of 320 million gallons just to satisfy a requirement that 30 percent of RFG contain renewable oxygenates in 1995. The RIA further indicated that, even if implementation of the 30 percent ROR was delayed until 1996, there would be a potential shortfall (or displacement) of 160 million gallons of ethanol.

The RIA for the ROR additionally indicated that "in the early years of the program the renewable oxygenate requirement is expected to be met primarily with ethanol blended into winter RFG." This analysis flowed from assessments that renewable oxygenates, like ETBE, would not be expected to provide a significant contribution to the renewable requirement in 1995, although more capacity for ETBE could come on line in 1996. Table 11–2, contained in page 59 of the RIA, addressed total fossil energy consumption under a 30 percent renewable oxygenate requirement. The table addressed both a situation where the entire 30 percent ROR was satisfied by utilization of ethanol in the wintertime and a situation where the requirement was satisfied by ethanol in the winter and ETBE in the summer. With respect to the portion of RFG not affected by the ROR—the other 70 percent of the oxygenate requirement—DOE's analysis assumed that this RFG would contain MTBE. While this RIA did not directly address the implementation of the RFG program that ultimately unfolded (i.e., since the ROR was later overturned in the courts) it does represent a contemporaneous assessment of conditions in the renewable oxygenate market. Based on this analysis, it is logical to conclude that MTBE was expected to be used in the RFG program in substantial quantities.

As your question also indicates, several years after the initial implementation of the RFG program, the Blue Ribbon Panel Report indicated that ethanol alone could not fully satisfy meeting the oxygenate requirements for the Federal Reformulated Gasoline Program. As your citations to the report indicate, the Blue Ribbon Panel report concluded that a lack of infrastructure existed, as of 1999, to support full replacement of MTBE with ethanol blending in the short term.

As you know, other oxygenate additives apart from MTBE and ethanol—such as tertiary amyl methyl ether (TAME), diisopropyl ether (DIPE), and ethyl tertiary butyl ether (ETBE)—have been developed for many years and have been available during the entire course of the RFG program. EPA's Final Regulatory Impact Analysis for Reformulated Gasoline (December 1993), however, indicated that, at that time, technological and economic uncertainties existed regarding ETBE and that ETBE was not cost-competitive with MTBE and ethanol (page 295 of RIA—EPA420–R–93–017). The analysis indicated that ETBE had not been widely used in the market to date (page 28 of RIA). EPA's analysis in this regard is consistent with other market data concerning oxygenate production. Information produced by the Energy Information Administration in 1995 (Short-Term Energy Outlook Annual Supplement 1995) indicated a sizable growth in MTBE production capacity between 1991 and 1995 and a more modest increase ethanol production capacity. Corresponding figures for TAME and ETBE production capacity indicated that such capacity combined constituted less than 10 percent of MTBE capacity. I have attached a table containing this information that was published as part of another EIA publication (Oxygenate Supply/Demand Balances in the Short-Term Integrated Forecasting Model, March 6, 1998). Overall, MTBE was the primary oxygenate utilized to blend into RFG to meet the 2 weight percent oxygenate requirement mandated by the RFG program. MTBE is high in octane, has favorable distillation properties, and can be blended and shipped through pipelines. These attributes, along with economic valuations of the product, were highly favorable in meeting the RFG oxygenate requirement.

Question 2. Mr. Meyers, in implementing the RFS, how will EPA guard against supply disruptions and price impacts?

Response. As you know, EPA is in the process of developing a proposal to implement the Renewable Fuel Standard (RFS) which was established by the Energy Policy Act of 2005. While EPA is still in the pre-proposal stage for this rulemaking, it would be the Agency's general intent to design a program that allows renewable fuel blending when, where and how it makes the most sense.

The RFS Program as prescribed by the Energy Policy Act of 2005 (EPAct) allows industry flexibility in meeting the new standards. EPA considers that the legislative flexibility is intended to mitigate, to the extent possible, adding any additional market constraints that could cause or contribute to supply or price volatility. That is,

the RFS program does not require every gallon of gasoline to contain a renewable fuel component. Therefore, industry can choose how best to comply based on a number of factors affecting supply, demand and blending economics including: seasonal (with some limitations) and geographic system optimization, and the purchasing and trading of excess blending credits. This flexibility supports greater market fluidity thus enabling a more expeditious response to unusual supply, demand and other unique situations that could adversely impact product availability and price.

Additionally, in accordance with other provisions contained in the EPAct, EPA has proposed removal of the oxygenate standard in the RFG program areas. Removal of this standard allows stakeholders greater flexibility in when, where and how they blend renewable fuel components. EPAct additionally granted EPA authority to waive fuel quality program requirements. EPA exercised such authority in 2005, when it became aware of potential fuel supply issues resulting from the fallout of the Hurricanes in the gulf region. In this effort, EPA worked closely with other private and government stakeholders and responded quickly providing necessary short term relief, allowing the markets to adjust rapidly. This provision provides EPA with continuing legal authority to address fuel supply disruptions which occur as a result of conditions specified in the waiver authority.

Finally, it is notable that over the last several years EPA has implemented a number of actions and programs that significantly ease potential supply constraints that may have occurred as a result of clean fuel requirements such as the on-road and off-road diesel sulfur requirements. Programs such as market-based trading systems, geographic phase in allowances, baseline adjustments, short term testing tolerance modifications, as well as others, have provided the fuel supply and distribution industry increased flexibility to comply with the rules more cost-effectively, and in some cases, to increase production, thus providing for a more reliable supply of fuel. These have all contributed to ensuring smooth distribution and thus price stability while maintaining the significant environmental benefits these programs were designed to achieve.

Table 1. U.S. Oxygenate Capacity and Production
(Thousand barrels per calendar day)

	Oxygenate Production Capacity			
	Ethanol	MTBE	TAME	ETBE
January 1, 1991	82.6	122.5	0.5	0.0
January 1, 1992	93.5	135.1	3.7	0.0
January 1, 1993	90.1	170.2	5.0	10.3
January 1, 1994	90.7	223.2	14.5	0.8
January 1, 1995	103.6	250.9	18.1	4.0

	Annual Average Production	
	Ethanol	MTBE
1990	49	84
1991	56	101
1992	70	101
1993	75	136
1994	83	144
1995	88	163
1996	63	185
1997	83	198

Notes:

- EIA stopped collecting oxygenate production capacity data after January 1, 1995. This information was first collected by EIA to monitor the transition of reformulated motor gasoline into the market.
- TAME (tertiary amyl methyl ether) and ETBE (ethyl tertiary butyl ether) production numbers are withheld by EIA to avoid disclosure of individual company data.

Sources:

- Capacities from Energy Information Administration, *Petroleum Supply Annual*, Volume 1, Table 50.
- Ethanol and MTBE production for 1992 to current from Energy Information Administration, *EIA-819M Monthly Oxygenate Telephone Report*, Tables B2 and B3.
- Ethanol production for 1990 and 1991 estimated from Federal Highway Administration, "Gasohol Sales By State," *Highway Statistics Summary to 1995*, Table MF-233GLA.
- MTBE production estimates for 1990 and 1991 supplied by DeWitt and Co., Inc.

STATEMENT OF A. BLAKEMAN EARLY, AMERICAN LUNG ASSOCIATION

Mr. Chairman and members of the committee, I appreciate the opportunity to appear today on behalf of the American Lung Association to discuss the impact of eliminating MTBE from gasoline.

THE AMERICAN LUNG ASSOCIATION SUPPORTS THE REMOVAL OF MTBE FROM GASOLINE

As you know MTBE has been found to contaminate ground or surface water in nearly every state. MTBE has rendered thousands of public and private drinking water sources unusable. Addressing the clean up or replacement of these sources has been estimated in a study by the American Water Works Association to cost upwards of $25 billion dollars. These statistics, which may not include all MTBE contamination costs, provide reason enough to eliminate MTBE from the Nation's fuel supply. I have attached a summary of the AWWA report to my testimony.

The American Lung Association is particularly interested in eliminating MTBE from reformulated gasoline (RFG) because the fear of MTBE contamination has reduced the public acceptance of RFG as a tool in fighting air pollution. Many areas with unhealthy levels of ozone have avoided adopting RFG for fear of contaminating local water supplies. Therefore, we see the recent trend of refiners choosing to eliminate MTBE from RFG as a welcome development which may facilitate the adoption of RFG in more areas that need it. If so, the public will benefit from reduced exposure to ozone and toxic air pollutants. The elimination of the oxygen requirement in RFG, in combination with the sulfur limit in all gasoline implemented as part of the Tier II rules, and the limitations on boutique fuels adopted in the Environmental Policy Act of 2005 (EPACT) should eliminate the proliferation of boutique fuels while providing clean fuels choices to areas that need them. We believe that any additional limitations on states' ability to select clean fuels would have adverse air quality impacts and are unnecessary given all the changes I just described.

REFINERS ARE ELIMINATING MTBE FROM RFG THIS SPRING ENTIRELY VOLUNTARILY

The American Lung Association endorsed a ban of MTBE in fuel phased in over 4 years. This time frame was originally identified by the refining industry as the necessary phase out period in testimony before this committee. The Congress chose not to adopt such a measure during its consideration of EPACT. Congress did remove the oxygen requirement from RFG, enabling each refiner to use as much or as little MTBE as it chose.

Now this spring, refiners are attempting to remove MTBE from RFG all at once rather than pursuing a phased elimination. Although MTBE is already banned for use in fuel in over 20 States, the current action to remove MTBE from the remaining RFG supply is voluntary, is not required to meet any law. We see no credible basis for finding that the use of MTBE in RFG in 2006 gives rise to special liability given the nature of MTBE groundwater contamination and the difficulty of distinguishing when contamination occurred. Whatever liability refiners may be subject to will be based largely on past actions. The nature of that liability is well described in testimony by Erik D. Olson of the Natural Resources Defense Council before the House Energy and Commerce Committee (see http://energycommerce.house.gov/108/Hearings/03132003hearing818/Olson1367.htm).

It has long been predicted that removal of MTBE from RFG would spike a demand for ethanol. I provided testimony before this committee in June 2000 that the removal of MTBE would create a demand of 3.8 billion gallons a year just to provide octane in RFG. My testimony was based on information obtained from the refining industry itself. In fact ethanol is apparently being used today in amounts greater than needed to provide octane in order to help refiners meet air toxics reduction requirements.

The fact that refiners are voluntarily and precipitously withdrawing MTBE from use knowing that such action would cause a spike in RFG prices provides testament to the indifference the industry has to the calls of consumers to restrain fuel prices.

SHORTAGES CREATED THROUGH VOLUNTARY OIL INDUSTRY DECISIONS ARE NOT A BASIS FOR WAIVING FUEL REQUIREMENTS

As you know, in the Energy Policy Act of 2005 (EPACT) the Congress provided EPA with the authority to temporarily waive a fuel or additive requirement under the Clean Air Act in cases of an "extreme and unusual fuel or fuel additive supply circumstance" (Section 1541(a)). The statute explicitly states that shortages that reasonably could have been foreseen or derive from a lack of prudent planning do not qualify for such waiver.

We believe the ethanol and fuel shortage we are discussing today was foreseeable and in fact is exactly the result of a failure of prudent planning. The American Lung Association hopes no one will suggest the need for invoking the EPACT waiver authority.

SHORTAGES IN ETHANOL CAUSE THE SAME PRICE VOLATILITY AS GASOLINE SHORTAGES

The wholesale or "rack" price of ethanol is well over a dollar more than it was a year ago. It should come as no surprise that ethanol producers will charge as much as they can get on the market. However, it is worth noting that when ethanol demand has surged in the past as with the phase out of MTBE in California and in the New York/Connecticut RFG markets, the ethanol industry has responded to such demand and provided the needed ethanol with modest impact on overall RFG price. We operate on the assumption that the ethanol industry will respond similarly in the case of the current shortage over the longer term. However, we believe the Department of Energy should be more proactive in alleviating ethanol shortages by encouraging alternative sources of ethanol supply from off-shore sources such as the Caribbean Basin and Brazil. Given that the expected shortage in ethanol supply this spring is occurring in the Mid-Atlantic and Texas, it should not be difficult to facilitate the location and shipment of foreign sources of ethanol to Hampton, Virginia and Houston, Texas to help meet unexpected demand.

EPA MUST ACT NOW TO MEET ANTI-BACKSLIDING REQUIREMENTS TO CURB TOXIC AIR POLLUTANTS

Under EPACT, 9 months after enactment EPA is required to establish standard for each refiner and importer designed to maintain the level of toxic air pollutant reduction achieved on average during 2001 and 2002. (Section 1506(b)). This so-called "anti-backsliding" provision was enacted to ensure that as refiners reduced the amount of MTBE they used in RFG, the level of toxic air pollution from the use of such fuel did not increase. The dramatic shift away from MTBE use occurring this spring well illustrates why this provision is needed. Yet to my knowledge EPA has not instituted any effort to assemble the regulatory information or propose the anti-backsliding requirements required by the law. We call on EPA to move expeditiously in light of the current circumstances.

Again, I appreciate the opportunity to appear before the committee on behalf of the American Lung Association.

American Water Works Association

The Authoritative Resource on Safe Water ℠

A REVIEW OF COST ESTIMATES OF MTBE CONTAMINATION OF PUBLIC WELLS

A Project Sponsored by the
AWWA Water Utility Council

June 21, 2005

Headquarters Office:
6666 W. Quincy Avenue, Denver CO 80235
T 303.794.7711 // F 303.347.0804
www.awwa.org

Government Affairs Office:
1401 New York Avenue, NW, Suite 640
Washington, DC 20005
T 202.628.8303 // F 202. 628.2846

A REVIEW OF COST ESTIMATES OF MTBE CONTAMINATION OF PUBLIC WELLS

Executive Summary

This report reflects an assessment of existing estimates of how much it will cost in the U.S. to address MTBE-contaminated water supplies for Public Water Systems (PWS). The intent is to ascertain whether existing estimates may be reasonably reliable. Our focus is the 2001 study by Komex H_2O Science, Inc. (a consulting firm; hereafter referred to as Komex).

