

# U.S. ENERGY TRENDS

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## HEARINGS BEFORE THE COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

FIRST SESSION

TO CONSIDER NATIONAL ENERGY POLICY WITH RESPECT TO FEDERAL,  
STATE, AND LOCAL IMPEDIMENTS TO THE SITING OF ENERGY INFRA-  
STRUCTURE

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MAY 15, 2001  
JUNE 21, 2001

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PART 2



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## U.S. ENERGY TRENDS

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TUESDAY, MAY 15, 2001

U.S. SENATE,  
COMMITTEE ON ENERGY AND NATURAL RESOURCES,  
*Washington, DC.*

The committee met, pursuant to notice, at 9:37 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Frank Murkowski, chairman, presiding.

### OPENING STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR FROM ALASKA

The CHAIRMAN. Good morning. We will call the Committee on Energy and Natural Resources to order. This is a hearing to consider national energy policy with respect to Federal, State, and local impediments to the siting of energy infrastructure.

It is unfortunate that we have a conflict, but that is really not anything unusual around here. We have the markup of the Finance Committee that began at 9 o'clock this morning. There are 174 amendments pending before that committee, and Senator Bingaman and I are both on the committee. We thought of putting this off, but in deference to the witnesses who have come in, we are going to go ahead with the hearing and do the best we can. Senator Craig and perhaps Senator Thomas will help me out a little bit.

But in view of the fact that I think 148 of the amendments are Democratic amendments and I think we have got somewhere in the area of 24 amendments, we decided to let the Democrats go first down at the committee. So, I think they will be pretty well occupied for a while. But enough of that.

Why we are here is to talk about are the realities associated with that segment of our energy flow that is constricted. We obviously take for granted the fact you turn the light on and it works, but the more we hear about inadequacy of transmission lines, the more we hear about our gas pipelines being called upon for movement of more gas, more pressure, we are suddenly aware of things, and where have the experts been? Where have we been? Why is this problem just coming to the surface, and what should we and what can we do about it?

It is kind of like awakening one day and finding that not only have we not built a new nuclear plant in 10 or 12 years, we have not really done anything in coal since 1995. We have found our dependence on oil up to 56 percent. We suddenly opened SPR for relief, and we find our refineries are operating at capacity and we really cannot accommodate the 30 million barrels from SPR without offsetting imports. Then we find that our natural gas has dou-

bled and tripled in some areas, and then we find our transmission lines are inadequate, both electric and gas distribution. It is almost like, as I said, everything coming together at one time.

So, today the committee, in holding the oversight hearing, will review the impediments to building new energy infrastructure, such as gas pipelines, electric transmission lines.

I think it is important to emphasize what we have to do to get them built. Obviously, you have to have assurance you are going to get a return on your investment.

Now, according to the Energy Information Administration, U.S. energy demand is going to increase 32 percent over the next 20 years. That means oil is going to increase 7 million barrels. Consumption is going to go from 20 to 27. And apply it to gas and everything else. That is a pretty staggering increase in demand. Those who are saying we can simply pick up our shortage on conservation with these kind of figures looking at us in the eye I think are sadly mistaken. We are going to need all our sources of energy, plus our new technology, to achieve and meet the demands.

I do not think the American public is simply going to stand by and be satisfied for nebulous promises in general terms as opposed to what I think the administration is going to be doing when they announce their Energy Task Force, come up with some real solutions. You need real solutions to these problems, not hypothetical generalizations that you can get there by conservation or you can get there by CAFE standards. You just cannot do it. What have we got? 207 million vehicles on the road, 130 million are automobiles? That fleet is going to turn over in 10 years, not tomorrow.

A lot of people forget a couple of factors as we look at our energy crisis. One is the reality that Americans are used to cheap, affordable, and ample supplies of energy, and it is what focuses and funds our standard of living, which is I think something we have to begin to relate to. Are we willing to compromise our standard of living? Well, I do not know, but hopefully we will find out today.

I think California's energy problems are a case study of what can happen. We have seen their resistance in building new powerplants, new power lines, opposing offshore drilling, and they have even resisted new natural gas pipelines such as Kern River. So, it is the old NIMBY, not in my back yard. I think it should come as little surprise that California has electric shortages and price spikes and some of the highest oil and natural gas prices in the United States.

We are criticized, allegedly, for not being sympathetic to California's problems. I think every member of this committee is sympathetic, but the reality is that California is going to have to make certain decisions relative to whether or not they are going to pass on the price of electricity to the taxpayer or the ratepayer. I personally do not see any difference in the two, but I think there is a desperate effort in California to finesse that and put the obligation for the power price on the taxpayer as we look at the manner in which retail price caps have prevailed.

The *L.A. Times* reported Monday a debate over San Diego Gas and Electric's plan to construct a 270 million, 31-mile long, 500,000 volt transmission line through Riverside County in California. The line would help alleviate the transmission bottleneck in the region

that has seen such a significant factor behind the State's factor the State's rolling blackouts. But the project has been dogged by opponents. Neighborhood groups are organizing door to door against the project. And as a consequence, I can quote the following. "See, this isn't about us not wanting this in our back yard," said one of the leaders fighting the transmission line. It is called the Southwest Riverside County. "This is all for one and one for all. We don't want this in anybody's back yard." Well, it has got to be somewhere, folks.

California's problems are a warning sign of what will happen in other parts of the country if we do not take action to ensure our energy future. We are going to have to learn from the mistakes in California so they do not spread across the rest of the Nation. I hope today's witnesses will give us their perspective about this problem and what can be done to facilitate new energy projects.

Senator Craig, Senator Thomas, and Senator Domenici in that order.

[The prepared statement of Senator Burns follows:]

PREPARED STATEMENT OF HON. CONRAD BURNS, U.S. SENATOR FROM MONTANA

Mr. Chairman, I thank you for your commitment and focus on the energy situation we have before us. You have called several hearings to bring attention to a national energy policy—building an energy infrastructure is one of the most important yet.

Nearly everyone on Capitol Hill and in the White House, including myself, has thrown their support behind alternative energies and energy conservation. For those willing to be honest and blunt about the current situation, we know that, in this stage of the game, conservation and available alternative energy is not enough to provide energy for the United States to continue as a leading economy. Expansion of natural gas, oil, and coal development is crucial.

Although more discussion and action is needed, we've had a significant focus on the generation of energy in this committee. The question remaining for everyone is, once we generate traditional or alternative power, how will it be transmitted when and where it needs to be? How can we eliminate barriers blocking the creation of natural gas pipelines?

Whether a net importer or exporter, one state cannot completely shelter itself from this grid-wide crisis brought about by lack of generation and transmission infrastructure. Impediments to siting are hampering natural gas pipelines and electric transmission lines. A tangled web of regulation, transmission line bottlenecks, environmental extremism, and plain apathy has put us in this situation. Hopefully this committee's hearings serve as a wake up call.

At the same time the Pacific Northwest is facing supply shortages, transmission bottlenecks and lack of transmission for additional supply place another layer of burden on a grid facing skyrocketing market rates. The Bonneville Power Administration has at least five to six major bottlenecks, that if dealt with, will ease the crunch in Western Montana. Along with bottlenecks, we have situations where weather conditions in the summer affect the transmission lines in Kalispell, MT.

Transmission issues, as my fellow committee members well understand, are not limited to my state of Montana, and the effects of transmission problems in Montana are not limited to Montana. A tree knocking out a power line in Idaho could mean power shortages in San Francisco. Limited transfer capability from a sub-station in Spokane, WA means limited electricity coming to the Flathead Valley in MT or vice-versa. All you folks out there who need power—we have it in Montana, but with the current state of our transmission lines, we don't have a way to get it where its needed.

Added authority for siting transmission lines and pipelines appears to be a necessity. For transmission lines, upgrades and new construction is essential. For natural gas pipelines we can loop the lines and add compression to pump more gas down the same path. But with the amount of transmission capability needed over the next 20 years, it is apparent that we cannot stop at upgrades, new lines must be built.

We can, and must, identify and reform, or in some cases, remove some of the regulatory burdens. We have a mandate to assess and improve agency performance, which could lead to more timely processing of permits and applications to produce

power. A similar mandate must also follow for increasing and upgrading transmission capabilities as well as natural gas pipelines. That's why I support S. 172, the Electric Reliability Act, with my friend Gordon Smith. This bill will benefit electricity consumers by promoting the reliability of the bulk-power system.