Komex (2001) developed rough estimates of the cost imposed by MTBE contamination of groundwater. The Komex effort considered three cost-generating components: (1) LUST remediation, (2) treating contaminated drinking water at private wells, and (3) treating contaminated drinking water at wells serving Public Water Systems. Our review has focused solely on the latter component – the impact on PWS wells.

Our review reveals that Komex probably underestimated the costs of MTBE contamination at PWS wells. There are more PWS wells than Komex estimated, and the cost to treat an MTBE-contaminated well is probably much closer to the high-end value used by Komex than its low-end value (and the cost for treating many PWS wells may be far greater than the upper-end cost Komex applied).

Our assessment suggests that the cost of MTBE contamination of PWS wells is likely to be in the range of $4 billion to $85 billion. A "reasonable best estimate" of cost, given the limited data at hand, is on the order of $25 billion.

If the odor threshold for MTBE in water is less than the 5 ppb assumed in the Komex study, then the number of PWS wells impacted will increase significantly. At an odor threshold at 2 ppb or lower (as supported by scientific investigations), our reasonable best estimate increases to $50 billion or more and at 1 ppb or lower the cost could be as high as $85 billion.

S.1 Three Main Cost Elements Have Been Estimated

The Komex 2001 study developed cost estimates for three components of MTBE-related groundwater impacts:

1. The cost to treat PWS wells with MTBE above a taste and odor threshold
2. The cost to treat private wells with MTBE above the threshold
3. The cost to remediate groundwater related to leaking underground storage tanks (LUSTs).

Figure S.1 provides a summary of the Komex (2001) findings for each of the three cost components examined, with the total combined cost across all three elements of $31 billion to $141 billion (presumably in year 2000 dollars).

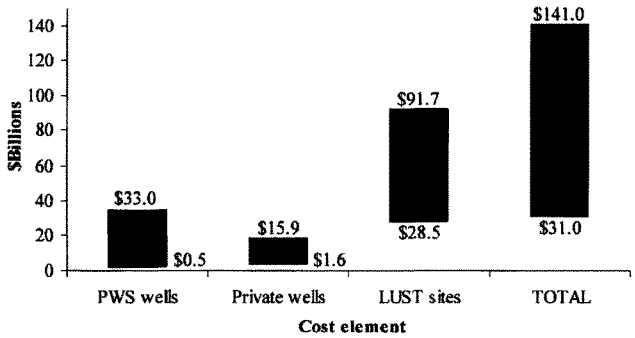


Figure S.1. Komex (2001) cost estimates for MTBE impacts on groundwater.

Note that the low end of the LUST-related costs – $28.5 billion – is probably the basis for the cost figure that has often been mentioned in connection with the potential size of MTBE-related impacts on groundwater. However, it is important to observe that this is simply the Komex low-end estimate for one of the three estimated cost components; the LUST-related costs do NOT include the cost associated with MTBE contamination of drinking water supply wells.

S.2 Focusing on the Cost to Treat Contaminated Public Water Supply Wells

In this report, we focus on one of the three cost components – the cost to treat MTBE-tainted drinking water at contaminated wells at PWS. The Komex estimate for this component ranged broadly, from $0.5 billion to $33 billion, and is derived from a very simple analysis for which only limited documentation is available for review.

The Komex analysis of PWS cost impacts is derived from three main elements:

1. The number of PWS wells. Here, Komex seems to have *underestimated* the number of wells in PWS, by at least 17%, and perhaps by quite a bit more.

2. The percent of PWS wells that will have MTBE at greater than or equal to 5 parts per billion (ppb). The empirical evidence on this issue is not definitive, but the range used by Komex appears to be a reasonable approximation. Available data on the percent of PWS wells currently documented with MTBE above 5 ppb is consistent with the lower half of the range used by Komex. However, a much higher percentage of PWS wells have detected MTBE. While many of these wells with detected MTBE currently have concentration levels below 5 ppb, in time the percent of wells with concentrations that reach or exceed 5 ppb could increase to the upper end of the range, or beyond. In addition, scientific evidence suggests that the detectable odor threshold for MTBE in water is considerably less than 5 ppb, implying that water suppliers may need to take action when their wells have concentrations as low as 2 ppb, or even less. This lower threshold for action will mean that MTBE removal costs will be incurred at a higher percentage of PWS wells than estimated for 5 ppb.

3. The cost to treat each PWS well. Here, it looks as if Komex may have *underestimated* the cost per well. The lower-end Komex estimate seems too low (e.g., based on what may be an atypically small well), whereas the upper-end cost per well used by Komex seems more reasonable. For some PWS wells, costs could be higher than the upper-end cost per well used by Komex, perhaps by a considerable margin. Also, there are costs typically associated with PWS well contamination in addition to the cost of treatment (e.g., the cost of testing, and the cost of obtaining replacement water until treatment is operable), and these costs are omitted from the Komex estimates.

On net, it appears as if Komex is likely to have underestimated the costs to treat MTBE-tainted PWS wells. Table S.1 provides a summary of the values used at the low and high ends of each step by Komex, as well as their final cost estimate. Also in Table S.1 is our updated reinterpretation of the Komex study, and our assessment of what may be a "reasonable best estimate" if the threshold for undertaking MTBE removal is 5 ppb.

On the whole, the Komex upper-end estimate of the costs of remediating PWS wells ($33 billion) probably is a much better number than its lower-end estimate and may be an underestimate. We believe the range is more likely to be on the order of $4 billion to $85 billion (see Figure S.2), with a "reasonable best estimate" of $25 billion (in year 2000 dollars) based on currently available information.

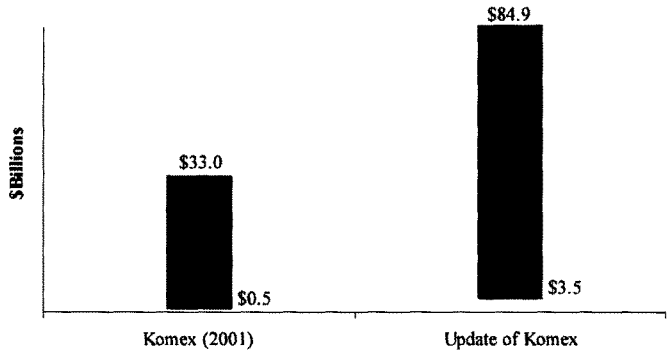


Figure S.2. Estimates of MTBE costs for treating PWS wells (5 ppb odor threshold, year 2000 dollars).

S.3 Sensitivity Analysis

A key factor in this cost assessment is the concentration at which MTBE in drinking water wells becomes a cause for mitigating action by the impacted PWS. In the discussion above, we have assumed that an MTBE concentration of 5 ppb would act as a threshold for PWS action because that is the threshold concentration applied by Komex, and because 5 ppb is the current odor-based Secondary Maximum Contaminant Level (SMCL) for MTBE in the State of California. However, as noted in the body of this report, scientific evidence suggests that a reasonably high proportion of tested consumers can correctly detect the odor of MTBE in water at concentrations far lower than 5 ppb. This will have a significant impact on the cost of MTBE contamination for PWS wells, because it will greatly increase the percentage of PWS wells at which treatment or other mitigating actions will need to be taken.

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61 Broadway
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fax: (212) 315-8800

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Improving Life,
One Breath at a Time

April 20, 2006

The Honorable James M. Inhofe
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, D.C. 20510

Dear Chairman Inhofe,

In testimony before the Environment and Public Works Committee you asked me to respond for the record whether my inclusion of an American Water Works Association study entitled "A Review Of Cost Estimates of MTBE Contamination of Public Wells" constituted an endorsement of the methodology used by Komex H_2O Science, Inc., the author of the underlying study reviewed by AWWA. The AWWA study itself rejected the Komex methodology and applied its own approach to estimating the cost of MTBE contamination. The attachment of the AWWA study to testimony should not be interpreted as an endorsement the American Lung Association of the Komex methodology. The AWWA study itself only principally addressed public water supplies (PWS) and did not attempt an alternative estimate to address contamination of private wells. The attached news article, which I submit for the record, would indicated that the extent and cost of private well contamination is not well known and could exceed any current estimates, thus adding substantially to an already very large figure.

Thank you for this opportunity to respond to your questions.

Sincerely,

A. Blakeman Early
Environmental Consultant

Cc: The Honorable James Jeffords

Hidden poison

MTBE tainting water across state

By MATT PACENZA, Staff writer
Click byline for more stories by writer.
First published: Sunday, April 9, 2006

More than two years after New York banned the gasoline additive MTBE, hundreds of public drinking wells across the state remain tainted with the toxic chemical. Worse, neither state nor local government has any reliable information about how many private wells are at risk, although 1.3 million New Yorkers get their water from private wells.

Advertisement

Even though it's gone from gasoline, methyl tertiary butyl ether -- still unknown to many New Yorkers -- has quietly become the state's single largest water pollution problem and a public health threat expected to linger for years.

The bitter irony is clear: MTBE was put in our gasoline to make our air cleaner, but it is poisoning our water.

A four-month investigation by the Times Union found that state authorities have frequently reacted slowly and have failed to protect the public from MTBE spills. Worst of all, many residents who live near leaking storage tanks, sources of most of the MTBE that enters the environment, say they were never told they might have a problem -- or urged to have their wells tested.

MTBE has been found at levels above the state safety limit in 46 public water supplies since 2004, when New York first required tests for the chemical, according to state computer records. At least 172 water supplies were found to have at least some MTBE. Untold numbers of private wells across the state have dangerous levels of MTBE.

"MTBE is an issue from the end of Long Island to Buffalo," said Bill Cooke of the Citizens Campaign for the Environment. "All you have to do is look for it."

New York has been wrestling with the threat posed by MTBE for at least 15 years, ever since evidence grew that the gasoline additive moved swiftly into groundwater from sites like gas stations with underground storage tanks. Unlike other toxins found in gasoline, MTBE dissolves in water, doesn't cling to soil and persists for years underground -- properties that make it a potent threat to groundwater.

The danger posed by the toxin could soon become much more worrisome: Federal officials have considered reclassifying MTBE as a ``likely carcinogen,'' a move that would put it in the same category as potent poisons like DDT and benzene. The toxin is currently considered only a ``potential carcinogen,'' based on research that showed mice and rats develop higher rates of certain cancers after ingesting it.

Most experts say there has not been enough research about MTBE to determine how dangerous it is. One exception is Mobil's former worldwide director of environmental health, Myron Mehlman.

``MTBE causes cancer,'' said Mehlman, a retired toxicologist. ``Most regulatory bodies have totally miscalculated what the threat levels should be.''

Since the MTBE problem was first discovered, staff from the state Department of Environmental Conservation have pushed thousands of polluters to invest millions of dollars to clean up soil and water. Health officials have tested thousands of wells and shut down dozens of tainted water supplies.

Despite these strong efforts, the state's health and environmental safety net designed to protect the public's water from MTBE and other contaminants remains riddled with holes.

The Times Union found that families across the state drank tainted water for months or even years because state and local officials failed to notify residents. No one told an ailing Columbia County veteran to test his private well just yards from a gas station with leaking tanks. No one warned hundreds who lived in Hyde Park in Dutchess County.

In an egregious case, 4,607 residents in and around Liberty, Sullivan County, drank water with levels of MTBE as high as 150 parts per billion, 15 times the current state safety standard, for more than two years after tests showed the city's well was tainted. Some Liberty residents believe MTBE has led to a high occurrence of deadly cancers. That claim has never been verified.

The scandal of Liberty's poisoned water is nearly 15 years old. When the problem came to light in 1993, authorities were just beginning to grapple with the impact of the gasoline additive.

But the potentially deadly mistakes made then persist today, and many troubling incidents in upstate New York have never before been disclosed. In some neighborhoods, residents knew nothing about a looming MTBE threat nearby, because of a failure by local and state officials to address problems before they developed.

In other cases, untold numbers of customers even bought and drank water, coffee and juice tainted with MTBE. According to state officials, a diner owner in Rensselaer County refused to install a filter on the restaurant's well, even though authorities repeatedly told her the water and coffee she was serving had levels of MTBE. The diner owner denies she refused the filter, but state records show that patrons drank unfiltered water for more than three years.

State reports also show that MTBE was found at one point in water used to make soda and juice at a Stewart's plant in Saratoga County.

Those customers, plus others across the state, have been unwitting guinea pigs in an unplanned experiment: What are the effects of drinking MTBE, perhaps regularly, for months -- or even years?

Clean air vs. water

Today, MTBE is widely recognized as a public health hazard that has damaged water supplies from Maine to California. But more than a decade ago, it flooded into the nation's gasoline supply with a noble purpose: to reduce the pollution that made our air dirty. Smog remains a serious problem in about one-third of the country, mostly because vehicles emit tons of nitrogen oxides and volatile organic compounds.

In 1990, Congress amended the Clear Air Act to cut that pollution by mandating the use of reformulated gasoline. The fuel had to include 10 to 15 percent of some additive, such as MTBE, ethanol, methanol or other chemicals -- Congress didn't mandate which -- to help gas burn more cleanly.

The policy had benefits. The EPA estimated the new gas produced about 26 percent less pollution from volatile compounds and 5 percent less pollution from nitrogen oxides. Reformulated gasoline also cut emissions of cancer-causing toxins, such as benzene, by about 30 percent.

However, MTBE soon posed a threat to drinking water. In 1996, the city of Santa Monica, Calif., shut down seven public drinking wells that supplied more than half the water for 90,000 residents. One well had a reading of 610 parts per billion of MTBE. In 1998, South Lake Tahoe, Calif., lost 12 wells and confronted a $45 million price tag for rebuilding its water supply.

Both communities won millions of dollars from oil and chemical giants after litigation revealed several companies knew MTBE was a chemical that degraded so slowly, dissolved in water and moved so quickly through groundwater that it would threaten drinking water supplies.

Hundreds of other communities nationwide, including at least 79 in New York, have had dangerously high levels of MTBE turn up in their water supplies but haven't recovered any money to help them deliver safe and clean water to their customers.

New York's triage policy

Any facility with a gas pump can -- and often does -- have a problem with MTBE. State records show that tanks at some town garages, school bus depots and construction companies have contaminated soil and water.

Gasoline is by far the most common source of MTBE. The highest concentration of the additive was found in parts of New York with the dirtiest air: New York City, Long Island and the lower Hudson Valley, north to Dutchess County. In those areas, MTBE made up as much as 15 percent of all gasoline.

The Capital Region rarely had gasoline with that much MTBE -- unless a stray shipment of special gas made its way north. Still, plenty of MTBE showed up in gas tanks from Salem to Selkirk, from Wilton to Wynantskill. New York's high-octane unleaded gasoline contained gasoline with 2 to 8 percent MTBE. Just as with reformulated gas, MTBE in high-octane gas makes it burn more cleanly.

The federal government has required upgrades to older gasoline storage tanks, but before then, leaks were common and often unknown for years -- until a nearby well became contaminated or the gas station owner decided to replace the tanks.

That's when the DEC, the lead agency charged with handling New York's MTBE problem, gets called in.

The DEC's first job is to figure out what problems a spill presents. Staff is charged with surveying the area for anything that MTBE could threaten, like wells and reservoirs.

Figuring that out is not always easy. DEC staff use results from test probes dug in the ground -- called monitoring wells -- to make an educated guess about how far

the gas and MTBE have spread. They also map out local geology, looking to see whether the rock and soil in the area will cause MTBE to move quickly. Tank records, if any, will be examined to determine how much gasoline may have leached into the soil.

Given the thousands of leaks and spills of all kinds across the state -- 285,000 as of last year, a number that grows by about 16,000 a year -- the DEC has adopted a triage policy. Some spills, especially large ones that pose a threat to drinking water, are addressed promptly. The agency pushes the spiller to hire a firm to get rid of the threat or hires a company itself, paying for it from a special state fund.

But at thousands of other sites, the DEC walks away from a spill site -- and labels it ``case closed,'' even when tests show that plenty of MTBE remains.

Given the agency's resources and the thousands of spill sites, DEC officials say they had few other options, especially at gas stations or other sites miles away from the nearest source of drinking water. But the state's haste to close cases can present problems.

Don't ask, don't tell

Research shows that MTBE can often move in unexpected directions, taking years to get to a point in the groundwater where it can threaten a well.

Michael Scherer of the Massachusetts Department of Environmental Protection supervised a spill site in Palmer, 20 miles east of Springfield. In 1989, 12,000 gallons of high-octane fuel leaked from a gas station's underground tank. The station owner had unwittingly filled the massive tank twice despite its suffering from a 3-inch perforation -- because he thought the gas had been stolen the first time he filled it.

For several years, a cleanup firm pumped and treated contaminated water right underneath the station. When wells several hundred feet away came up clean, Massachusetts officials prepared to close the case.

Then a monitoring well nearly one-third of a mile away registered a hit. Further testing showed the MTBE plume had spread deep within the local aquifer, nearly 100 feet below ground, traveling 1,600 feet from the original site until it almost reached a major municipal supply well.

``There's no way a medium or shallow (monitoring) well would have picked it up,'' Scherer said.

A review of New York spill cases shows the state has closed cases even when a public health threat was present. In several cases in the Capital Region, the DEC did so after a local water official told them a neighborhood with contaminated private wells was about to get hooked up to clean municipal water. But the hookup took two or three more years, and neighbors continued to drink the tainted water in the meantime.

It's one of several problems the Times Union investigation turned up, including failures to notify residents near a spill, plus failures to aggressively seek out nearby drinking water sources.

A hydrogeologist with the environmental consulting firm Earth Tech characterized the state's approach as inherently reactive. ``You don't go out of your way to look for a problem,'' said Kevin McGrath.

In 1997, a major gasoline spill at a Mobil station in Plainview, Nassau County, caused MTBE levels in groundwater near the site as high as 20,000 parts per billion. But it wasn't until more than three years later that Paul Granger, the superintendent of the Plainview water system, learned about the spill -- after he saw drilling rigs right near one of his supply wells.

``Didn't it ever occur to you to call the local water supplier, particularly if the water supply wells are less than 500 feet away?'' an angry Granger recalled asking the DEC.

The DEC said it tries to reach out to area homeowners or water authorities to let them know about a contamination problem. But agency officials said notification is a responsibility of county health departments, not state environmental officials.

Interviews with more than a dozen county health officials across the state showed some have little experience in informing residents about the hazard MTBE poses. In 21 counties of upstate New York, local health departments have no staff devoted to environmental health duties at all.

The DEC defends its record on investigating spill sites, crediting its Long Island staff for groundbreaking research on phenomena like lengthy plumes and remediation techniques.

``We've been fighting the good fight from 1992 on,'' said Kevin Hale, an engineering geologist with the agency.

Officials also point out that the state has put in place one of the strictest MTBE standards in the country, with a maximum contaminant level in drinking water of 10 ppb. In 2004, New York became just the sixth state to ban MTBE -- a ban Gov. George Pataki and environmental officials defended even after fierce lobbying and a lawsuit from the powerful oil and gas industry.

Yet that ban could have come two years earlier.

In 1998, Assemblyman Thomas P. DiNapoli (D-Great Neck) proposed eliminating MTBE by 2002. But in order to get Pataki and the state Senate leaders behind the

bill, DiNapoli said he and Senate environmental committee Chairman Carl Marcellino (R-Huntington) agreed to extend the cutoff date to 2004.

Inadequate resources

Environmentalists and public health experts give New York officials credit for taking the MTBE threat seriously earlier than most other states. The agency also gets high marks from many residents for responding forcefully once an MTBE problem is made public.

Homeowners with high levels of the contaminant are usually given filters free of charge, and state officials typically work with local government to find an alternative water source, such as a new well or an extension of an existing municipal supply.

Still, the Times Union found dozens of homeowners, tenants, business owners and citizen activists who recounted instances where health and environmental officials failed to devote sufficient resources to protect the public's health.

The Pataki administration has been frequently criticized for cutting the DEC staff that enforces environmental laws. Overall, the department had 158 fewer full-time employees last year than it did when Pataki took office in 1995.

The cuts came just as the state itself was estimating it needed more resources to deal with the MTBE threat. An internal DEC briefing paper from 2001 on the state's plan to reduce the legal contamination limit for MTBE from 50 parts per billion to 10 parts per billion said the change would ``have a significant impact on the cost of investigating and remediating MTBE sites.'' That document was among reams of records obtained by the Times Union through the state's Freedom of Information Law.

Despite such warnings, the DEC failed to bolster its remediation staff, which labor leaders and environmental lobbyists say is overwhelmed. The agency has about 118 staff in its ``spills'' bureau within the division of remediation, a number that has more or less stayed the same for the past decade, according to the agency.

A DEC file on a minor gasoline spill at a private home in Washington County in 2000 shows the impact of having fewer people working on MTBE than are needed. The DEC staff member wrote that ``considering current staff vacancies (3)'' the spill ``does not warrant further action at this time.''

``Could you always use more staff?'' asked Dale Desnoyers, the chief of the agency's division of remediation. ``Sure. But I think we have enough people to address this problem.''

Banned, but still a threat

MTBE continues to poison public wells across the state: 46 with more than the state's toxic threshold of 10 parts per billion since the state Department of Health began mandating tests for all public water supplies on Dec. 24, 2003. Most of the 46 are in Dutchess and Putnam counties, both of which rely heavily on wells for drinking water and spent years using reformulated gasoline, which has as much as 15 percent MTBE.

Among the 46 are troubling locations: a day-care center, a medical office building, a condominium complex, a tavern, a motel, a county highway department, a fast-food restaurant, a real estate office, two apartment buildings and four mobile home parks.

The 46 drinking water wells are only the most recent wave of public wells damaged by or lost to MTBE. The Suffolk County Water Authority, which serves more than a million customers, has found MTBE in 80 of its 426 wells. Liberty, in Sullivan County, had to shut down its supply wells for several years, and residents of one Hyde Park neighborhood, in Dutchess County, had to invest several million dollars of their own money to extend a city supply system to homes. A 2001 DEC report identifies 21 public water supplies statewide that had more than 50 parts per billion in their wells -- that's five times the state's current safe level.

Cleaning up MTBE and replacing water lost to the toxin will cost $25 billion nationwide, according to an estimate from the American Water Works Association, which represents 4,700 water systems.

Today, it's relatively safe to drink municipal water, given a federal requirement that local authorities test for organic chemicals like MTBE at least twice a year.

But no one has any idea how much MTBE -- or any other chemical -- is in private wells, in New York or elsewhere. In fact, in nearly every state, no one even knows where private wells are, because well-diggers were rarely required to tell authorities when they put in a new well.

``All across New York you have private well owners who will wake up one morning and find out that there's this nasty contaminant which out of nowhere has invaded their system,'' said Stan Alpert, a private attorney who has represented homeowners and communities damaged by MTBE.

Private wells remain the gigantic unknown of MTBE's reach. A federal blue-ribbon panel convened to study MTBE back in 2000 urged the EPA to do a national survey.

It hasn't.

Matt Pacenza can be reached at 454-5533 or by e-mail at mpacenza@timesunion.com. Jordan Carleo-Evangelist contributed to this report.

STATEMENT OF BILL DOUGLASS, CHIEF EXECUTIVE OFFICER, DOUGLASS DISTRIBUTING COMPANY, REPRESENTING THE NATIONAL ASSOCIATION OF CONVENIENCE STORES AND THE SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA

Good morning, Mr. Chairman, Ranking Minority Member Jeffords, and members of the committee. My name is Bill Douglass. I serve as the chief executive officer of Douglass Distributing Company in Sherman, TX. My company owns and operates 14 motor fuel outlets in the Dallas-Fort Worth area and supplies gasoline and diesel fuel to 165 additional retail outlets in that area under long-term supply contracts.

Thank you, Mr. Chairman, for calling this important hearing this morning. I appear before the committee representing the National Association of Convenience Stores (NACS) and the Society of Independent Gasoline Marketers of America (SIGMA). I am the former chairman of NACS' Board of Directors and my company also is an active member of SIGMA. Together, NACS and SIGMA members sell approximately 80 percent of the gasoline and diesel fuel purchased by motorists in the United States each year. NACS and SIGMA appreciate the opportunity to present testimony this morning on an issue of great importance to our industry and to the entire Nation—the current turmoil and uncertainty in the nation's gasoline markets and the opportunity this uncertainty has to translate into supply shortages and price volatility during the spring and summer of 2006.

NACS is an international trade association comprised of more than 2,200 retail member companies operating more than 100,000 stores. The convenience store industry as a whole sold 143.5 billion gallons of motor fuel in 2005 and employs 1.5 million workers across the Nation. SIGMA is an association of more than 240 independent motor fuel marketers operating in all 50 States. Last year, SIGMA members sold more than 58 billion gallons of motor fuel, representing more than 30 percent of all motor fuels sold in the United States in 2005. SIGMA members supply more than 35,000 retail outlets across the Nation and employ more than 350,000 workers nationwide.

Over the past 3 months, I have witnessed such a blizzard of announcements and developments regarding gasoline production and distribution this Spring and Summer that even I, who study and participate in gasoline marketing every day, am uncertain what to expect over the next 6 months. It would not surprise me if the members of this committee, who wrestle daily with many issues of national importance far removed from motor fuel issues, are not sure what to make of these developments either. This hearing represents an attempt to sort through these announcements, rumors, and questions.

NACS and SIGMA believe it is a timely examination and we welcome this committee's interest.

As an initial matter, I would like to review briefly what we know, rather than what we don't know:

• Methyl tertiary butyl ether (MTBE) has been used as an octane enhancer in gasoline since the 1970's when lead was removed from gasoline. Only in the 1990's did its use as an oxygenate in gasoline become common. As a result, when MTBE is removed from gasoline, not only does the Nation's gasoline pool lose substantial volume which must be replaced by other products, but the octane MTBE adds to gasoline must be replaced by other products to assure that fuel performance is not degraded.

• In late 2005 and early 2006, several of the nation's pipeline systems, which transport gasoline from the major Gulf Coast refining complexes up the East Coast and through the Mid-West, announced that they would stop accepting shipments of reformulated gasoline (RFG) containing the oxygenate and octane additive methyl tertiary butyl ether (MTBE).

• During the same time period, several major integrated oil refiners announced that they would transition away from blending MTBE into RFG and conventional gasoline early in 2006 due to the pipeline actions and ongoing concerns regarding potential liability resulting from contamination of groundwater by MTBE.

• In late February, the Environmental Protection Agency (EPA) issued a final rule, required by the Energy Policy Act of 2005 (EPAct 2005), to remove the RFG oxygen mandate as of May 8, 2006, thereby permitting non-oxygenated RFG, or clear RFG, to be sold as RFG as long as it met EPA clean fuel standards.

• Also in late February, the Department of Energy's Energy Information Administration (EIA) released a report entitled "Eliminating MTBE in Gasoline in 2006" which raised concerns about shortages in both domestic gasoline and ethanol production capacity in the coming months if such a transition away from MTBE RFG is pursued and concluded that "the complexity of the transition away from MTBE-blended RFG may give rise to local imbalances between supply and demand and associated price surges during the change."

• Earlier this month, the Renewable Fuels Association, the trade association representing domestic ethanol producers, responded to what it perceived to be inaccuracies in the EIA report, stating ". . . we have worked diligently with our customers—the Nation's gasoline refiners—to ensure that any consumer impact . . . will be temporary."

• Most recently, the Federal Energy Regulatory Commission (FERC) denied a request from Colonial Pipeline Company, which operates one of two major petroleum pipelines serving the East Coast, to amend immediately its tariff schedule to delete MTBE RFG from the list of products it will accept on its pipeline after objections from several MTBE manufacturers.

As you may note, none of these announcements and developments involved gasoline retailers directly. There is a simple reason for this fact. Independent gasoline marketers do not make gasoline or ethanol, we do not own pipelines, and we do not have access to the type of data necessary to produce a report as authoritative as that released by EIA. Instead, we purchase gasoline at wholesale and sell it to motorists at retail. All of these activities have. been taking place, so to speak, "far above our pay grade" and their exact effect on independent gasoline marketers and consumers will be known only as events develop over the next 6 months.

From all of these recent developments, gasoline marketers, and the members of this committee, can glean several important facts (rather than arguments).