Three hundred and ninety three gigawatts of new generating capacity is needed by 2020, and a 52 percent increase is expected in natural gas consumption. With that increase expected in generation and consumption—the same should be planned for transmission. We have an Administration that inherited a lot of chores left undone by the previous administration, but with an energy intensive Administration under President Bush and Vice President Cheney I am confident that we will begin the work that is needed, no matter how late. I look forward to hearing from our distinguished panel of witnesses and how they are working to meet these challenges, as well as how this committee can meet the challenges.

**STATEMENT OF HON. LARRY E. CRAIG, U.S. SENATOR  
FROM IDAHO**

Senator CRAIG. Mr. Chairman, thank you very much.

A couple of winters ago my wife and I and a group of business people from Idaho had an opportunity to spend a couple of weeks in China. We were in Shanghai in a beautiful hotel that had been recently built. My guess is it would have qualified as a Four Seasons or possibly a medium grade Ritz. It was a very fine, beautiful hotel, meeting all western standards except one: The power kept going out. Places to plug in the computers, places to get on line, places to uplink to the satellite, but about every time you tried, your connection was broken by a power blink. The reason is they have no grid. They have no uniform system of delivery of power through China, and it clearly is an impediment to their growth and to the quality of the kind of growth they will have in the future. Of course, they are moving very quickly to try to remedy that.

That was never our problem as a country because of foresightedness on the part of State public utilities commissions and the Federal Government working together to resolve that early on in our processes of electrifying the country.

But somehow we have dropped behind a bit, and I think this hearing is critically important to determine where we go now and what kind of new authority we give, if necessary, to reawaken this country and to build upwards of 230,000 miles of transmission line and tens of thousands of miles of gas pipeline that are going to be necessary to meet these growth curves that are predicted, and reasonably predicted, for the future.

As many of you know, I have been a critic of giving the Federal Government eminent domain over private property, believing that that siting authority could best reside in the States. At the same time, I recognize the problem and recognize that we cannot sit idly by, as our chairman just recognized, and allow the NIMBYphites of this country to understand the kind of connective processes we have so effectively put in place over the years that have built the marvelous electrical system that we have.

It needs to be upgraded and it needs to be upgraded rapidly. We are changing concepts of management in how we handle transmission systems in this country in a restructured environment. All of that has to come to play as we determine how we solve the energy crisis we are clearly in. There is no excuse for this other than the blame ourselves for allowing it to happen. Now we ought to be



smart enough—and I think we are—to get out of it and to do so in sometimes extraordinary ways.

But we should not walk all over the right of the private property owner, nor will we walk all over the environment. All of this can be done and done I think effectively with the environment in mind and with private property in mind, and out of that, our job is to strike a balance.

So, I am anxious to hear from all of you this morning, as you express your concerns—some of you have had direct experience in this problem—and how we deal with it. We must deal with it. Thank you.

**STATEMENT OF HON. CRAIG THOMAS, U.S. SENATOR  
FROM WYOMING**

Senator THOMAS. This is, I think, going to be a very interesting time. We all know what the problem is. I think most of us understand and most people understand what needs to be done over time. When consumption goes up and production does not, then you have obviously a problem.

I think a couple of issues, however, that we have not talked about a lot are, one, what we can do, if anything, in the more immediate future. I think that is going to be important. And the other then is having gotten into a position to produce energy, whether it be through gas, whether it be through coal or electricity or whatever, then how do we get it where we are going?

The electricity is supposed to grow. 1,300 plants are projected over the next several years in order to do something there.

Natural gas, a 52 percent increase in the next several years.

So, what are we going to do?

Limitations on infrastructure have been a real problem, of course. There has been a decline of 5 percent in transmission investments over time. But I think we have to look at interstate—and I agree with my friend from Idaho, but if we are going to have interstate transmission, if you are going to produce coal, mine mouth, for example, in Wyoming, and the market is in California, then how do you do that? I think we have to find a way to have interstate transmission. We need maybe to take a look at a national transmission grid, perhaps operated by an independent operator of some kind.

But eminent domain is going to be an issue.

Who is going to own these facilities, and how does a producer, particularly a merchant producer or generator, get on these movements? The cost of transmission. Someone said the other day that gas at the wellhead in Wyoming is less than \$5 and about \$14 when it gets to the State of California. If that is the case, we have got a little problem in the cost of movement of these kinds of things.

So, in any event, it is very exciting to talk about it.

I notice in today's paper they are saying the Cheney report is probably going to say that the Nation needs 36,000 miles of natural gas pipeline in order to meet the needs. So, we have got some problems.

I look forward to your comments.

Senator DOMENICI [presiding]. I am not going to have any opening remarks. We are going to proceed. We have four witnesses today. Mr. Nugent, Commissioner of Maine Public Utilities Commission, Augusta, Maine, on behalf of the National Association of Regulatory Utility Commissioners, would you please proceed?

**STATEMENT OF WILLIAM NUGENT, COMMISSIONER, MAINE PUBLIC UTILITIES COMMISSION, AUGUSTA, ME, ON BEHALF OF THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS**

Mr. NUGENT. Thank you, Mr. Chairman, members of the committee. Thanks for having me back.

You may recall the last time I was here I was asking you that you work with the administration to produce a fully constituted FERC, appointing the people to the two vacancies. Now, I do not know what you did, but the two nominations have been made. I understand you are going to have hearings on them very quickly, and President Bush has nominated in Pat Wood of Texas and Nora Mead Brownell of Pennsylvania two able, energetic, and knowledgeable people. There are no finer candidates among the 220 State commissioners. So, I thank you for however you pulled that off. You did a good job.

But on today's subject, on the infrastructure thing, I think it is useful to divide your consideration of it into the three broad categories of natural gas pipelines, electric generating facilities, and electric transmission lines.

In my experience, the FERC-run siting process worked very well in Maine for the gas pipelines. FERC sited, permitted, and supervised construction of more than 400 miles of natural gas pipelines, including several river crossings, crossings of trout and salmon streams and other environmentally sensitive areas, in about 36 months. There may be problems in pipeline siting, but they do not seem to be apparent in Maine or, for that matter, in New England.

There seem to be few impediments to building new generation in New England. As Mr. Cook is likely to tell you, New England has brought 2,300 megawatts on line this year, a 10 percent addition to New England's capacity. We now have a capacity margin, with a tie line from Hydro-Quebec, of more than 18 percent. Maine alone has built five generating stations totaling more than 1,600 megawatts in the last 3 years. That is twice as much generation as California and we are one-twenty-fifth their size.

Right now the real impediments, if they may be called that, in siting generating stations or the real realities are fuel supply and capital. 3 or 4 years ago, the announcement was we were going to build 30,000 megawatts, 30 gigawatts of new generating capacity in New England. And many of us wondered how you are going to do that. The question is is there enough natural gas supply to power 30,000 megawatts of new generating stations. And the answer was, well, there seems to be enough for four to six. Now we are up to six to eight. On one of those new pipelines that was created through Maine, new compressors are being added to increase the capacity by 50 percent. So, the market seems to be responding there. I do not know whether we will get all the way to 30,000

megawatts in the short-term future, but it does seem to be responding.

Generating companies seem to announce three, four, or five projects across New England and then actually build maybe two or three of them, abandoning the remainder for the moment. It seems to be a response to a dynamic market. Someone else's project may have gotten to the market first. While you were planning and building yours, someone else already brought theirs on line. It may be that the best way of being certain of having two new plants playing in the local market in 3 years is to start developing for and then move in response to the opportunities. You want to see where you can get the best combination of local support and access to markets.

The biggest puzzle remaining is transmission development. It is a puzzle because I am not aware of very many examples in this area and because New England, to my knowledge, has not yet developed a program to beef up the system for future growth in a comprehensive way.

There are four examples that come to mind. We constructed 38 miles of transmission across Maine to connect a new generator in Rumford to the grid. There is now under consideration a 90-mile transmission line, a second transmission line, to connect Atlantic Canada to the New England grid. There was some transmission development in the Boston area, and transmission upgrades in Maine to bring that 16,000 megawatts into the New England market.

The Rumford program went quite well actually, although it confronted State regulators with some new problems. Normally in a regulated environment, when you wanted to build transmission and to issue a certificate of public convenience and necessity, you first examined need. Does the market need more power? Then what plant were you going to build to supply that power. Then if you needed a transmission line, it followed that you would grant the authority to condemn the land, or eminent domain, if necessary. First you try to acquire it. If you cannot get it, use the eminent domain.