First, use of MTBE as a gasoline additive will decline in the future, whether precipitously as some have predicted this Spring and Summer, or more gradually. This decline is a direct result of Congress' failure to adopt liability reform provisions for MTBE as part of the Energy Policy Act of 2005. Without such liability reform, refiners, pipelines, and marketers are disinclined to extend their potential liability for use of this product in the future. I am not seeking to get into a debate as to whether Congress should have adopted the so-called MTBE safe harbor last year. That debate is over.

must understand that the decisions you Rather, this committee, and Congress as a whole, made, or chose not to make, last year, are having repercussions in the gasoline markets this year. Those repercussions were entirely predictable. Many in Congress wanted to ban MTBE outright and immediately. NACS and SIGMA supported a gradual phase down of MTBE use over a number of years. Reality will fall somewhere between these two positions. MTBE use will be reduced in the future. The focus of this hearing, however, should be on the effect this reduction will have on domestic gasoline supplies and prices.

Second, ethanol blended with gasoline is the most likely and immediate substitute for MTBE in RFG. Ethanol contains some of the same characteristics that have made MTBE an attractive blending component in the past—high octane content and a blend rate that dilutes other gasoline properties. However, the use of ethanol in RFG also increases volatility (thereby increasing VOC emissions, which lead to ozone formation) and ethanol contains higher levels of toxics than MTBE—substances controlled under EPA's mobile source air toxics program. To prepare for blending ethanol with RFG and the resulting volatility surge, refiners must take certain components out of gasoline intended for ethanol blending, reducing the gasoline yield from a barrel of crude oil. EIA has estimated that on average refiners lose approximately 5 percent of their production capacity when making RFG for ethanol blending when compared to RFG for MTBE blending. This is a significant reduction in domestic gasoline production capacity that should be of concern to policymakers, marketers, and consumers.

Third, in general the Nation's refiners are not positioned to produce substantial quantities of clear RFG—RFG that is not blended with either ethanol or MTBE. Since the RFG program started in 1995, it has been unlawful for a refiner to produce such clear RFG. In fact, it will not be lawful to produce clear RFG until May 8, 2006—nine months after the President signed EPAct 2005 into law. It should not be surprising that the nation's refiners have not been able, during the short period between EPAct's enactment and now, to dramatically alter their production capabilities to produce clear RFG. While undoubtedly many refinery modifications projects are in the works to produce clear RFG from many domestic refineries, the timetable simply has been too short to expect these modifications to be completed before this Spring.

Fourth, it is clear that the domestic ethanol production industry is doing its utmost to maximize the amount of ethanol it will produce and sell this year. Given that prices for ethanol scheduled to be delivered in May and June in recent weeks have fluctuated between $2.40 and $3 per gallon, they have every incentive to make every gallon of ethanol they can. Depending on the producer, ethanol costs between $1 and $1.50 per gallon to make, not taking into account the production tax credits that these producers laws. That means their margins are somewhere over $1. per

gallon—a margin that I as a gasoline marketer could never hope to achieve and one that makes the "crack spreads" of the Nation's integrated refiners look like an amateurish attempt to turn a profit.

The question is not whether the domestic ethanol industry is doing its best to maximize production, but whether these best efforts will be sufficient to meet the demand for ethanol in the next 6 months as the Nation transitions away from MTBE as a fuel additive. Depending on the assumptions one makes as to the pace and extent of MTBE de-selection as a blending component, as EIA's report accurately points out, the domestic ethanol industry's best efforts may fall far short of supplying the amount of ethanol required to meet the demand of refiners and marketers. If this is the case, the primary source of additional ethanol supply will be from foreign countries, including enjoy under many State and Federal Jamaica, Mexico, and Brazil. As EIA's report also notes, however, much of this foreign ethanol is subject to a $0.53 per gallon duty unless it has been processed in certain Caribbean Basin Initiative (CBI) countries. Thus, the option to look toward foreign ethanol to fill the shortfall in domestic production is limited by this tariff—unless domestic ethanol prices rise to such high levels that importers are able to pay the huge per gallon duty and still offer competitively priced ethanol to refiners and marketers. If such ethanol price spikes occur over the next 6 months, it will be interesting to see if the producers of ethanol will be called before congressional committees or placed under Federal investigation for collusion and price gouging and for visiting on motorists hundreds of millions of dollars of increased prices at the gasoline pump.

Fifth, the continuing role of boutique fuels in complicating the supply and distribution of gasoline in 2006 must not be ignored. While it is true that Congress took effective steps in EPAct to cap the number of boutique fuels across the Nation, to date this cap has not had the desired effect of reducing the number of unique gasoline and diesel fuel blends across the Nation and restoring fungibility to the motor fuel supply and distribution industries. Thus, the problem of boutique fuels and the price volatility they cause during short supply situations remains.

Of greater immediate importance relative to this issue, as noted in the EIA study, is the lack of Federal legislative action to limit State boutique renewable fuel mandates. EIA noted that State ethanol mandates, such as the one currently in place in Minnesota and those under consideration or being implemented for ethanol in other States, constrain the ability of ethanol producers to respond to ethanol demand in other areas of the Nation. Congress enacted the Renewable Fuel Standard (RFS) as part of EPAct last year to assure a minimum demand for ethanol and biodiesel in the coming years. At the same time, however, Congress built into the RFS certain flexibilities to assure that renewable fuels would be used efficiently and economically under the RFS and would not be concentrated in any particular area of the Nation. These State boutique renewable fuel mandates directly undercut the EPAct RFS flexibility by preventing renewable fuels, including ethanol, from moving to the areas of highest demand. NACS and SIGMA believe that this committee and others must look into the role these boutique renewable fuel mandates play in decreasing the fungibility of product and increasing wholesale and retail price volatility for consumers—much the way Congress looked into the negative effect of State boutique gasoline and diesel fuel blends on these factors under EPAct. If State boutique renewable fuels mandates are allowed to proliferate unchecked, then all of the work Congress put into restoring fungibility in the gasoline and diesel fuel markets will ultimately go for naught.

Sixth, the bulk gasoline storage and terminaling infrastructure in many parts of the Nation is not prepared for a transition from MTBE to ethanol. Because ethanol generally cannot be transported via pipelines, it must be trucked, barged, or shipped via rail to wholesale gasoline terminals for blending into gasoline. These terminals' storage capacity for different gasoline and diesel fuels already is stretched to the limit. Many terminals in the mid-Atlantic States and Texas, where the potential effect of the transition from MTBE to ethanol will be the greatest, simply do not have an "extra" storage tank in which to store ethanol. And it is not likely that they will be able to obtain the permits and build additional storage capacity in a two or 3 month timeframe. As a result, gasoline suppliers and marketers seeking to blend ethanol into gasoline this Spring—assuming they can locate the ethanol at a reasonable price—will be forced to scramble to find storage for this ethanol at bulk terminals or will locate separate and at times distant ethanol storage facilities at which they will blend ethanol with gasoline. These bulk storage infrastructure constraints will result in an added level of complexity in an already stressed gasoline supply distribution system.

Seventh, this transition away from MTBE comes during the yearly transition from winter to summer gasoline—a transition that has in past years repeatedly resulted

in supply shortages and wholesale and retail price spikes. In 2006, not only must terminals and retailers complete the switch from winter to summer gasoline, but they must also switch from MTBE RFG to ethanol RFG. This transition to ethanol will require terminals and retailers to draw down their gasoline inventories aggressively to complete the transition as quickly as possible and to avoid offering gasoline that does not comply with EPA's clean gasoline programs. And as with any commodity, when inventories are low, the opportunities for supply shortages and price volatility increases. Finally, the transition from MTBE additized gasoline to ethanol additized gasoline will be problematic for motor fuel retailers like me. Due to ethanol's characteristics, many marketers will be forced to pump out their retail underground storage tans to convert to RFG with ethanol to prevent clogged fuel dispenser filters or clogged motor vehicle fuel filters. Retailers will be undertaking these preparations at the same time that they are preparing to switch from winter to summer gasoline blends.

Most marketers, myself included, are confused by the various announcements and predictions being made about the transition from MTBE to ethanol in RFG and have not been able to make concrete operational plans to carry one product or another.

NACS and SIGMA members have been selling gasoline blended with ethanol for decades. The challenges of selling gasohol at retail are well-known: securing appropriate gasoline blendstock and ethanol supplies and the facilities to blend these products; phase separation if any water makes its way into the blend; cleaning storage tanks before adding ethanol to prevent clogged fuel filters; and, educating consumers about gasohol in areas where it may never have been sold previously. As a result, given sufficient time to effect this transition from MTBE to ethanol, such a transition would be transparent to our customers. However, many retailers like myself are making this transition for the first time and I can tell you that the conversion is rather daunting. For example, one of my gasoline suppliers provided me a document to walk me through the conversion process—it is a 20-page document! That is a lot of information for retailers to absorb and implement.

Unfortunately, this transition is happening on a much tighter timetable than any previous transition from MTBE to ethanol. In California and New York, where MTBE was banned several years ago, retailers in those States had 2 to 3 years to plan for an orderly transition to ethanol. This is not the case with this transition. In most cases, retailers began hearing about the planned transition in January and only recently have received confirmation from their suppliers regarding the details and timing of the transition.

In short, such transitions have been accomplished before with little disruption to gasoline supplies or significant price volatility. But this transition is being undertaken much more quickly and in larger geographic areas.

This committee's inquiry on this issue could not be more timely. The gasoline refining and distribution industry is in turmoil in many areas of the Nation as each participant makes decisions concerning which products to offer, carry and sell. Suffice it to say that this turmoil will resolve itself in the near future. However, the question for policymakers must be how high gasoline prices will have to rise before sufficient quantities of gasoline blendstocks are attracted from foreign sources to make up for shortfalls in domestic production? And what role will ethanol supply and prices play in influencing retail gasoline prices in the next 6 months? Neither of these questions can be answered authoritatively at this time. However, to quote again from EIA's recent report: "(T)he complexity of the transition away from MTBE-blended RFG may give rise to local imbalances between supply and demand and associated price surges during the change. As the summer progresses and demand grows, the right supply situation is not likely to ease significantly, leaving the market exposed to the increased potential for price volatility in the East Coast and Texas RFG regions."

Unfortunately, there are few public policy options open to Congress to mitigate these potential supply shortages and price volatility in the short-term. NACS and SIGMA propose the action that would have the most significant positive effect on supply and dampening effect on price increases in the next 6 months would be the temporary suspension of the tariff on imported ethanol. This suspension would be adopted to ease the transition of the domestic ethanol industry through the period of increased ethanol demand caused by decreased MTBE use and its inability, despite its best efforts, to totally fill the supply gap left by MTBE.

In the medium term, NACS and SIGMA suggest that Congress consider two additional actions. The first would be to extend the boutique fuels cap under EPAct to limit State boutique renewable fuel mandates. Such an extension would prevent such State mandates from undermining the policy goals and the flexibility of the

RFS in EPAct and would halt the renewed proliferation of unique fuel blends across the Nation.

Second, NACS and SIGMA again urge Congress to pass legislation to encourage the expansion of domestic refining capacity. Mr. Chairman, the legislation you introduced last year to encourage such expansions was a very good effort to achieve this goal. Unfortunately, it was not approved by this committee. NACS and SIGMA urge you and your colleagues to redouble your efforts to pass such legislation. Without it, American motorists will continue to face the supply and price uncertainties that are so widespread this spring and summer.

Last year, the subject of numerous congressional hearings was the destruction of Hurricanes Katrina and Rita and their effect on gasoline and diesel fuel supplies and prices. This year, the subject is the transition away from MTBE and the effect this transition will have on gasoline supplies and prices. Next year, it may be a different set of developments, but the underlying issue will be the same. Until domestic refining capacity is increased in this Nation, gasoline and diesel fuel supply shortages and price volatility will be the norm rather than the exception. I appreciate the opportunity to present NACS' and SIGMA's views at this hearing. I would be pleased to answer any questions that my testimony may have raised.

RESPONSES BY BILL DOUGLASS TO ADDITIONAL QUESTIONS FROM SENATOR INHOFE

Question 1. In your testimony, you urge Congress to suspend temporarily the duty on imported ethanol. In your opinion, if Congress were to act on this recommendation, what would the short-term impact be on the prices you are paying for ethanol and that American motorists are paying for gasoline?

Response. There is no question in my mind that suspending temporarily the duty on imported ethanol would almost immediately reduce the price of ethanol, perhaps significantly, because of the increased competition domestic ethanol manufacturers would face from foreign ethanol producers. While there are many factors that are contributing to the upward price pressures on gasoline, the increased price of ethanol is a significant one. By opening the U.S. market to foreign ethanol producers, Congress will encourage the importation of substantial additional quantities of ethanol. This increase in overall ethanol supplies and increased competition among ethanol producers, will help satisfy the market demands for the product and place downward pressure on ethanol and gasoline prices.

Supporters of domestic ethanol producers oppose the suspension of the ethanol tariff because they believe that domestic producers must be protected from foreign competition. Given the fact that ethanol prices have more than doubled over the past year and domestic ethanol producers enjoy a 100 percent profit margin on every gallon of ethanol they produce, NACS and SIGMA suggest that suspending the tariff on imported ethanol is in the best interests of American consumers.

Question 2. EIA's testimony highlighted how complex the fuels system really is. Would you agree that increasing the complexity of the fuels system, such as requiring new fuels mandates, would increase prices for consumers?

Response. I would agree. The Energy Policy Act of 2005 sought to restore some fungibility to the motor fuels supply and distribution system by stopping the spread of additional boutique fuels and embarking on a process by which to responsibly reduce the number of fuels to a more manageable number. State fuels mandates serve to further isolate markets and create distribution challenges within a system that is already operating under a considerable strain.

In addition, the Energy Policy Act of 2005 included a "Renewable Fuels Standard" (RFS) designed to increase the use of alternative renewable fuels, such as ethanol and biodiesel, as motor fuels. Incorporated into the RFS was substantial flexibility to insure that the motor fuels markets could meet this mandate in the most cost-effective and efficient manner possible. State ethanol or biodiesel mandates—in effect, State "boutique" renewable fuels—undermine the flexibility built into the RFS by requiring minimum quantities of renewable fuels to be used in every gallon of gasoline or diesel fuel sold in a State. These State renewable fuel mandates also circumvent the Energy Policy Act's boutique fuels cap and, if left unchecked, will give rise to additional boutique fuels, further balkanization of the Nation's motor fuels markets, and more frequent supply disruptions and price volatility.

Question 3. What would you say to policymakers who would recommend such new mandates?

Response. The RFS will increase, by mandate, the use of renewable fuels to a minimum of 7.5 billion gallons by 2012. This was an historic provision designed to move the Nation toward a greater reliance on renewable resources. However, the

regulations implementing this program have not yet been drafted by the Environmental Protection Agency due to their complexity. NACS and SIGMA believe it would be premature and inappropriate for Congress to consider yet another fuels mandate before the Renewable Fuels Standard signed into law in August 2005 has been fully implemented and its market affects have been appropriately analyzed and understood. Since the RFS was enacted, domestic ethanol prices have doubled and there have been widespread media reports that domestic ethanol supply will fall short of demand in the coming years. Before increasing the RFS, NACS and SIGMA urge Federal policymakers to permit the existing mandate to be implemented fully, study its impact on gasoline prices, and only then consider an expansion once this evidence has been gathered.

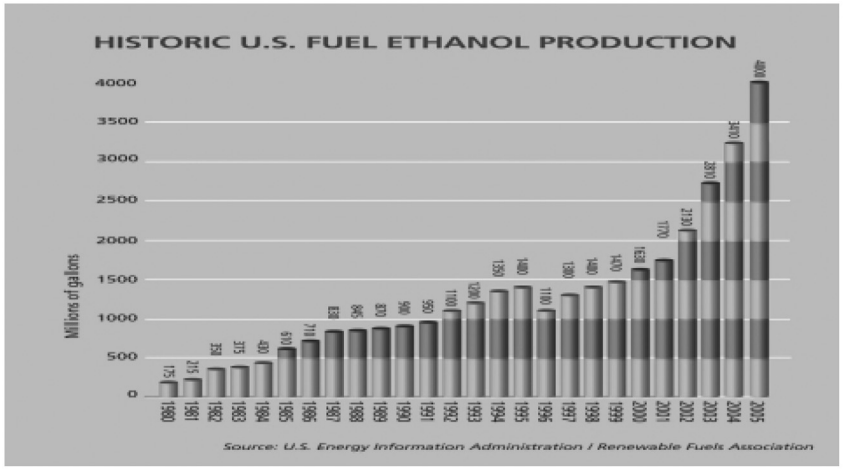
STATEMENT OF BOB DINNEEN, PRESIDENT, RENEWABLE FUELS ASSOCIATION

Good morning, Mr. Chairman and members of the committee. My name is Bob Dinneen and I am president of the Renewable Fuels Association, the national trade association representing the U.S. ethanol industry.

This is an important and timely oversight hearing, and I am pleased to be here to discuss everything the ethanol industry is doing to mitigate any potential consumer impact resulting from refiner decisions to eliminate the use of MTBE. In short, I can assure you the Nation's ethanol producers are working closely with their refiner customers to make the transition from MTBE to ethanol in those areas not yet having made the switch as seamless as possible. I am confident the transition can, and will, go smoothly.

BACKGROUND

Today's ethanol industry consists of 97 biorefineries located in 19 different States with the capacity to process more than 1.7 billion bushels of grain into nearly 4.5 billion gallons of high octane, clean burning motor fuel and 9 million metric tons of livestock and poultry feed. It is a dynamic and growing industry that is revitalizing rural America, reducing emissions in our Nation's cities, and lowering our dependence on imported petroleum. Ethanol has become a ubiquitous component of the U.S. motor fuel market today. Ethanol is blended in more than 30 percent of the Nation's fuel, and is sold virtually from coast to coast and border to border.



The 4 billion gallons of ethanol produced and sold in the U.S. last year contributed significantly to the Nation's economic, environmental and energy security. According to an analysis completed for the RFA[1], the 4 billion gallons of ethanol produced in 2005 resulted in the following impacts:

- Added $32 Billion to gross output;
- Created 153,725 jobs in all sectors of the economy;

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[1] Contribution of the Ethanol Industry to the Economy of the United States, Dr. John Urbanchuk, Director, LECG, LLC, February 2006.

• Increased economic activity and new jobs from ethanol increased household income by $5.7 Billion, money that flows directly into consumers' pockets;

• Contributed $1.9 Billion of tax revenue for the Federal Government and $1.6 Billion for State and Local governments; and,

• Reduced oil imports by 170 million barrels of oil, valued at $8.7 Billion.

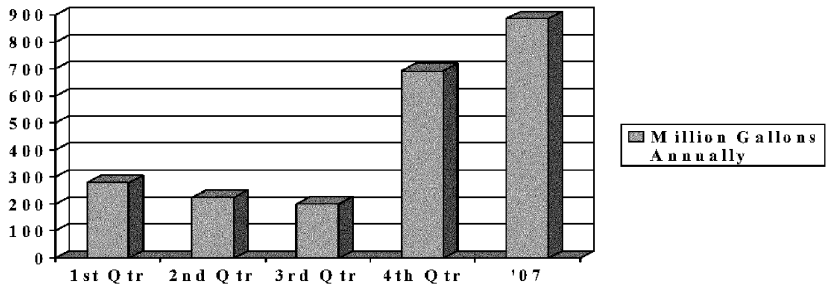
In addition, because the crops used in the production of ethanol absorb carbon dioxide, the 4 billion gallons of ethanol produced in 2005 reduced greenhouse gas emissions by nearly 8 million tons.[2] That's the equivalent of taking well over a million vehicles off the road.

ENERGY POLICY ACT HAS STIMULATED SIGNIFICANT NEW ETHANOL PRODUCTION

Mr. Chairman, in large part because of the Energy Policy Act of 2005 (EPAct), the U.S. ethanol industry is today the fastest growing energy resource in the world. This committee should be proud of its role in getting the congressional debate regarding a robust Renewable Fuels Standard (RFS) started. With your leadership, and the tremendous support of members of the committee, such as Senators John Thune (R–SD) and Barack Obama (D–IL), the Congress last year enacted an RFS requiring the use of at least 7.5 billion gallons of renewable fuels by 2012. That provision signaled a clarion call to the ethanol industry and the financial community that demand for ethanol and biodiesel was no longer uncertain, allowing the renewable fuels industry to grow with confidence.

Indeed, there are currently 33 plants under construction. Eighteen of those have broken ground just since last August when President Bush signed EPAct into law. With existing biorefineries that are expanding, the industry expects more than 2 billion gallons of new production capacity to be in operation within the next 12 to 18 months. The following is our best estimate of when this new production will come on stream.

Projected Ethanol Production Capacity



This preceding chart reflects eight plants and three expansions we believe will be complete before July, representing more than 500 million gallons of production capacity; and another 16 plants and 2 expansion that will be complete before the end of the year, adding about 900 million gallons more. This new 1.4 billion gallons of new capacity represents a 32 percent increase in production, a phenomenal rate of growth, particularly when viewed in light of the 20-plus percent growth the industry has already achieved in each of the past several years.

MTBE IS HEMORRHAGING THE MARKETPLACE

Another consequence of the Energy Policy Act appears to be a much more rapid elimination of MTBE than analysts anticipated. Because Congress chose not to provide liability protection for refiners and producers of MTBE, virtually every major refiner has decided to eliminate the use of MTBE by the time the Federal RFG oxygenate requirement is officially repealed (May 5, 2006). While State legislative actions to prohibit the sale of MTBE had already greatly reduced the volume of MTBE used in reformulated gasoline (RFG),[3] there is still approximately 2 billion gallons

[2] Argonne National Laboratory, U.S. Department of Energy, GREET Model, February 2006.

[3] Twenty-six States have enacted legislation to prohibit the use of MTBE because of increasing concerns related to MTBE water contamination. These States include the RFG areas of Cali-

of MTBE sold in the Mid-Atlantic, Northeast and Texas. This volume will likely be replaced by ethanol.

It is important to note, however, that no provision of the Energy Policy Act or the Clean Air Act requires refiners to eliminate MTBE by this date. Refiners are not compelled to use MTBE in RFG, nor are they compelled to use ethanol once the oxygenate requirement is eliminated.[4] The decision to stop using MTBE is the refiners' alone.

THERE WILL BE ADEQUATE SUPPLIES OF ETHANOL TO MEET THE DEMAND CREATED BY THE REMOVAL OF MTBE

U.S. ethanol supplies will be available to meet this new demand. First, as noted, dramatically increased ethanol production capacity will satisfy much of the new demand. In addition to the new capacity previously discussed, several ethanol and gasoline marketers have been storing ethanol supplies at terminals in these new markets in anticipation of the transition from MTBE.

Second, several refiners have contracted with Brazilian and/or Caribbean ethanol suppliers for product. Approximately 130 million gallons of ethanol were imported last year. That figure is expected to increase in 2006.[5]

Third, the marketplace will migrate ethanol from existing conventional gasoline areas where it is added for octane or as a gasoline extender to MTBE replacement markets where it will be needed more. Indeed, many refiners and marketers are today renegotiating existing contracts to effect a temporary re-allocation of product and assure a smooth transition in new market areas.

As a result, virtually every refiner and gasoline analyst now acknowledges there will be sufficient ethanol supplies to meet the demand created by MTBE replacement. Consider the following statements:

• "The United States will have enough ethanol to blend into gasoline during the current spike in demand as companies transition away from the oxygenate MTBE." Valero Energy CEO William Klesse.

• "We have enough ethanol to replace MTBE when the new ethanol mandate takes effect in May." ExxonMobil CEO Rex Tillerson.

THE TRANSPORTATION, DISTRIBUTION AND BLENDING INFRASTRUCTURE WILL BE READY

The ethanol industry is working diligently with our refiner customers, gasoline marketers, terminal operators and the fuel distribution network to assure a successful transition from MTBE to ethanol in these areas. Over the past several years, the ethanol industry has worked to expand a "Virtual Pipeline" through aggressive use of the rail system, barge and truck traffic. As a result, we can move product quickly to those areas where it is needed. Many ethanol plants have the capability to load unit trains of ethanol for shipment to ethanol terminals in key markets. We are also working closely with terminal operators and refiners to build ethanol storage facilities and blending equipment.

Great credit must be given to the petroleum industry for the effort that is being made to assure success. Examples of some of the investments being made to accommodate the switch from MTBE to ethanol in key markets include the following:

• Sewaren, NJ is expected to be the primary gathering point for ethanol for East Coast markets in 2006 because it has both unit rail car capacity and marine access. Ethanol will be trucked to serve New York and New Jersey, and product will flow out by barge to Providence, Boston and Baltimore.

• Unit Train unloading facilities are either being built or planned for Providence, RI, Linden, NJ, Baltimore, MD, and Dallas, TX. Already, a unit train breakout facility is in operation in Albany, NY.

• Barge receiving capability is either in place or being built in Philadelphia, Baltimore and Houston.

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fornia, Illinois, New York and Connecticut. Ethanol has already successfully replaced MTBE in RFG sold in these areas.

[4] Based on indications from the refining industry, the Colonial Pipeline had announced that MTBE shipments would not be allowed after March. That decision has been re-evaluated, however, and the pipeline system will allow MTBE RFG to be shipped upon request.

[5] It is important to note that lifting the secondary tariff on ethanol is not necessary to encourage additional imports. Under the Caribbean Basin Initiative, 270 million gallons can be imported duty-free. Moreover, the secondary tariff only exists to offset the tax benefit refiners receive for blending ethanol, regardless of its source. Eliminating the tariff, then, would result in U.S. taxpayers subsidizing already highly subsidized Brazilian ethanol. That is particularly unnecessary as the marketplace is seeing ethanol imports increase under the existing tariff regime.

• Transloading (rail to truck) capability is being developed as a transitional step for Richmond, Washington and Dallas. More permanent rail terminals are being developed for these areas.

There is no question that the dramatically accelerated removal of MTBE has challenged the marketplace. But the ethanol and petroleum industries have done this successfully before in New York, California and Connecticut. We know we can do it again. As one industry analyst observed recently, "The very fact that these companies are on the record as discontinuing MTBE and replacing it with ethanol tells us one very important fact—they are prepared."[6]

CONCLUSION

In his State of the Union Address, President Bush acknowledged the Nation "is addicted to oil" and pledged to greatly reduce our oil imports by increasing the production and use of domestic renewable fuels such as ethanol and biodiesel. The Energy Policy Act of 2005 clearly put this Nation on a new path toward greater energy diversity and national security through the RFS. The unprecedented transition from MTBE to ethanol may present short-term challenges that industry is working cooperatively and diligently to overcome, but it also presents a long-term benefit for the Nation, by moving us one step closer to President Bush's vision of a more energy secure America. Thank you.

RESPONSES BY BOB DINNEEN TO ADDITIONAL QUESTIONS FROM SENATOR INHOFE

Question 1. Mr. Dinneen the primary way to reduce ethanol prices would be to increase supply, and one suggestion has been made that ethanol prices will fall if the import duty on ethanol is suspended temporarily. I am not talking about repealing it entirely—your members clearly plan to have additional plants on line by next year, according to the facts, domestic supplies of ethanol will be short. Do you agree that suspending the duty will cause ethanol prices to drop?

Response. Mr. Chairman. The recent voluntary shift away from methyl tertiary butyl ether (MTBE) to ethanol undertaken by U.S. gasoline refiners has put increased focus on America's ethanol and gasoline supplies. Some have suggested that the secondary tariff on imported ethanol should be removed, as least temporarily, to augment domestic supplies. It is claimed this would lower prices at the pump. This claim is flawed on a number of counts.

First, Ethanol supplies are sufficient. The Energy Information Administration (EIA) estimates that 130,000 barrels per day (b/d) of ethanol will be needed to replace the volume of MTBE refiners have chosen to remove from the gasoline pool. The most recent EIA report shows that U.S. ethanol production has soared to 302,000 b/d in February, clearly enough ethanol to meet the new MTBE replacement demand while continuing to supply existing markets. With 32 new ethanol biorefineries under construction, ethanol production capacity will only continue to increase.