Where are you in a world where four developers may see a market opportunity and each does develop his own generation to meet the same need? Do you grant eminent domain authority in that circumstance? It is not as clear as it was in a fully regulated environment. There are more alternatives and you are trying to respond to markets.

With regard to the MEPCO line, right now the proponents of that line are not pushing it very aggressively, and to some extent, it is a question of cost. Can you build that line and bring Atlantic Canada energy into the New England market in a cost effective manner?

In the Boston area, you are dealing with a situation in which there was a load pocket. Since Energy started to develop a generator, was under construction with a generator in that area to meet the load in that area, and transmission interests moved up and developed an alternative solution to the problem, socializing the costs across the New England area. The importance of this example is that you have to see generation solutions as an alternative to transmission solutions. Do you put generation close to the market

and avoid the need to build transmission, or do you build the generation at some distance, and then are you confronted with the need to move the power from that distant location into the market?

To some extent, we are dealing with mismatches in these circumstances. Who should build these transmission facilities? Utilities or merchant transmission plants? Should it be a regulated activity or an entrepreneurial activity? Before anyone jumps aboard the “let it just be fully competitive,” remember that we are dealing with a very scarce resource, and freeing it up to a fully competitive environment could produce pricing behavior similar to what is going on in the California energy market.

Now, with regard to regional solutions, you should know that the New England Conference of Public Utilities Commissioners has a long history—these are the six commissions from the six New England States—of working closely together. We have paralleling us in the private sector an independent system operator, which operates the transmission grid throughout the New England system.

The New England commissioners have recommended that a regional regulatory authority be established—they have done this in comments to the FERC—and that it work in concert with the FERC to oversee market activities. Our commission recommends that we take that a step further and make it a fuller regional regulatory advisory group to the FERC so that the authority would repose in the FERC. People close to the scene would develop solutions that met the conditions on the ground in New England, recommended to FERC. If FERC felt it met the national standards, the FERC, over a period of time by affirming these decisions, would tend to give credibility to this model.

I offer that as a model for New England only. I do not suggest that this is what western Governors ought to do or anyone else. I think maybe what we ought to do is let models develop in different parts of the country that meet a national standard, but that the individual models are tailored to meet local conditions.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Nugent follows:]

PREPARED STATEMENT OF WILLIAM NUGENT, COMMISSIONER, MAINE PUBLIC UTILITIES COMMISSION, AUGUSTA, ME

Good morning. My name is Bill Nugent. I am a Commissioner on the Maine Public Utilities Commission and First Vice President of the National Association of Regulatory Utility Commissioners, commonly known as NARUC. I greatly appreciate the opportunity to appear before the Senate Energy and Natural Resources Committee on behalf of NARUC and I respectfully request that NARUC’s written statement be included in today’s hearing record as if fully read.

NARUC is a quasi-governmental, nonprofit organization founded in 1889. Its membership includes the state public utility commissions for all states and territories. NARUC’s mission is to serve the public interest by improving the quality and effectiveness of public utility regulation. NARUC’s members regulate the retail rates and services of electric, gas, water and telephone utilities. We have the obligation under State law to ensure the establishment and maintenance of such energy utility services as may be required by the public convenience and necessity, and to ensure that such services are provided at rates and conditions that are just, reasonable and nondiscriminatory for all consumers.

Today I have been asked to address the issue of “impediments to siting energy infrastructure.”

As a nation, we want the lights to come on whenever we flip the switch. We want to run all of our consumer goods that use electricity as inexpensively as possible. We want to be able to be employed by and own companies that produce these elec-

tric-powered consumer goods. We want our companies to be able to buy power at interruptible rate levels, but never have to be interrupted.

However, we do not want generation facilities fouling the air, water, and land, nor do we want transmission lines running through our communities or near our schools or homes. We do not want gas pipelines running under our feet or near our communities. We do not want to pay any additional costs associated with renewable energy. We do not want to spend the money necessary on research to find technologies to replace the energy sources we currently depend upon.

Therefore, the conclusion that we must draw from all of this is that the main impediment to siting energy infrastructure is the great difficulty in getting public acceptance for needed facilities. Quite frankly, this tells us that no matter where siting responsibility falls, with State government or the Federal government, siting energy infrastructure will not be easy and there will be no "quick fix" to this situation.

Historically, the States have had the responsibility and authority to site transmission, generation, and intrastate pipelines. In fact, the generation and transmission infrastructure that is currently in operation now, as well as that infrastructure currently under construction, has received State siting approval. Additionally, those infrastructure projects that are in the planning stages are being planned with State approval in mind.

Make no mistake, NARUC and its membership understand that additional generation and transmission is necessary in all regions of the country. NARUC's members are also well aware of the difficulties evolved with the siting of these facilities. The fact remains that in spite of these difficulties, the States have been successful in siting the electric infrastructure that exists today. However, we must also continue to be cognizant of the basic laws of physics. As much as we all would like to be able to move electrons from wherever they are produced to wherever they are needed, like we can with natural gas molecules, the electric transmission system is not able to accommodate those types of transactions. In other words, the transmission system as it now exists was not built to handle the types of wholesale transactions that a competitive market will require. This means we will have to be innovative to make the system function the way we need it to function.

NARUC believes that the States should do more to improve upon the tremendous success story of the nation's electricity infrastructure. States exercising jurisdiction over the siting and certification of transmission facilities should not discriminate against interstate facilities, meaning that in general, interstate facilities should be sited, certificated, and otherwise regulated under the same standards and procedures as intrastate facilities.

NARUC supports voluntary regional bodies that permit the States in which an interstate transmission facility is proposed to be sited, to issue certificates authorizing the construction of the proposed facility through collective decisionmaking. If States choose to retain certification authority for themselves, there should be agreed upon mechanisms to resolve disputes where individual States involved have come to conflicting and/or inconsistent determinations in their respective deliberations. These voluntary regional bodies could: address siting of transmission; identify regional bulk power market needs for State siting agencies to consider in their respective deliberations; and, plan for the construction of new interstate transmission facilities.

Congress should affirm that States have the primary authority to establish, operate and govern these voluntary regional siting bodies, and the Federal Energy Regulatory Commission (FERC) could act as an appropriate "backstop" authority where States or regions fail to act. Additionally, Congress should provide an explicit grant of authority to the States and FERC to act in cooperation.

In conclusion, NARUC believes that States are the appropriate authorities to exercise jurisdiction over the continued siting of most energy infrastructure, including electric transmission and generation. Additionally, NARUC supports a voluntary regional body approach to address the siting of transmission facilities. Until we all begin to make sacrifices, it will continue to be extremely difficult to improve our energy infrastructure. We as public officials must also try to use our positions to apply reason rather than fanning the flames of emotion.

Thank you for your time and attention. NARUC members and staff look forward to working with the members of this Committee to put forth a successful national energy policy. Thank you again and I look forward to your questions.

The CHAIRMAN [presiding]. Thank you very much.  
Mr. Cook.

**STATEMENT OF DAVID N. COOK, GENERAL COUNSEL, NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL, PRINCETON, NJ**

Mr. COOK. Good morning, Mr. Chairman and members of the committee. My name is David Cook. I am general counsel for the North American Electric Reliability Council. I have submitted detailed testimony for the record.

NERC commends this committee for taking on the critical issues of transmission infrastructure. NERC firmly believes that steps must be taken to improve that infrastructure if the Nation is to reap the benefits of competitive electricity markets.

The committee's hearing is especially timely. Today NERC is releasing its 2001 summer assessment which evaluates the reliability of the bulk electric system for June through September. NERC agrees with the overall conclusions of the California independent system operator that it will not have sufficient resources to meet expected demand this summer and that rotating blackouts will be necessary. However, NERC expects those conditions to be more severe than reported by the California ISO, in part because our assessment is based on more current information. We expect rotating blackouts in California for about 260 hours over the course of this summer, with the average size of the curtailments about 2,100 megawatts and as much as 5,000 megawatts curtailed at peak periods.

Extreme drought conditions throughout the Pacific Northwest will reduce the available output of hydro resources. Although we expect it to be able to serve all its firm demand this summer, it will not have electricity available to export to California and elsewhere. Unless the region receives significant precipitation during the summer and fall, the Pacific Northwest may well experience capacity shortages this coming winter.

New England and New York have adequate resources to meet their demand this summer, but they bear watching because those areas are particularly sensitive to long-term heat waves and higher than anticipated generating unit outages.