In addition, EIA data shows a large increase in ethanol stocks. Because gasoline marketers and ethanol producers have been building stocks over the past several months in anticipation of the transition from MTBE, there is now nearly 29 days of supply in working inventory. Additional data has shown that imports are rising also, demonstrating the existing tariff structure is not a barrier to entry. Indeed, more than 50 million gallons of ethanol have been imported this year. Moreover, some 40 million gallons of the total has been imported duty free through the Caribbean Basin Initiative (CBI) as of May 1, 2006, with much of that being Brazilian in origin. All of these numbers indicate that ethanol supplies are sufficient to meet the new demand.

Second, repealing the tariff won't lower gasoline prices. Gasoline prices will not be affected by removing the secondary tariff on imported ethanol. Imported ethanol represents just a fraction of the ethanol used to replace MTBE, and ethanol itself represents just 3 percent of U.S. motor fuel supplies. The factors truly driving the price of gasoline higher have nothing to do with ethanol supplies. Record crude oil prices, tight refining capacity, lower gasoline production, lower gasoline imports and limited expansion of domestic refining expansion all play a much greater role than the supply of ethanol in today's higher gasoline prices.

Furthermore, imported ethanol arrives in the United States at the same market price as domestic ethanol. Ethanol from Brazil is in short supply and ethanol mar-

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[6] The Ethanol Monitor, published by Oil Intelligence Inc., Oceanport, NJ, Volume 2, No. 11, March 27, 2006.

keters from Brazil do not discount the price of ethanol that is shipped to the United States.

Third, removing the tariff means American taxpayers would be subsidizing Brazilian ethanol production. Removing the 54 cent secondary tariff would in essence be asking American taxpayers to further subsidize already heavily subsidized ethanol and sugarcane production in countries like Brazil. U.S. gasoline refiners receive a 51 cent tax incentive for every gallon of ethanol they blend into gasoline, regardless of the ethanol's origin. So, imported ethanol from Brazil, for instance, qualifies for the tax incentive. Brazil has built its ethanol industry through 35 years of tax incentives, production subsidies, mandates, export enhancement, infrastructure development, debt forgiveness and currency devaluation. Brazil does not need U.S. tax dollars to compete effectively, as evidenced by the fact 135 million gallons were imported last year and those volumes are increasing.

Question 2. Mr. Dinneen, the ethanol industry existed along with MTBE. In order to help renewable fuels develop, ethanol benefited from State subsidies, Federal tax credits, State mandates, and protectionist Federal tariffs. As you pointed out in the RFA's conference, "ethanol has arrived" with the passage of the 7.5 billion gallon mandate. Since ethanol has arrived, isn't it time to repeal government sanctioned market interference and really let ethanol grow in a transparent and free marketplace?

Response. Ethanol has arrived, because under the Renewable Fuels Standard (RFS), ethanol and biodiesel are now an official component of the transportation fuels market program, albeit only 3 percent. Today, only 4.8 billion gallons of ethanol and biodiesel are blended into a 140 billion gallon gasoline market and a 45 billion gallon diesel market.

The energy sector worldwide is heavily subsidized, including oil, natural gas, coal, wind, nuclear, hydrogen and biofuels. The current incentives for biofuels are necessary to continue to grow the industry.

According to The National Defense Council Foundation, which completed a comprehensive analysis of the external costs of imported oil in a report issued in 2003 entitled, "America's Achilles Heel: The Hidden Costs of Imported Oil." The study analyzed three basic categories: Direct and Indirect economic costs, Oil Supply Disruption Impacts and Military Expenditures. Taken together, these costs totaled $304.9 billion annually, the equivalent of adding $3.68 to the price of a gallon of gasoline imported from the Persian Gulf. In 2006 numbers the annual cost is $825.1 billion.

In 2000, the Government Accounting Office analyzed specific incentives for the petroleum sector and concluded that in the last 25 years, well over $150 billion of annual revenue to the United States Treasury had been lost due to Federal tax incentives. Finally, according the Joint Committee on Taxation, the petroleum sector also received well over $12 billion of additional tax benefits, under the Energy Policy Act of 2005 (EPAct).

By comparison, the ethanol industry has gradually built a program that has benefited from government programs while at the same time providing a great deal of benefit to the both the Government and Nation. As I stated in my testimony, in 2005, the 4 billion gallons of ethanol produced and sold last year, contributed significantly to the Nation's economic, environmental and energy security. According to an analysis completed for the RFA, the 4 billion gallons of ethanol produced in 2005 resulted in the following impacts:

- Reduced oil imports by 170 million barrels of oil, valued at $8.7 Billion.
- Added $32 Billion to gross output;
- Created 153,725 jobs in all sectors of the economy;
- Increased economic activity and new jobs from ethanol increased household income by $5.7 Billion, money that flows directly into consumers' pockets; and,
- Contributed $1.9 Billion of tax revenue for the Federal Government and $1.6 Billion for State and Local governments.

Furthermore, according the U.S. Department of Agriculture in 2005, the ethanol program reduced Federal farm program payments by nearly $5 billion.

Indeed, the targeted investment by the Federal Government in ethanol, has increased tax revenue and decreased Federal spending, while at the same time creating billions of dollars of private investment for new infrastructure across the United States, adding jobs to the economy and decreasing the trade imbalance.

At this point, it is necessary to continue the ethanol program to grow the marketplace to its full potential which includes the realization of cellulosic ethanol. Through the new research and development programs created in EPAct, the industry is on track to begin construction of new ethanol plants using feedstocks from

cellulosic sources by 2013. Changes to the current program will hinder that process significantly.

Question 3. Mr. Dinneen in light of your support for the RFS, would you agree that the recent flurry of activity to adopt State ethanol and bio-diesel mandates actually undermines the RFS and its flexibility provisions? As EIA noted in its report, Minnesota's ethanol mandate actually harms the ability of ethanol to replace MTBE in many markets by inflexibly requiring minimum ethanol content in every gallon of gasoline sold in the State. If these State mandates expand, will they not continue to act as obstacles to the national renewable fuels market envisioned in EPAct?

Response. I understand that some are concerned about the proliferation of State biofuels programs because they believe these programs may undermine the flexibility intrinsic to the national renewable fuels standard (RFS) adopted as part of last year's Energy Policy Act (EPAct). I am sympathetic to that concern. The Renewable Fuels Association worked in good faith with the American Petroleum Institute and others to pass a national RFS that gave refiners maximum flexibility to blend ethanol and other biofuels wherever the market place determined. To an extent, State biofuels mandates do chip away at that flexibility, which States should appropriately weigh when contemplating such programs.

Even from an RFS implementation standpoint, however, the concerns about State biofuels programs might be overstated. First, only two State programs are currently in place (Minnesota and Hawaii); and those areas where such programs have been adopted or are proposed are largely in areas where refiners would be likely to utilize biofuels to meet RFS requirements in any case, i.e., in States with significant existing or potential ethanol production capacity. Indeed, several of the proposed State programs would not become effective until there is meaningful biofuels production in the State.

Second, not all of the biofuels programs rely upon mandates. Iowa just enacted a very aggressive 25 percent oil displacement program by 2019 that relies entirely upon tax incentives to motivate gasoline marketers to install biofuels infrastructure allowing for much greater ethanol, E–85 and biodiesel use. The Iowa legislation had support from the local petroleum industry and it is likely to become a model for other States to follow.

Mr. Chairman. I appreciated the opportunity of testifying before your committee and to provide you with additional feedback on the additional questions. I look forward to working with you and your staff on the ongoing development of renewable fuels, if you have additional comments or questions, please contact me.

STATEMENT OF AMERICAN PETROLEUM INSTITUTE

API is a national trade association representing more than 400 companies involved in all aspects of the oil and natural gas industry, including exploration and production, refining, marketing and transportation, as well as the service companies that support our industry. As a trade association, representing all members, API does not collect information about company-specific plans.

We welcome this opportunity to provide our views on the fuels transitions and related issues involving the fuel needs of U.S. consumers.

The Energy Policy Act of 2005 eliminates the reformulated gasoline (RFG) oxygen requirement in May, and also sets a new renewable fuel standard, requiring that the industry use 4 billion gallons of renewable fuel in 2006—increasing to 7.5 billion gallons in 2012 and increased amounts thereafter. In addition, ultra-low sulfur diesel will be introduced starting June 1. Eliminating the RFG oxygen requirement is a change in the law that the industry has long supported as one that will add to refiners' flexibility to produce gasoline and allow those who so choose to eliminate the use of MTBE in gasoline. Similarly, the introduction of ultra-low sulfur diesel, despite the large costs incurred by the nation's refiners, will have major benefits and is strongly supported by the U.S. oil and natural gas industry. However, both of these are major fuels changes and present significant challenges to fuel providers. Despite this, we know that oil companies are dedicated to ensuring that these transitions go smoothly as possible.

API believes that, to be successful, fuel transitions should be based on the free and unfettered functioning of fuel markets. Market mechanisms are most effective in providing companies with appropriate indicators and in ensuring a rapid response to changes in market conditions or transitional problems that may occur. Changes to these market indicators by government—such as calling for waivers from clean fuel regulations in light of concerns about possible volatility in fuel prices—will only cause market uncertainty and send confusing information to markets in transition. There are already mechanisms in place to deal with true market

supply disruptions, and we urge the Government to use appropriate caution in exercising this existing authority.

There is very little literature available about a number of the impacts. The Blue Ribbon Panel on Oxygenates in Gasoline noted in its report dated September 15, 1999, that it is important to explore "the potential for adverse effects . . . before widespread introduction of any new, broadly-used product." Further, the panel recommended that a full assessment be conducted "of any major new additive to gasoline prior to its introduction."

Operating in a free marketplace, the U.S. oil and natural gas industry has the technical expertise and decades of experience in successfully handling fuel specification transitions. Our companies have repeatedly demonstrated their capability for making these transitions on the national level in dealing with RFG, low-sulfur gasoline and diesel fuel and in meeting so-called "boutique fuels" requirements at the State level. It has also successfully managed earlier phase-outs of MTBE from the gasoline supply, including those in California, New York, and Connecticut where, despite initial concerns, transitions to ethanol fuels went smoothly. Our companies have not only committed their expertise, they are also making the substantial investments required to complete these transitions. And we note the ethanol industry's statements that it is making a major effort to supply ethanol, as it did during the smooth transitions in California, New York and Connecticut.

Since the Energy Policy Act of 2005 did not provide for a national, ordered phase-out of MTBE, individual companies are making individual decisions on how best to deal with the end of the RFG oxygen mandate and the use of oxygenates. The elimination of the RFG oxygen mandate, the State MTBE bans (26 so far), and announcements by refiners, pipelines and marketers indicate a likely rapid reduction in the use of MTBE. Companies are taking into account various factors such as customer preference, State laws, pipeline decisions, distribution system capabilities, and information from government agencies such as the Energy Information Administration (EIA).

Recent data indicate that there is about 158,000 b/d of MTBE being used today. If ethanol were substituted for this amount, we would need roughly 225,000 b/d of additional ethanol. However, some of the MTBE loss could and likely will be made up through the use of different compounds and increased gasoline production. Moreover, the fuels market is worldwide, so we assume that increased reliance on imports is an option that some suppliers are also considering. We should keep in mind that, while there is a substantial volume of MTBE, it is a small component of the total reformulated gasoline market and an even smaller portion of the world fuels market.

U.S. oil and natural gas companies have the expertise, experience, and resources required to make the fuel transitions that are required—provided fuel markets are allowed to function freely. We think a valuable role for the Government is to help create as clear and transparent a picture as possible of what is occurring in the marketplace during this summer's upcoming transitions. In this vein, we strongly support continued efforts by EIA to monitor the supply and demand dynamics of the market, and provide timely updates to their initial study. API and its members are happy to cooperate in any such effort. Clearly, the Nation needs to work together—industrial and retail consumers, energy companies and government—to address the energy challenges we all face.

Bob Slaughter
President

NPRA

National Petrochemical & Refiners Association

1899 L Street, NW
Suite 1000
Washington, DC
20036-3896

202 457 0480 voice
202 457 0486 fax
bslaughter@npra.org

March 28, 2006

Hon. James M. Inhofe, Chairman
Committee on Environment & Public Works
United States Senate
Dirksen Senate Office Building, SD-410
Washington, DC 20510-6175

Re: Statement of National Petrochemical & Refiners Association for Oversight Hearing on Impact of Elimination of MTBE

Dear Chairman Inhofe:

We understand that the Senate Committee on Environment & Public Works will hold an oversight hearing on March 29, 2006, regarding the potential impact of eliminating or sharply reducing the amount of MTBE in the U.S. domestic gasoline supply. NPRA, the National Petrochemical & Refiners Association, is pleased to submit this letter for the record, incorporating our comments on this important issue. The association commends the Committee for holding this hearing as the U.S. Environmental Protection Agency (EPA) seeks to finalize regulations repealing the two-percent oxygen standard in RFG and as refiners comply with new fuel specifications and meet the demands of the summer driving season. In short, this hearing is quite timely.

NPRA is a national trade association whose 450 members include virtually all U.S. refiners and petrochemical manufacturers. The association supports policies that ensure a predictable and secure supply of gasoline, other refined petroleum products and petrochemicals.

NPRA worked with this Committee and others in the Senate and House of Representatives while Congress developed and passed the Energy Policy Act of 2005. During that period, NPRA consistently advocated an energy policy that would increase energy supplies and encourage improvements in America's energy infrastructure. We noted that the conference report made only limited progress on these issues. At the same time, we strongly criticized the decision not to include MTBE limited liability language in the final version.

Mr. Chairman, there is no doubt that refiners' efforts to maintain a secure gasoline supply during this transition period have been complicated by Congress' failure to include limited liability relief for MTBE as part of last year's comprehensive energy legislation. Congress mandated MTBE inclusion in RFG as part of the Clean Air Act Amendments of 1990 and

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should have acted to shield refiners from potential tort suit liability based solely on the industry's compliance with this clear statutory mandate. NPRA has long advocated elimination of the 2% requirement, and continues to do so, but the absence of limited liability protection may now result in less MTBE use than would have occurred had the liability provision been enacted as we and many others recommended. That being said, refiners and petrochemical manufacturers will continue to work hard to minimize any adverse supply impacts and to meet consumer demand.