Attachment A to my testimony is the Summer 2001 Assessment Summary Report. The full report, as well as a more detailed special report focusing on California and the Pacific Northwest, may be downloaded from NERC's website.

Several factors contribute to the challenges we face. First, demand has been steadily increasing. Actual demand and energy growth rates experienced in the United States over the last 10 years have been consistently above what people have projected that growth rate would be. Merchant generators are now building new plants to meet that increased demand in response to increased prices that we have been seeing on the wholesale markets.

But the same is not true for transmission. Over the last 10 years, circuit-miles of high voltage transmission lines increased at less than 1 percent per year. Over the next 10 years, we are projecting that circuit-miles of high voltage transmission will increase at a rate of less than half of 1 percent a year. Stated another way, in North America 10 years ago, we had a little under 200,000 miles of high voltage transmission lines. Right now we have about 200,000 miles of high voltage transmission lines, and 10 years from

now, we are projecting that we will have just a little over 200,000 miles of high voltage transmission lines.

The lack of additional transmission capacity means that we will increasingly experience limits on our ability to move power around the country and that commercial transactions that could displace higher priced generation will not occur. It could also mean that areas experiencing supply shortages will not be able to count on other areas with ample generating resources to help in emergencies.

The existing grid is also being pushed harder and used in ways for which it was not designed. The systems were not generally designed to move large blocks of power from one part of the country to another across multiple systems. Yet, that is the way business is being conducted today.

The increasing stress on the grid shows up in two ways. First, there is more congestion on the grid for more hours. On many days last summer, NERC transmission loading relief procedures had to be invoked to curtail transactions that were overloading the transmission facilities between north and south in the Eastern Interconnection. The interruptions resulted in lost business for the merchants. For the buyers, it meant replacing that power with higher priced generation and, in some cases, interrupting interruptible customers. What did not show up are transactions that merchants or marketers decided not to engage in because of the likelihood they would be interrupted. We expect those conditions again this summer.

NERC is also seeing increased violations of the reliability rules.

There are steps that we can take to improve our structure, however.

First is to pass legislation that would establish mandatory reliability rules. NERC and a broad coalition has been pushing that. Senator Smith has reintroduced the reliability legislation that passed the Senate last year as S. 172. The NERC legislation has been included in both Senator Murkowski's bill, S. 389, and Senator Bingaman's bill, S. 597. I was pleased to note that just last week the Western Governors Association reaffirmed their support for such legislation.

Second, we need to remove impediments to expansion of the transmission grid, and I would put those impediments in three areas. The first has to do with siting and certification. Projects that would strengthen the grid are just not getting built. Imagine a mine-mouth generating plant in the Powder River Basin with a direct current transmission line to Chicago and to the west coast. Under our current process, some sort of separate certification and siting would be needed in each State that that line crossed, as well as dealing with the Federal resource and land management agencies. If we had a single unified process, that kind of project could get built. We need to change how we do things.

A second major impediment has to do with economics. The rates of return that are being given on transmission are not likely compensating people for their risk. A robust transmission system would pay large dividends by increasing our supply options and allowing us to move large blocks of power around. We are being penny wise and pound foolish about the transmission system.

Finally, under utility restructuring, it is now less clear who has responsibility and authority to build transmission. We need to develop mechanisms for assessing what additional facilities the network requires and clearly assigning who has the responsibility and authority to build them.

There is no magic bullet. There is no single thing to be done that will solve these problems. We need to pursue a whole portfolio of actions. But operating around limitations and foregoing economic opportunities because we cannot find a way to expand our energy infrastructure is not a sound or responsible strategy.

Thank you very much.

[The prepared statement of Mr. Cook follows:]

PREPARED STATEMENT OF DAVID N. COOK, GENERAL COUNSEL, NORTH AMERICAN  
ELECTRIC RELIABILITY COUNCIL, PRINCETON, NJ

#### SUMMARY

The North American Electric Reliability Council (NERC) firmly believes steps must be taken to improve the electricity transmission infrastructure if the Nation is to reap the benefits of competitive electricity markets. The development of the United States transmission infrastructure has lagged far behind other developments in the electric industry. Even if competitive electricity markets were not the goal, the limitations of the transmission system seriously restrict the choices that we have available for meeting the growing demand for electricity.

NERC is a not-for-profit organization formed after the Northeast blackout in 1965 to promote the reliability of the bulk electric systems that serve North America. It works with all segments of the electric industry as well as customers to "keep the lights on" by developing and encouraging compliance with rules for the reliable operation of these systems. NERC comprises ten Regional Reliability Councils that account for virtually all the electricity supplied in the United States, Canada, and a portion of Baja California Norte, Mexico.

#### RELIABILITY

The challenges before us are to develop a robust transmission system to support expanding trade in electricity and to maintain the high level of reliability that our nation's businesses, citizens, and the economy itself depend on. Reliability means different things to different people. For the customer, it could mean, "Does the light come on when I flip the switch?" Or, "Does a momentary surge or blip re-boot my computer or cause me to lose a whole production run of computer chips I was manufacturing?"

NERC defines the reliability of the interconnected bulk electric system in terms of two basic and functional aspects, adequacy and security. Adequacy means the ability of the electric system to supply the aggregate electrical demand and energy requirements of the customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements. Security means the ability of the electric system to withstand sudden disturbances such as electric short circuits or unanticipated loss of system elements. The challenges we face concern both the adequacy of the transmission system and our continuing ability to maintain the security of the bulk power system.

#### 2001 SUMMER ASSESSMENT

The Committee's focus on this issue is especially timely: Today NERC is releasing its *2001 Summer Assessment*,\* which evaluates the reliability of the bulk electricity system in North America for June through September of 2001. It assesses the expected demand and the resources available to meet that demand this summer and also addresses transmission reliability issues.

The Assessment concludes that California will experience significant difficulties meeting its projected electricity demand this summer, with involuntary demand curtailments (rotating blackouts) expected during many hours of the summer. Extreme drought conditions throughout the Pacific Northwest will reduce the available output of hydroelectric resources. Although the Pacific Northwest is expected to serve

\* Retained in committee files.



all its firm demand this summer, it will not have electricity available to export to California and elsewhere. In addition, the report cautions that New England, New York City, and Texas should be closely watched, despite having adequate resources to meet demand. New England and New York City are particularly sensitive to long-term heat waves or higher-than-anticipated generating unit forced outages. Texas will undergo a major shift in its operation in June when it opens up a new retail market system and consolidates to a single control area. The report concludes that generating resources should be adequate to meet projected electricity demands in other areas of North America this summer.

The Assessment also points to concerns regarding north-to-south transmission transfer capability in the eastern portion of the United States, particularly east of the Mississippi River. The ability to transfer electricity from the north to the south in the Eastern Interconnection was severely tested last summer, spurred on by temperature diversity (cool temperatures in the north and hot in the south), plus high fuel prices in the south. Early indications are that key transmission interfaces used to transfer electricity from north to south are already fully subscribed and transmission congestion will again be prevalent in this area throughout the summer.

As a supplement to its *2001 Summer Assessment*, NERC conducted an in-depth independent examination of the expected summer conditions in both California and the Pacific Northwest based on interviews with experts from both the California Independent System Operator (CAISO) and the Northwest Power Pool (NWPP). NERC agrees with the overall conclusions of the CAISO that the CAISO will not have sufficient resources to meet expected demand this summer and that involuntary curtailments of firm customer demand (rotating blackouts) are expected. However, NERC expects those conditions to be more severe than reported by CAISO, in part because the NERC assessment is based on more current information. NERC anticipates that firm demand in California may be curtailed for about 260 hours over the course of this summer, with the average size of the curtailments about 2,150 MW, and as much as 5,000 MW required to be curtailed at peak periods.

The NERC assessment of the NWPP concludes that this subregion will serve all its firm electricity commitments this summer. However, due to limited energy output from hydroelectric facilities resulting from severe drought conditions, NWPP will not have the ability to export the amounts of electricity it traditionally has to California or elsewhere. Unless the region receives significant precipitation during the summer and fall, the Pacific Northwest may well experience capacity shortages this coming winter.

Attachment A to my testimony is the *2001 Summer Assessment Summary Report*. The full report, as well as the *Special Report* that focuses in more detail on California and the Pacific Northwest, may be downloaded from NERC's web site at [www.nerc.com](http://www.nerc.com).

#### HOW THE SYSTEM WORKS

The California experience has focused peoples' attention on electricity issues in ways they never have in the past. Because of that increased awareness, we can use the California experience to talk about how the bulk electric system really works. California is not an island; it is part of a much larger grouping that we refer to as an Interconnection. The North American grid is divided into three Interconnections. The Western Interconnection includes not only California, but also the rest of the United States from the Rocky Mountains to the Pacific coast, as well as the Canadian provinces of British Columbia and Alberta, and a portion of Baja California Norte, Mexico. The Eastern Interconnection includes not only most of the United States east of the Rocky Mountains, but also Canadian provinces from Saskatchewan through the Maritimes. The third Interconnection comprises the Electric Reliability Council of Texas.

The interconnected nature of utility operations makes possible the transfer of power from one area to another for economic reasons as well as sharing resources in emergencies. California is a summer-peaking area, and it normally imports surplus power from the Pacific Northwest in the summertime to augment its own generating resources. By contrast, the Pacific Northwest is a winter peaking area, and it normally imports surplus power from California in the wintertime. That hasn't happened this year.

California has also demonstrated the limits on the transmission system. No doubt you've heard of Path 15, a link between Southern and Northern California. Earlier this year, on some days the California Independent System Operator had to curtail firm load in Northern California, even though sufficient generation resources existed in Southern California to meet the load. Path 15 was loaded to its limits and there simply was no way to move additional energy into Northern California.

Interconnected operations also mean that a disturbance occurring in one part of an Interconnection can have adverse effects throughout the Interconnection. The 1996 Western outage that affected San Francisco, Los Angeles, and the desert Southwest and shut down the Diablo Canyon nuclear power plant started with a tree contacting a power line in Idaho. And whether an individual state chooses to open up to retail competition or not, the states are still connected together as part of one Interconnection.

#### WHAT'S HAPPENING NOW: DEMAND AND GENERATION

A number of factors have contributed to our present circumstance. First, demand has been steadily increasing. The consensus projection for the average annual peak demand growth over the next ten years is a relatively modest 1.9% for demand and 1.9% for energy use. The projected growth in demand is similar to the projections of the last several years. High and low bands around the base forecast show a range of the forecast uncertainty to account for weather, economic growth, industry deregulation, and other factors. Both peak demand and energy projections are substantially below the actual growth rates experienced over the last ten years as demand has been driven by extreme weather at peak times and a strong economy. Actual demand and energy growth rates experienced in the United States over the last ten years have actually been closer to the rate calculated as the high band for both demand and energy.

Second, in many parts of the country merchant generators are now building new plants to meet that increased demand, in response to the increased prices that we have been seeing in the wholesale electricity markets. During the past 10 years, generation was being added at the rate of only 0.86% per year, even while demand was growing at the rate of 2.7% per year. That picture is changing, although in some parts of the country supplies will be tight for the next few years. Over 20,000 MW of new merchant capacity came on line to serve demand in the United States for the summer 2000. This year, New England has added another 2,300 MW. The Electric Reliability Council of Texas has added more than 6,000 MW. The East Central Area Reliability Council has added more than 4,000 MW since last summer. A crucial 600 MW is being added within New York City and Long Island. While that story is not being repeated everywhere, even California, which is experiencing shortages now, is expected to have significantly increased reserve margins within a few years.

#### WHAT'S HAPPENING NOW: TRANSMISSION

The same is not true for transmission. Over the last 10 years, circuit-miles of high voltage transmission lines (230 kv and above) increased at only 0.75% per year. Over the next 10 years we are projecting that circuit miles of high voltage transmission will increase a total of just 4.2%, or a rate of less than 0.5% per year. Stated another way, in North America 10 years ago we had a little less than 200,000 circuit-miles of high voltage transmission lines. Right now we have about 200,000 circuit-miles of those lines. And 10 years from now we are projecting that we will have just a little over 200,000 circuit-miles of high voltage transmission lines. The transmission dollars that are being spent today are to connect the new generation to the grid—they are not going to build new lines to strengthen the grid's ability to move large blocks of power from one part of the country to another. That lack of additional transmission capacity means that we will increasingly experience limits on our ability to move power around the country and that commercial transactions that could displace higher priced generation won't occur. And, it will mean that areas experiencing supply shortages, like California is now, won't be able to count on other areas with ample generating resources to help in emergencies.

Moreover, the existing grid is being pushed harder and is being used in ways for which it was not designed. Historically, each utility built its system starting in the city-centers, because the early generating stations were located close to load centers. As the cities grew, the electric systems grew with them, spreading outward from the center. The weakest part of the electric grid is generally at the places where one system abuts another. Initially utilities installed connections between two systems for emergency purposes and to share generating reserves to keep costs down. Gradually those interconnections were strengthened so that adjoining utilities could buy and sell electricity when one had lower cost generation available than did the other. But the systems were not generally designed to move large blocks of power from one part of the country to another, across multiple systems. Yet that is the way business is being conducted today. The volume and complexity of transactions on the grid have grown enormously since the advent of open access transmission.

Electric industry restructuring adds to the challenge. In the past a vertically integrated utility had complete responsibility for all aspects of its electric system, from planning and building the transmission system, through assuring that sufficient generation was constructed, to operating and maintaining the transmission and distribution systems. With restructuring, those responsibilities are being divided among multiple entities and, in some cases, those responsibilities may be falling between the cracks. Regional Transmission Organizations may provide a means to re-integrate some of these functions. But the RTO proposals that have been filed to date vary considerably in the extent to which the RTO has the authority to take on the responsibility for expanding the transmission system. In some parts of the country existing entities, such as the PJM Independent System Operator, have successfully integrated those functions. It remains to be seen whether that degree of integration will be replicated in other parts of the country, and whether neighboring RTOs will strengthen the interconnections between them.

The result of all this is that the transmission grid is being increasingly stressed. That stress shows up in two ways. First, NERC is seeing more congestion on the grid, for more hours of the day. Last summer in the Eastern Interconnection there were substantial transfers of power from north to south. Cooler temperatures in the north meant that surplus generation could seek higher prices in the south where the temperatures were hot. On many days security coordinators had to invoke NERC transmission loading relief procedures to curtail transactions that were overloading the transmission facilities between north and south. The interrupted business deals resulted in lost business for the merchants and a need to replace the transaction with higher priced power for the buyers and, in some cases, interruption of interruptible customers. What do not show up are the transactions that merchants or marketers decided not to engage in because of the likelihood they would be interrupted. We know that those same transmission facilities are fully subscribed for the coming summer, meaning we could see a repeat of last year's pattern if we experience similar weather conditions and fuel prices.

Second, NERC is seeing increasing violations of its reliability rules. The grid is generally operated in a first contingency mode, that is, so that the grid can withstand the loss of its largest element and remain stable and secure. That means that all the transmission lines are operating within their own thermal limits as well as the operating security limit of the grid (meaning that the failure of a particular line won't cause a cascading failure of another line, collapse of system voltage, or instability of generators). So when a large transformer fails or lightning strikes a power line, as happens as a matter of course, the grid can absorb that loss without losing its integrity. Operating in this manner preserves the stability of the grid, but it does sometimes place limits on the amount of power that can be moved from one part of the grid to another.

This is the area where NERC's rules operate, setting the standards by which the grid is operated from moment to moment, as well as the standards for how future transmission systems must perform. Those latter standards include the things that need to be taken into account when one plans and constructs an integrated system that is capable of being operated securely. The NERC standards do not design where facilities go, either transmission or generation, or what kind or how many facilities should be built. They do indicate what system performance tests must be met, which influences how the system must be built if it is to be capable of secure operation. So, when fewer transmission facilities are built, operating the system in a secure fashion will place limits on the amount of power that can be transferred.

Last summer there were a number of instances where operators allowed facilities to remain loaded above their security limits for extended periods of time, placing the grid at prolonged risk of major failure. Some entities have made the economic judgment that it is less costly to them to violate the rules than to follow them. We have seen entities improperly leaning on the Interconnection, causing unscheduled and unmanageable flows and potential voltage problems. As the limits of the system are reached and transactions must be curtailed, we are beginning to hear suggestions to relax the reliability rules to allow higher flows to occur. In an interconnected system, taking such risks to realize some short-term economic gain affects not only the system where the limit occurs, but also all the systems in the same Interconnection. For example, in the 1996 outages in the Western Interconnection, customers far away from the initiating problems were interrupted for significant periods of time.