Recent history demonstrates the industry's commitment to innovate and maintain supply even under difficult circumstances. As filed NPRA testimony to the Senate Judiciary Committee recently stated: "Improved management techniques and technological advances allow existing facilities to produce ever greater amounts of refined product. In addition, refiners have added significant capacity at existing sites. In 1981, the average refinery in the United States had approximately 57,000 b/d of crude oil distillation capacity. Today, the average refinery has a capacity of over 110,000 b/d. In the face of daunting capital costs and increasing environmental restrictions, the industry has relied on economies of scale to save on construction costs and bring new capacity on line more quickly."[1] Further evidence of the industry's commitment to our consumers is the experience of last summer, when back-to-back hurricanes severely damaged many facilities and pipelines along the Gulf Coast. The refining and petrochemical industries responded to that disaster with swift action to re-establish critical fuel supplies more quickly than anyone could have expected. This was accomplished at the same time that our members acted to meet the human needs of their employees and those of the surrounding communities.

On September 6, 2005, as the Senate Energy and Natural Resources Committee examined the effects of the Gulf Coast hurricanes on product supply, NPRA stated that:

> MTBE use as an oxygenate in reformulated gasoline accounted for as much as 11 percent of the RFG supply at its peak; substitution of ethanol for MTBE does not replace all of the volume lost by removing MTBE. (Ethanol's properties generally cause it to replace only about 50 percent of the volume lost when MTBE is removed.) This lost volume must be supplied by additional gasoline or gasoline stocks. Especially during a period of supply concern, it is in the nation's interest to be prudent in taking any action that affects MTBE use. That product still accounts for 1.6 percent of the nation's gasoline supply on average, but it provides a larger portion

[1] Statement of the National Petrochemical and Refiners Association submitted to the Senate Judiciary Committee, United States Senate, concerning Consolidation in the Oil Industry: Raising Prices at the Pump? (Mar. 14, 2006).

of gasoline supplies in areas where RFG requirements are not subject to an MTBE ban.[2]

On February 3, 2006, Energy Secretary Bodman submitted a Department of Energy (DOE) analysis to EPA Administrator Stephen Johnson regarding the potential for quick market deselection of MTBE resulting from the lifting of the fuel-oxygen standard coupled with a failure to provide limited liability protection for the use of MTBE. The Secretary wrote that, "the expected phase-out of MTBE may increase the likelihood of higher prices and a possibly volatile market through 2006."[3] The analysis itself stated that, "suppliers believe the removal of the Federal oxygenate requirement could increase their potential liability if water supplies are contaminated with MTBE. This rapid phase-out of MTBE will reduce gasoline supplies and may increase the likelihood of higher prices and a possibly volatile market through 2006."[4]

We also understand that the Committee will hear testimony from the Energy Information Administration (EIA). On February 22, 2006, EIA released a report entitled *Eliminating MTBE in Gasoline in 2006*. In that report, EIA acknowledges that MTBE and ethanol have different properties, while identifying potential supply tightness in gasoline supply due to production, distribution and storage of critical blendstocks. EIA confirms that relatively early phase-out of MTBE is in part related to fears of potential legal liabilities due to Congress' failure to act on MTBE limited liability protection.[5]

NPRA notes, Mr. Chairman, you warned as early as 2001 that a "great desire to address the political circumstances surrounding the fuel additive MTBE" could make "our energy security considerably worse by shortening supply and limiting the diversity of its sources." You further pointed out that, "MTBE represents an important contribution to refining volume and fuel diversity. By harnessing natural gas resources to augment the gasoline supply with non-petroleum alternatives, MTBE represents the crucial price and supply moderators in the

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[2] Statement of the National Petrochemical and Refiners Association before the Senate Energy and Natural Resources Committee, United States Senate, concerning The Effect of Hurricane Katrina on Oil and Oil Product Supply (Sept. 6, 2005).

[3] Letter from Hon. Samuel W. Bodman to Hon. Stephen L. Johnson (Feb. 3, 2006)(regarding "Assessment of the Need to Waive in Whole or in Part the Renewable Fuel Program in 2006").

[4] U.S. Department of Energy, Assessment of the Need to Waive in Whole or in Part the Renewable Fuel Program in 2006 (Jan. 31, 2006) at 4.

[5] EIA, Eliminating MTBE in Gasoline in 2006 (Feb. 22, 2006), available at http://www.eia.doe.gov/pub/oil_gas/petroleum/feature_articles/2006/mtbe2006/mtbe2006.pdf.

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modern fuel pool."[6] These remarks were made in reference to one of the bills that was a forerunner to legislation adopted as part of the Energy Policy Act.

In fact, the legislative record is replete with information regarding potential supply concerns related to MTBE phase-out. In 1998, DOE Assistant Secretary for Policy Bob Gee testified before this Committee that, "From an energy security perspective, oxygenates provide a way to extend gasoline supplies...even in the current market, oxygenate use in reformulated gasoline, which is primarily MTBE, saves over 200,000 barrels per day of oil use in the United States."[7] In February 2000, DOE fuel experts Barry McNutt and Tom White, with support from the Oak Ridge National Laboratory, found that an "MTBE ban is equivalent to loss of 300 thousand barrels per day of premium blendstock. MTBE removal needs to be compensated by crude processing capacity equivalent to 5 average US refineries."[8] And in June 2001, the DOE Undersecretary told the Senate Energy and Natural Resources Committee that, "MTBE's contribution to gasoline supplies nationally is equivalent to about 400,000 barrels a day of gasoline production capacity or the gasoline output of four to five large refineries. Additionally, a loss of ability to use MTBE may also affect the ability of the US gasoline market to draw gasoline supplies from Europe, the major source of our price-sensitive gasoline imports, since those refiners widely use MTBE, albeit typically at lower concentrations than in the U.S."[9]

This background indicates to NPRA that individual participants in the gasoline manufacturing industry will make their own decisions regarding continued MTBE usage when the 2% requirement is lifted. These decisions, to which NPRA as a trade association cannot be a party, will doubtless reflect the experience of the refining and petrochemicals industries with MTBE use since its inclusion in RFG was effectively mandated by the 1990 Clean Air Act Amendments. NPRA traditionally opposes fuel mandates, a policy position that has only been validated by industry's experience with the RFG mandate. We also remain concerned about Congress' recent decision to mandate ethanol inclusion in the

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[6] Report No. 107-131, regarding S.950, the Federal Reformulated Fuels Act of 2001, 107th Cong., 1st Sess., Committee on Environment and Public Works, U.S. Senate (Dec. 20, 2001)(minority views of Sen. Inhofe).

[7] Statement of Robert W. Gee, Assistant Secretary Office of Policy and International Affairs U.S. Department of Energy, submitted to the Committee on Environment and Public Works, United States Senate (Sept. 16, 1998).

[8] B.D. McNutt and Tom White, Office of Policy, U.S. Department of Energy, and G. R. Hadder, Oak Ridge National Laboratory, "No Free Lunch - Understanding ALL Impacts of an MTBE Ban" (Feb. 1, 2000) at http://www.calgasoline.com/McNutt.pdf.

[9] Bob Card, Undersecretary of Energy, Hearings before the Senate Committee on Energy and Natural Resources (June 21, 2001).

nation's gasoline supply, as we do about attempts to extend that mandate and require other "renewable fuel" use.

As we noted previously, NPRA member companies remain committed to doing everything possible to meet demand for transportation fuels even in difficult situations. But we would like to take this opportunity to recommend that Congress keep a close eye upon several evolving regulatory programs that may significantly impact gasoline and diesel supply. They include:

✓ Design and implementation of the credit trading program for the ethanol mandate (RFS) contained in the recent Energy Act. This mechanism is vital to ensure smooth implementation without additional gasoline supply disruption. Refiners have been working closely with EPA to accomplish this key task. EPA is also in the process of finalizing its repeal of the fuel-oxygen standard. In the context of this rule, EPA should consider clarifying that litigation related to choice of approved additives is preempted, just as the Agency did when it adopted the 1994 RFG rules.[10]

✓ State MTBE bans result in reduced fuel supply. California, New York and Connecticut bans on use of MTBE are in effect. Other state bans such as those in New Jersey, Delaware and New Hampshire will be effective in the next few years. Additionally, as discussed above, some manufacturers may decide to limit or stop MTBE use due to the risk of unjustified liability claims. Any gasoline volumes lost as a result may be difficult to replace immediately.

✓ Implementation of the ultra low sulfur diesel highway diesel regulation. The refining industry has made large investments to meet the severe reductions in diesel sulfur that take effect in June. We remain concerned about the refining industry's ability to produce the necessary volumes and the distribution system's ability to deliver this material at the required 15 ppm level at retail. If not resolved, these problems could affect America's critical diesel supply. Industry is working closely with EPA on this issue, but time left to solve this potential problem is growing short.

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[10] Regulation of Fuels and Fuel Additives: Standards for Reformulated and Conventional Gasoline, 59 Fed. Reg. 7716, 7809 (Feb. 16, 1994) (emphasis added); *see also* EPA, *Reformulated Gasoline and Anti-Dumping Questions and Answers*, No. VIII.B.2 (July 1, 1994) ("State controls respecting the gasoline characteristics or components controlled or prohibited in the RFG and conventional gasoline regulations *are therefore preempted*, like state volatility and lead content controls.") (emphasis added).

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✓ Phase II of the MSAT (mobile source air toxics) rule for gasoline. Some refiners are concerned that this new regulation is overly stringent and may impact gasoline supply. We hope that EPA will finalize a rule that protects the environment and avoids reducing gasoline supply.

✓ Implementation of the new 8-hour ozone NAAQS standard. The current implementation schedule set by EPA has established ozone attainment deadlines for parts of the country that will be impossible to meet. EPA has not made needed changes that would provide realistic attainment dates. The result is that areas will be required to place sweeping new controls on both stationary and mobile sources in a vain effort to attain the unattainable deadlines. The CAIR rule and ULSD diesel program will provide significant reductions to emissions within these areas once implemented. But they will not come soon enough to be considered unless the current unrealistic schedule is revised. If not, the result will be additional fuel and stationary source controls which will have an adverse impact on fuel supply and could actually reduce U.S. refining capacity. This issue needs immediate attention.

✓ Continued clarification of new source review (NSR) program. As refiners react to changed conditions, they must have the certainty to know when equipment replacement may trigger NSR requirements. While NPRA observes that numerous federal appeals cases have called into question the legal grounding of some NSR enforcement efforts, we were disappointed to see a three judge panel of the U.S. Court of Appeals for the D.C. Circuit reject the final NSR equipment replacement rule. We urge the Administration to appeal this decision and/or to reissue appropriate rules. Further, refiners would like to see the Agency release new NSR rules that address aggregation and debottlenecking issues at our facilities.

Thank you for this opportunity to address issues related to MTBE and the marketplace. We look forward to continuing our work with the Committee on legislative and oversight issues.

Sincerely yours,

Bob Slaughter

Bob Slaughter
President

Bob Slaughter
President

NPRA

National Petrochemical & Refiners Association

1899 L Street, NW
Suite 1000
Washington, DC
20036-3896

202 457 0480 voice
202 457 0486 fax
bslaughter@npra.org

April 4, 2006

Senator Barbara Boxer
United States Senate
SH-112 Hart Senate Office Building
Washington, DC 20510-0505

Re: NPRA Position and the March 28 Senate Hearing on Fuel Issues

Dear Senator Boxer:

We have received your letter dated March 30, 2006, regarding our letter to Chairman Inhofe which was submitted for the record at the Senate Committee on Environment and Public Works hearing on March 28, 2006. Because your letter makes several allegations with which we strongly disagree, we are writing today to state the views of the National Petrochemical & Refiners Association on the topics you raise. As you know, NPRA is a national trade association whose 450 members include virtually all U.S. refiners and petrochemical manufacturers. NPRA supports policies that ensure a predictable and secure supply of gasoline, other refined petroleum products, and petrochemicals.

You first contend that MTBE use was not specifically required by the Clean Air Act. The relevant point is that MTBE use at significant levels is a direct result of compliance with an unambiguous federal mandate, the two-percent oxygen standard.[1] Further, the U.S. Environmental Protection Agency approved MTBE use to comply with this mandate. When the U.S. Congress requested an analysis of the costs associated with adoption of the two-percent oxygen standard in 1990, EPA's analysis specifically assumed MTBE would be utilized.[2] In 1999, when the special Blue Ribbon Panel was convened by EPA, the resulting report clearly stated that ethanol capacity and logistics would have been insufficient to implement the federal mandate without MTBE.[3] The existence of a de facto mandate is clearly evident. We hope this clarifies our view.

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[1] California Governor Gray Davis wrote to EPA: "The only reason such MTBE-free gasoline is not being made available today is U.S. EPA's enforcement of the 2.0 percent oxygen requirements." Letter from Hon. Gray Davis, Governor of the State of California, to Hon. Carol M. Browner, Administrator of U.S. EPA, April 12, 1999.

[2] Senator Daschle, the author of the floor amendment that established the two-percent oxygen standard, noted that: "EPA predicts that the amendment will be met almost exclusively by MTBE , a methanol derivative." RFG: Whose Recipe Is It Anyway, and Will It Work?, Cong. Rec., May 16, 1990 at S6383.

[3] EPA420-R-99-021, Achieving Clean Air and Clean Water: The Report of the Blue Ribbon Panel on Oxygenates in Gasoline, at 61, 65, and 72 (Sept. 15, 1999).

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NPRA further notes that the existence of a clear federal mandate that contemplates and necessitates the use of MTBE in order to achieve implementation should be a sufficient basis for federal preemption of tort claims. The U.S. Supreme Court made clear in *Geier v. American Honda*[4] that a federal program that allows various technologies to achieve compliance acts as a barrier to tort claims based merely on the use of any one of those technologies. This is the case even though the underlying federal program does not mandate any one of the particular technologies, but allows a choice among them. Many MTBE cases have been preempted on precisely this or similar grounds.[5]

We noted with interest your citation to a memorandum authored by Mr. Robert Meyers during his tenure as a staff counsel on the House Energy and Commerce Committee. As Mr. Meyers suggests, the fuel oxygen standard was intended to be 'fuel neutral,' meaning that choice among oxygenates was essential to the standard's implementation. This fact is precisely why the two-percent oxygen standard should preempt tort claims predicated upon mere use of MTBE: those claims limit regulatory choice, and thereby destroy fuel neutrality.