#### WHAT'S NEEDED

Fortunately, there are steps we can take to improve our transmission infrastructure. First is legislation to change from a system of voluntary reliability rules to one

that has mandatory rules coupled with an enforcement mechanism backed by government. NERC and a broad coalition of industry supporters have been pursuing legislation to achieve enforceable reliability rules.

*Goals of Reliability Legislation*

- Mandatory and enforceable reliability rules, for
- All operators and users of the bulk power system in North America
- Fairly developed and fairly applied, by
- Independent, industry self-regulatory organization
- Oversight within U.S. by FERC
- Must respect the international character of the interconnected North American electric transmission system
- Regional entities will have a significant role in implementing and enforcing compliance with these reliability standards, with delegated authority to develop appropriate Regional reliability standards.

The self-regulatory organization model follows that of the securities industry, where the National Association of Securities Dealers and the securities exchanges act as self-regulators under SEC oversight.

Last year the Senate adopted the NERC legislation as S. 2071, but the bill died in the House. Senator Smith reintroduced that legislation this year (S. 172). In addition, the NERC legislation (including provisions addressing the roles of the states and coordination with regional transmission organizations) has been included in both Senator Murkowski's bill (S. 389) and Senator Bingaman's bill (S. 597). NERC strongly urges you to adopt legislation containing the reliability provisions in this session of Congress. That will enable us to develop an organization and infrastructure to enforce the reliability rules and keep the grid secure.

Second, we need to remove the impediments to expansion of the transmission grid. I would group the impediments into three major areas. The first has to do with the certification and siting of new transmission facilities. Imagine a project to build a mine-mouth generating plant in the Appalachians with a large, direct current line to deliver the power to New York City and New England. Or a similar mine-mouth plant in the Powder River Basin, with direct current links into Chicago and to California, so electricity could be delivered to where it was needed. Those lines would cross many states, and under our current process some sort of separate certification and siting procedure would be required for each one. Often, the relevant state laws were enacted at a time when the public utility operated local generation to serve local customer demand. In order to receive a certificate of need, the utility had to demonstrate local benefits to justify the impact of building the transmission lines it needed. Local opposition to transmission facilities can be daunting, especially where there is no perception of local benefits. Yet these are really interstate facilities that affect a whole region or even many regions. If the proposed facilities cross federal lands, then the Federal Land Management Policies Act is triggered, and even more procedures are involved. Projects that would strengthen the grid are today being delayed due to an inability to obtain certification and rights of way. Other projects are not even attempted, as potential developers decide not to undertake the effort. We need to change how we do things.

A second major impediment to expanding the transmission grid has to do with economics. The cost of transmission is a relatively small portion (6 to 8%) of the overall cost of delivered electricity. Against the prices that prevail in the West today, that number is even smaller. A robust transmission system would pay large dividends by increasing our supply options and allowing us to move large blocks of power from where it is available to where it is needed. Yet the regulated rates that we allow transmission owners to charge may not compensate for the risk they take on. Requiring that investment to be recovered over a period of thirty years may no longer be practical. We need a rate paradigm that recognizes the value that transmission plays in our economy. As well we need a rate paradigm that allows those who build new transmission to recover their investment. The way business is now conducted on the grid, capacity that one transmission owner adds may well be consumed by the parallel flows of transactions of others who purchased a "contract path" on other facilities.

Finally, there is the issue of how many different entities own pieces of the grid and have various responsibilities for it. I earlier spoke about the changes occurring from restructuring as the functions and responsibilities formerly handled by a vertically integrated utility are divided among different entities. Who has the responsibility and authority to build transmission is now less clear. We need to develop mechanisms for assessing what additional facilities the network requires and clearly assigning who has the responsibility and authority to build them.

There are models that point the way. One very promising model can be found within the Electric Reliability Council of Texas. ERCOT uses an annual collaborative process of stakeholders to decide what facilities need to be added to the grid to serve the expected load. Once the needed facilities are identified, the responsibility to build the facilities is assigned to one of the transmission owners within ERCOT. A governmental authority (the Texas Public Utilities Commission) with jurisdiction as broad as the grid conducts the proceeding to determine whether to certify the facilities and where to site them. The fact that the proposed facilities are the outgrowth of the collaborative process carries significant weight in the state proceeding. The costs of building the facilities are then allocated equitably to all load served by the grid and to others who use the grid.

#### CONCLUSION

NERC commends the Committee for attending to the critical issue of enhancing our transmission infrastructure. There is no magic bullet, no single thing to be done that will solve the challenges we face. Instead, we must pursue a portfolio of actions. We are not likely to achieve everything we would wish for out of any of them, but taken together, the portfolio approach provides the strongest opportunity for us to make the improvements we need. First and foremost, we need legislation authorizing development of an industry self-regulatory reliability organization to set and enforce mandatory reliability rules for all users of the bulk power system. That will promote and maintain the reliable operation of the bulk power system that we do have. Further, we need to expand demand-side measures and develop additional generation (both central station and distributed). Finally, we need to expand the transmission grid, by both building new lines and exploiting new technologies to get more capacity out of the existing grid and carry more energy over existing rights-of-way.

Operating around limitations and foregoing economic opportunities because we can't find a way to expand our energy infrastructure is not a sound or responsible strategy. Our nation, its citizens, and its businesses deserve a robust electricity supply system that allows us to realize our full potential. Thank you.

The CHAIRMAN. Mr. Halvorsen, good morning.

#### **STATEMENT OF JERALD V. HALVORSEN, PRESIDENT, INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA**

Mr. HALVORSEN. Good morning, Mr. Chairman. My name is Jerry Halvorsen. I am president of the Interstate Natural Gas Association of America, and I am here to testify this morning regarding the need for natural gas pipeline infrastructure.

The Department of Energy's Energy Information Administration estimates that the use of natural gas will increase from slightly over 22 trillion cubic feet per year today to somewhere around 30 trillion cubic feet somewhere around 2010. This is a 32 percent increase in gas demand.

Mr. Chairman, before I discuss the natural gas pipeline infrastructure, I want to emphasize, as we have before, the need to continue to develop natural gas supply. INGAA continues to encourage the administration and Congress to open Federal lands, both onshore and offshore, for exploration and production of natural gas. Mr. Chairman, 40 percent of the natural gas reserves in this country are offshore, and we absolutely have to get to those reserves if we are going to meet future needs.

We also, as you know, strongly encourage the development of at least one natural gas pipeline from Alaska. North Slope producers report that 6 to 8 BCF per day of natural gas is currently being reinjected in the Alaska North Slope. This gas, coupled with 1.2 BCF per day estimated to come from the Mackenzie Delta, is expected to comprise 10 percent of the natural gas supply for North America by 2015. I cannot underscore, Mr. Chairman, the ur-

gency—and I know you are a strong advocate of this—of getting this natural gas to market in the lower 48 States.

The current natural gas pipeline infrastructure will not support a 30 Tcf market. There simply is not enough pipeline capacity from the supply basins that will supply this additional gas or address demand growth in certain areas.

A recent INGAA study estimated our industry would need to invest about \$34 billion in interstate pipeline and storage infrastructure development over the next 10 years just to keep up with where the market is going. An average of approximately 2,000 to 2,100 miles of new natural gas transmission pipeline will be needed each year, and we estimate that the expenditures for new pipeline construction will vary between \$2.2 billion and \$2.5 billion per year.

Mr. Chairman, we brought a Merrill Lynch map which we have propped up over here, which shows the proposed projects at the FERC as of September 2000. The blue lines are the existing interstate pipeline infrastructure, while the arrows describe the proposed addition to the pipeline network.

Currently there are 24 major natural gas pipeline projects pending at FERC, and the list of these projects is attached to our testimony.

I do want to commend Chairman Hébert and the FERC staff working to move many of these projects along. FERC approved the Kern River expansion to California in what we believe is a record, 21 days. FERC is also examining, under Chairman Hébert's leadership, how they can further streamline the process, and we think they are headed in the right direction. Again, we commend Chairman Hébert for the great job that he is doing.

INGAA still supports having the Council on Environmental Quality, or CEQ, with FERC as the lead agency, forming an interagency task force to develop an interagency memorandum of understanding to expedite the environmental reviews and permitting of interstate natural gas pipelines. Delays, Mr. Chairman, are not at the FERC per se, but with the other agencies that are involved in bringing all these people together. And we think CEQ can help on this, and we intend to follow up to see what we can do to get their attention on this.

One impediment that we encounter from time to time is opposition to new or expanded natural gas pipeline facilities by local distribution companies. The last attachment to my testimony shows the California utilities, mainly Sempra, have protested new interstate pipeline expansions to California. Again, I think everybody in the gas industry needs to work together if we are going to get the new capacity built and on line.

In closing, I would like to say that in response to an increasingly competitive environment, natural gas pipelines have reduced operating costs aggressively over the past decade in response to competition. From 1996 to 1999, pipeline operating costs have fallen by an average of almost 27 percent. And we have a study on this, Mr. Chairman, we would be happy to provide for the record.

These decreased operating costs are being passed on to the consumers in the form of lower charges for pipeline transportation.

Mr. Chairman, in closing, I would like to assure you that INGAA and the natural gas pipeline industry are working to meet the increase we foresee in natural gas demand by building the necessary infrastructure we are going to need for the coming decade.

Thank you very much for this chance to appear.

[The prepared statement of Mr. Halvorsen follows:]

PREPARED STATEMENT OF JERALD V. HALVORSEN, PRESIDENT, INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA

Mr. Chairman and members of the committee, my name is Jerry Halvorsen. I am President of the Interstate Natural Gas Association of America (INGAA) and am here to testify regarding the need for natural gas pipeline infrastructure.

The Interstate Natural Gas Association of America is the trade association that represents virtually all of the interstate natural gas transmission companies operating in the United States, as well as natural gas transmission companies in Canada and Mexico. INGAA's member companies transport over 90 percent of the natural gas consumed in the United States through over 280,000 miles of interstate pipeline.

The Department of Energy's Energy Information Administration (EIA) estimates that use of natural gas will increase from 22.7 Tcf today to 30 Tcf sometime around 2010 (a 32 percent increase in gas demand). Other experts forecast a similar growth in gas use.

Before I discuss natural gas pipeline infrastructure, I want to emphasize the need to continue to develop natural gas supply. As we have in the past, INGAA continues to encourage the Administration and the Congress to open federal lands, both onshore and offshore, to exploration and development of natural gas. The National Petroleum Council has estimated that there are 137 Tcf off limits to develop in the Rocky Mountain area and another 76 Tcf offshore the continental United States.

We also strongly encourage development of at least one natural gas pipeline from Alaska. North Slope producers report that 6 to 8 BCF/d of natural gas is currently being reinjected in the Alaska North Slope. This gas, coupled with the 1.2 Bcf/d estimated to come from the Mackenzie Delta, is expected to comprise 10 percent of the natural gas supply for North America by 2015. I cannot underscore the urgency of getting this natural gas to market into the lower 48 states at the earliest possible date.

The largest area of growth in natural gas demand is expected in electric generation, which currently uses natural gas to fuel 16 percent of electric generation, followed by the industrial sector. The primary reasons for the large growth in the gas segment of the power generation market are the relatively low capital costs of gas-fired generation, the low air emission characteristics of those facilities, and the reduced timeframe it takes to permit and build those facilities. It is estimated that delivered natural gas prices must stay below approximately \$4 per MMBtu for gas to beat out a new highly efficient coal plant for new power generation. Following is a chart that shows the benefits that accrue from using natural gas in a 300 Megawatt electric power plant.

COMPARATIVE EMISSION LEVELS FROM A 300-MEGAWATT POWER PLANT

	Existing coal boiler	New coal boiler	New gas-fired combined-cycle
NO <sub>x</sub> Emissions ..... (lb/MMBtu).	0.50	0.18	0.04
SO <sub>2</sub> Emissions ..... Particulate Matter ..... (lb/MMBtu).	1.20	0.42	0.00058
CO <sub>2</sub> Emissions ..... (lb/MMBtu).	0.11	0.04	0.0029
	205	205	125

The INGAA Foundation has received projections that natural gas use for electric power generation should be about 6.5 Tcf by approximately 2010. If this projection is reduced to a lower case of 4.8 Tcf with coal replacing the remainder of the capacity, it is estimated in *Implications of Reduced Gas Use on Emissions from Power Generation*, prepared by Energy and Environmental Analysis, Inc., that emissions of mercury and uncapped nitrogen oxides emissions would increase by 10 percent

and carbon dioxide emissions would increase by 4 percent. The 111,730 million ton increase in NO<sub>x</sub> emission is comparable to the NO<sub>x</sub> emissions from 4 million cars. The 108 million ton increase in CO<sub>2</sub> emissions is comparable to the CO<sub>2</sub> emissions from 28 million cars.

The current natural gas pipeline infrastructure will not support a 30 Tcf market. There simply is not enough pipeline capacity from the supply basins that will supply this additional gas or to address growth in certain markets. Energy and Environmental Analysis, Inc. prepared a study for the INGAA Foundation in 1999 called *Pipeline and Storage Infrastructure Requirements for a 30 Tcf U.S. Gas Market*. The INGAA Foundation plans to release an update of this study showing natural gas demand and capacity needs by region early this summer.

The 30 Tcf study estimated that our industry would need to invest about \$34 billion in interstate pipeline and storage infrastructure development between 1999 and 2010 just to keep up with where the market is going. An average of approximately 2,000 to 2,100 miles of new gas transmission pipeline will be needed each year. Expenditures for new pipelines and pipeline expansions were \$2.2 billion in 1999 and \$2.5 billion in 2000. Three new pipelines, as well as many pipeline expansions, were brought on line last year—the Alliance Pipeline brings natural gas to the Chicago area from Alberta, Canada, Vector Pipeline delivers natural gas from Chicago to Indiana and Michigan and ends in the storage fields of Dawn, Ontario and the Maritimes Northeast Pipeline delivers natural gas from Sable Island, off the East Coast of Canada, through Maine and into the Boston area.

The Merrill Lynch map that is behind me, and enclosed with this testimony, shows the now proposed projects at Federal Energy Regulatory Commission (FERC) as of September 2000. The blue lines are the existing interstate natural gas pipeline infrastructure while the arrows describe the proposed additions to the pipeline network.

Currently, there are 24 major natural gas pipeline projects pending at the FERC. (A list is attached to my testimony.) Projects determined to be major are those that deliver approximately 100 MMcf/day or more. These projects are proposed in almost every region of the country. If approved, they would add an additional 8,598 MMcf/day; expand the pipeline system 2,389 miles and cost \$9 billion. There are numerous other filings for pipeline expansions that are well less than 100 MMcf/day also pending at FERC. A number of our companies are also holding “open seasons” to determine where there may be need for additional pipeline capacity. The current rules at FERC are working. All of our INGAA companies are working to meet the additional demand for natural gas that they see in their own market areas and elsewhere.

The following chart from the Energy Information Administration’s report *U.S. Natural Gas Markets: Recent Trends and Prospects for the Future* depicts the proposed natural gas pipeline projects as of March 2001 by region of the country.\*

I want to commend Chairman Hébert and the FERC staff for working to move many of these projects along. FERC approved a Kern River proposed expansion of 135 MMcf/day to California in what I believe is a record, 21 days. By adding compression to Kern River, this increased supply of natural gas from the Rocky Mountain area should reach the California border by late July of this year. FERC has also approved conversion of Line 2000 (formerly part of the All American crude oil pipeline) to natural gas to boost deliverability into California by as much as 230 MMcf/d. This project is scheduled to come on line by the end of August.

FERC is reexamining its process of pipeline construction approval. FERC is considering seeking volunteers on selected new pipeline proposals to begin to work with FERC on the Environmental Impact Statement prior to completing the application to file so that the National Environmental Policy Act (NEPA) process can be expedited. It is anticipated that this could reduce the timeframe of certificate processing for those projects by six to eight months.

This is an important step. Many new natural gas-fired electric facilities can be built in a year or less from the time they commit to a natural gas supply. However, if additional pipeline capacity needs to be built, this process, in the best case, could take over two years to prepare, file and obtain approval.

INGAA members are also building new storage facilities and reopening liquefied natural gas (LNG) facilities that had been mothballed for many years. (A map of these existing facilities is attached to my testimony.) These facilities provide supplementary supply. CMS is currently receiving LNG at their Lake Charles facility and has recently received final approval from FERC to expand their peak send-out capacity. Williams and Southern Natural are restoring facilities at Cove Point, Maryland, and Elba Island, Georgia, respectively. Our member companies are also con-

\* Attachments to this statement have been retained in committee files.



sidering building new LNG facilities close to growing markets. We project that LNG will not add substantially to our natural gas resources over the next ten years but it will provide a niche supply in key areas.