You also raise the *South Tahoe Public Utility District* (STPUD)[6] case. As you are doubtless aware, the jury finding you reference did not become the judgment of the court, because the case was settled. If acceptable terms for settlement could not have been reached, the jury's finding would have been challenged, and likely set aside as inconsistent with California law and precedent. In any event, the jury findings in a settled case cannot be cited as precedent in other legal proceedings. As noted above, many other courts in actual final decisions have rejected the type of reasoning evidenced by the single jury finding you referenced.

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[4] 529 U.S. 861, 866 (2000)(held that tort claims were preempted by federal regulations because such claims would limit choice among regulatory alternatives and thereby stand as an "obstacle to the accomplishment and execution" of government's policy objectives).

[5] Molloy v. Amerada Hess Corp., No. 2001/3996, slip op. at 5 (N.Y. Sup. Ct., Dutchess County, Aug. 1, 2002) ("Since the CAA mandates the use of oxygenates and the use of MTBE is expressly permitted by EPA regulations, plaintiffs' claims which are premised solely on the defendants' use of MTBE conflict with the objective of the CAA and are, therefore, preempted."); Coppola v. Amerada Hess Corp., No. 2001/3995, slip op. at 5 (N.Y. Sup. Ct., Dutchess County, July 31, 2002) (adopting reasoning of Molloy); Kubas v. Unocal Corp., No. BC 191876, 2001 WL 1940938, at *10 (Cal. Super. Ct., L.A. County, Aug. 23, 2001) ("Removing MTBE, which the EPA Administrator . . . referred to as 'the most commonly used oxygenating compound,' from the refiners' compliance arsenal would present an obstacle to the accomplishment and execution of' the important objectives of the federal reformulated gasoline and oxygenated fuels program."); see also Robertson v. Amoco Oil Co., Index No. 2002/5005, Decision and Order, at 5 (N.Y. Sup. Ct. Dutchess County, Mar. 26, 2004) (incorporating by reference the Molloy and Coppola decisions); Hixson v. Unocal Corp., No. BC 195295 (Cal. Super. Ct., L.A. County, Aug. 23, 2001) (adopting reasoning of Kubas); Holten v. Chevron U.S.A., 2001 U.S. Dist. LEXIS 17599, at *10-11 (D.N.J. July 3, 2001) ("[B]ecause Congress required that gasoline include an oxygenate and specifically designated that MTBE would be one of the most common and effective oxygenates, this Court concludes that gasoline containing MTBE cannot be deemed a defective product.").

[6] South Tahoe Public Utility District v. Atlantic Richfield Co., et al. (California Superior Court judge approved final settlement agreement, August 5, 2002).

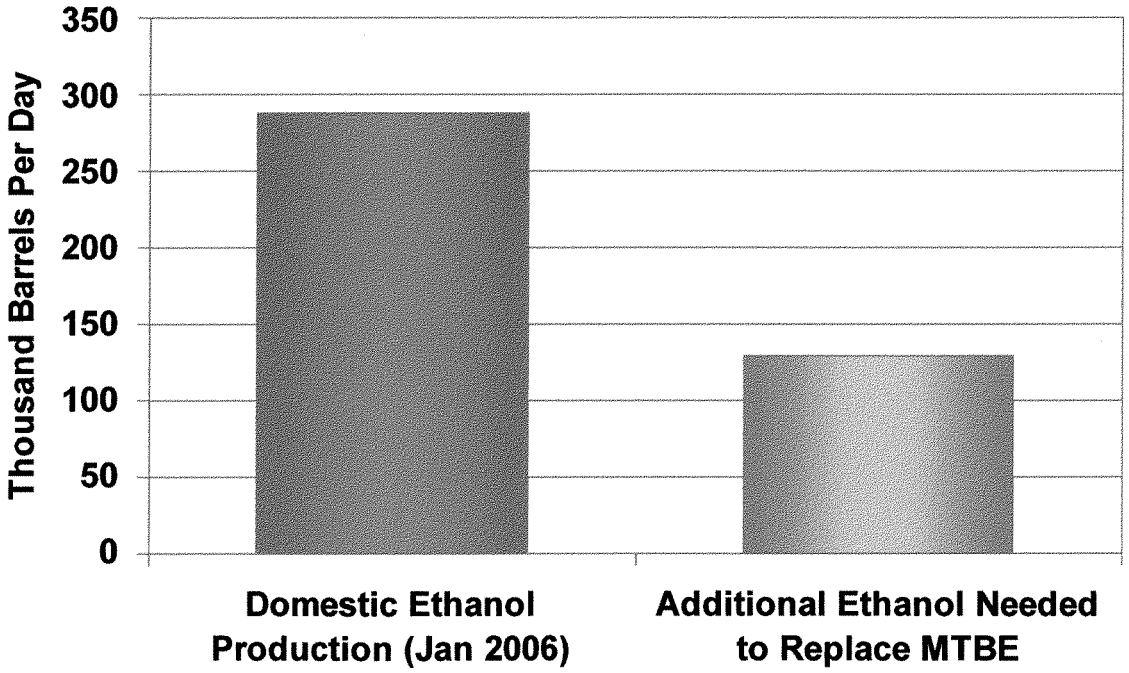
As you know, NPRA has worked closely with the Senate Environment and Public Works Committee and other jurisdictional committees on fuels legislation and other topics in recent years. We understand your strong interest in this subject, although we continue to be disappointed that the Energy Policy Act of 2005 failed to include MTBE limited liability language. In any event, we look forward to working with you and your staff on matters of common interest.

Sincerely yours,

Bob Slaughter
President

cc: Senator James Inhofe, Chairman
Senate Committee on Environment and Public Works

Estimated Increase in Ethanol Demand Relative to Recent Ethanol Use



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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 then 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 (NOx) 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

ONE HUNDRED FOURTH CONGRESS

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ATTACHMENT I

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 McCullogh Avenue
San Antonia, 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) Rensselear 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) Manitowic
3) Kewaunee

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

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.

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

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 @); (8) a station outside the six-county Milwaukee area not using reformulated gasoline (Station $) 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

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.

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

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 16) 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.

- 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.

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

ATTACHMENT VI

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

Document from Shell Oil Company released through discovery in the case, South Tahoe Public Utility District v. Atlantic Richfield Co., et al., in the Superior Court of the State of California, County of San Francisco (2002).

Methyl Tertiary Butyl Ether

- Most Things Biodegrade Easier
- Menace Threatening our Bountiful Environment
- Major Threat to Better Earnings
- Movement towards Bureaucratic Entrenchment
- MONEY TO BE EXTRACTED
- MGMT Towards a Better ENVIRONMENT

SH 007990

ORIGINAL

FILED
San Francisco County Superior Court
APR 1 5 2002
GORDON PARK-LI, Clerk
BY: Deputy Clerk

SUPERIOR COURT OF THE STATE OF CALIFORNIA
COUNTY OF SAN FRANCISCO, UNLIMITED JURISDICTION
DEPARTMENT NO. 514

SOUTH TAHOE PUBLIC UTILITY DISTRICT, Plaintiff, vs. ATLANTIC RICHFIELD COMPANY, et al., Defendants.	CASE NO. 999128 **SPECIAL VERDICT [PHASE I]** (3/4/02)

We, the jury in the above-entitled action, find as follows on the questions submitted to us:

117-001_0064027

Question No. 1: Was gasoline containing MTBE manufactured, sold, or supplied by any of the following defendants defective in design because the risk of harm inherent in its design outweighed the benefits of that design?

Answer "yes" or "no" after the name of each such defendant. If you answer "yes" as to any defendant, during what time period was the gasoline containing MTBE manufactured, sold, or supplied by that defendant defective in design?

Answer:	Yes	No	If yes, time period
Shell Oil Company	✓		Fall/winter 1990 to 12-31-97
Equilon Enterprises LLC	✓		1-1-98 to Present
Texaco, Inc.	✓		1988 to 12-31-1997
Tosco Corporation	✓		April 1992 to March 1996

If you answer "no" as to each defendant, then go to question No. 3. If you answer "yes" as to one or more defendants, then answer the next question only as to such defendants.

Question No. 2: As to each defendant for which you answered "yes" in Question No. 1, did the defect exist when the gasoline containing MTBE left the possession of such defendant?

Answer "yes" or "no" for each such defendant. If you answer "yes" as to any defendant, during what time period was the gasoline containing MTBE manufactured, sold, or supplied by that defendant defective in design?

Answer:	Yes	No	If yes, time period
Shell Oil Company	✓		Fall/winter 1990 to 12-31-1997
Equilon Enterprises LLC	✓		1-1-1998 to Present
Texaco, Inc.	✓		1988 to 12-31-1997
Tosco Corporation	✓		April 1992 to March 1996

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Question No. 3: Was gasoline containing MTBE manufactured, sold or supplied by any of the following defendants defective because of a failure to warn?

Answer "yes" or "no" after the name of each such defendant. If you answer "yes" as to any defendant, during what time period was the gasoline containing MTBE manufactured, sold, or supplied by that defendant defective due to a failure to warn?

Answer:	Yes	No	If yes, time period
12-0 Shell Oil Company	✓		Fall/Winter 1990 to 12-31-1997
✓ Equilon Enterprises LLC	✓		1-1-1998 to Present
✓ Texaco, Inc.	✓		1992 to 12-31-1997
12-0 Tosco Corporation	✓		April 1996 to Present

Question No. 4: As to each defendant for whom you answered "yes" in Question No. 3, did the defect exist, because of a failure to warn, when the gasoline containing MTBE left the possession of such defendant?

Answer "yes" or "no" after the name of each such defendant. If you answer "yes" as to any defendant, during what time period was the gasoline containing MTBE manufactured, sold, or supplied by that defendant defective due to a failure to warn?

Answer:	Yes	No	If yes, time period
12-0 Shell Oil Company	✓		Fall/Winter 1990 to 12-31-1997
✓ Equilon Enterprises LLC	✓		1-1-1998 to Present
✓ Texaco, Inc.	✓		1992 to 12-31-1997
12-0 Tosco Corporation	✓		April 1996 to Present

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Question No. 5: Were the risks involved in the transportation, storage and handling of MTBE recognized by all of Lyondell Chemical Company's (ARCO Chemical Company's) California refiner and distributor customers, who transported, stored and handled MTBE in bulk? If not, during what time period were the risks not recognized?

Answer "yes" or "no." If you answer is "no," state the time period.

	Yes	No	If no, time period
Answer:	12-0 ___	✓	1992 to 1996

If you answered "no" to Question No. 5, then answer Question No. 6. If you answered "yes" to Question No. 5, then answer Question No. 9.

Question No. 6: Was MTBE manufactured, sold or supplied by defendant Lyondell Chemical Company (ARCO Chemical Company) defective because of a failure to warn?

Answer "yes" or "no." If you answer "yes", during what time period was the MTBE manufactured, sold or supplied by the defendant defective due to a failure to warn?

	Yes	No	If yes, time period
Answer:	11-1 ✓	___	1992 to 1996

If you answered Question No. 6 "yes", answer Question No. 7. If you answered Question No. 6 "no", answer question No. 9.

Question No. 7: Did the defect exist, because of a failure to warn, when the MTBE left the possession of defendant Lyondell Chemical Company (ARCO Chemical Company)?

Answer "yes" or "no." If you answer "yes", during what time period was the MTBE manufactured, sold or supplied by the defendant defective due to a failure to warn?

	Yes	No	If yes, time period
Answer:	11-1 ✓	___	1992 to 1996

If you answered Question No. 7 "yes", answer Question No. 8. If you answered Question

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No. 7 "no", answer question No. 9.

Question No. 8: Were the warnings of defendant Lyondell Chemical Company (ARCO Chemical Company) to all of its customers, as described in Question No. 5, above, adequate to make those customers aware of the risks and how to avoid or reduce such risks? If not, during what time period were such warnings of Lyondell Chemical Company (ARCO Chemical Company) inadequate?

Answer "yes" or "no." If you answer "no," state the time period.

	Yes	No	If no, time period
Answer:	11-1 ___	✓	1987 to 1996

Question No. 9: If you answered "yes" to both Question No. 1 and Question No. 2 as to defendant Shell Oil Company, answer the question below. If you did not answer "yes" to both Question No. 1 and Question No. 2 as to Shell Oil Company, then go to Question No. 10.

Do you find by clear and convincing evidence that defendant Shell Oil Company acted with malice in selling gasoline containing MTBE that was defective in design because the risk of harm inherent in the design outweighed the benefits of that design?

Answer "yes" or "no". If you answer "yes," state the time period.

	Yes	No	If yes, time period
Answer:	11-1 ✓	___	Fall/winter 1990 to 12-1997

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Question No. 10: If you answered "yes" to both Question No. 3 and Question No. 4 as to defendant Shell Oil Company, answer the question below. If you did not answer "yes" to both Question No. 3 and Question No. 4 as to Shell Oil Company, then go to Question No. 11.

Do you find by clear and convincing evidence that defendant Shell Oil Company acted with malice in selling gasoline containing MTBE that was defective in design because of a failure to warn?

Answer "yes" or "no." If you answer "yes," state the time period.

	Yes	No	If yes, time period
Answer:	11-1 ✓	___	Fall/Winter 1990 to 12-1997

Question No. 11: If you answered "yes" to both Question No. 6 and Question No. 7 and "no" to both Question No. 5 and Question No. 8, answer the question below. If you did not answer "yes" to both Question No. 6 and Question No. 7 and "no" to both Question No. 5 and Question No. 8, please sign and return this form.

Do you find by clear and convincing evidence that defendant Lyondell Chemical Company (ARCO Chemical Company) acted with malice in selling MTBE that was defective in design because of a failure to warn?

Answer "yes" or "no." If you answer "yes," state the time period.

	Yes	No	If yes, time period
Answer:	11-1 ✓	___	1987 to 1996

DATED: April 15, 2002

JURY FOREPERSON

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