INGAA still supports having the Council on Environmental Quality (CEQ), with FERC as the lead agency, forming an interagency task force to develop an interagency memorandum of understanding to expedite the environmental review and permitting of interstate natural gas pipelines. If the affected agencies can work on their specific approvals concurrently as opposed to sequentially and use a common file of pipeline information, this can help reduce the time it takes for the NEPA process and obtaining permits while assuring that all the requirements of NEPA are met. We hope they will take a lead effort in facilitating the same discussions with state and local agencies.

One impediment we encounter from time to time is opposition to new or expanded natural gas pipeline facilities by local distribution companies. For example, one large east coast pipeline proposal was opposed, at least at some point, by four local distribution companies. As the last attachment to my testimony shows, California utilities, mainly Sempra, also have protested new interstate pipeline expansions to California.

Before closing, I want to point out to the Committee that, in response to the increasingly competitive environment, pipelines have reduced operating costs aggressively over the past decade. Technology, including advanced remote control and telemetering technology, has been a major driver of these lower costs. From 1996 to 1999, pipeline-operating costs have fallen by an average of almost 27 percent.

These decreased operating costs are being passed on to consumers in the form of lower charges for pipeline transportation. The only exceptions to this pattern are pipeline systems that have added new facilities to increase capacity.

Mr. Chairman, I want to assure you that INGAA and the natural gas pipeline industry are working to meet the increase we foresee in natural gas demand by building the necessary infrastructure to deliver natural gas and storage to end-use markets. INGAA's goal is to have a flexible, safe and transparent transportation grid that will provide clean natural gas to America at a reasonable cost.

The CHAIRMAN. Thank you, Mr. Halvorsen.  
Mr. Stan Szwed. Good morning.

**STATEMENT OF STANLEY F. SZWED, VICE PRESIDENT,  
TRANSMISSION, FIRSTENERGY CORP., AKRON, OH**

Mr. SZWED. Mr. Chairman and members of the committee, thank you for the opportunity to testify here today on impediments to transmission siting and building new transmission infrastructure. I am Stan Szwed, vice president of Transmission for FirstEnergy Corp. of Akron, Ohio. We are the Nation's tenth largest electric utility, serving some 2.2 million customers in northern Ohio and western Pennsylvania, and when we complete our merger with the New Jersey-based GPU, we will be the Nation's fourth largest electric utility.

I would like to focus on electric transmission today and specifically the following three points: one, the need for Federal authority regarding transmission siting; two, the creation of a brand new electric transmission industry and its need to match supply to demand, that is, to build more transmission infrastructure; and three, the needs of the new transmission industry that Congress should address to get more transmission built.

Simply stated, the country needs more transmission. No one is building transmission lines and now is the very time we need to dramatically enhance transmission infrastructure. We need to transform a network of what are now local roads into an interstate highway system. If we focus on wires and get electric transmission right, a major ingredient to successful competitive markets will have been addressed.

The transmission principles that you and Senator Craig articulated last year provide the right framework for a market-driven and business-oriented resolution to transmission issues.

A key impediment to increasing transmission capacity is siting. Having a siting problem, however, means we have something to site.

There are other barriers to building transmission lines that need to be addressed, including the need for new investment, disincentives in the tax code, the Holding Company Act, and the potential for new Federal regulatory authority. Let me first turn to your priority of today, siting.

With wholesale electric competition, transmission today is much more interstate, certainly more than in 1935 when the Federal Power Act was adopted. By contrast, gas pipelines were considered interstate when Congress passed the Natural Gas Act in 1938. Congress gave the then Federal Power Commission authority to issue a certificate of public convenience and necessity for construction of interstate gas pipelines and authorized the certificate holder, if necessary, to exercise eminent domain authority in court.

That is what we need now for electric transmission. We recommend granting the Federal Energy Regulatory Commission the authority to site electric transmission facilities, consistent with its authority under the Natural Gas Act. We also endorse your siting provision, Mr. Chairman, included in your legislation in the 106th Congress.

But again, there has to be something to site. With a regulated service such as transmission, setting out the right business proposition depends very heavily on Congress and Federal regulators establishing the right Federal policies.

In addition to the siting recommendations that I just made, the following is what we believe the Federal Government must do.

First, with regard to transmission rate reform, Congress should reform transmission ratemaking to reflect the risks and uncertainty in the new transmission industry. Put yourselves in the shoes of an ordinary investor. Assume that this regulated transmission industry has been newly reconfigured, supply and demand patterns are in flux, the regulatory environment is uncertain, and the company may have limited future flexibility on how to position, acquire, and dispose of assets. Are you going to invest? The answer is no. But somebody has to or we will be headed for trouble.

Providing for innovative transmission rates is an absolute must to afford the transmission business the opportunity to earn a competitive rate of return, and that is what is needed to attract new investment.

On taxes, Congress should enact tax reform to remove disincentives to formation of regional transmission organizations and to provide incentives for new investment. Specifically, we need to allow for tax-deferred sales and tax-free spinoffs of transmission property. In addition, we need to accelerate depreciation periods for transmission property.

On the Holding Company Act, Congress should repeal the act or at least exempt from its requirements steps taken to form a regional transmission organization or a regional transmission com-

pany. The Holding Company Act stifles investment and makes it harder to form transmission companies and regional organizations.

On FERC's authority over dispositions of utility property, Congress should repeal or streamline section 203 of the Federal Power Act. FERC's reviews under 203 take far too long and are duplicative reviews conducted by other agencies.

On regional transmission organization formation, Congress should avoid giving FERC authority to mandate RTO structure. The voluntary approach of FERC Order 2000 is working as some 98 percent of investor-owned transmission assets are being committed to regional organizations.

Mr. Chairman, I have touched on a lot of issues. Let me just take a minute to summarize by simply saying it this way. Very personally for nearly the last 4 years, myself and other transmission executives across the country have been working nonstop to launch the much-needed new transmission industry. And all of the issues I have raised here today from siting to rate reform and all the rest, including the Holding Company Act, stand in our way. They frustrate our efforts and stunt the growth of this new business. But more important from your perspective, these legal and regulatory impediments deny your constituents the smart, switchable electric transmission network our country needs for reliable, robustly competitive and high quality electric service. That electric service is the kind of service you must have for the 21st century and to propel our growth.

Thank you for holding this hearing and calling attention to our Nation's need for more and better energy delivery structure.

[The prepared statement of Mr. Szwed follows:]

PREPARED STATEMENT OF STANLEY F. SZWED, VICE PRESIDENT, TRANSMISSION,  
FIRSTENERGY CORP., AKRON, OH

Thank you for the opportunity to testify before the committee today. I am Stan Szwed, Vice President, Transmission for FirstEnergy Corp. FirstEnergy is a diversified energy services company headquartered in Akron, Ohio, and is the nation's 10th largest electric utility. We serve 2.2 million customers in Northern Ohio and Western Pennsylvania. We are in the final stages of our proposed merger with New Jersey-based GPU. GPU serves 2.1 million customers in Pennsylvania and New Jersey. When our merger is completed, FirstEnergy will be the 4th largest electric utility in the nation based on customers served.

FirstEnergy has been an industry leader on electric transmission issues, and we have worked diligently with other industry leaders and with state and federal regulators on groundbreaking work that will result in the development of transmission organizations for the electric industry of the future. During the course of our work, we have tried to help policy makers set the right course for transmission. I hope that my experience on these two efforts—the development of a for-profit regional transmission organization (RTO) called the Alliance RTO, and the promotion of proper federal policy on transmission with a group known as the informal coalition—will be of value for the Committee.

My testimony will focus on the following four areas: (1) the importance of federal authority to site new transmission facilities; (2) the creation of a brand new electric transmission industry and its need to grow and improve—that is, match supply to demand with more and better transmission infrastructure; (3) other important needs of the new transmission industry that Congress must address to get more transmission capacity; and (4) lessons from my work with the Alliance RTO and a policy-oriented group called the informal coalition.

Simply stated, what the transmission industry needs today is more and better infrastructure. The growth or addition of transmission miles to the interconnected network has been so dismal that it makes the growth of electric generation look wild in comparison. As some commentators have put it, there is a "transmission investment gap." Senators, no one is building transmission lines and it is happening (or

not happening) at the very time we need to dramatically enhance our transmission infrastructure. What is needed is the steady transformation of a network of what are now local roads into an interstate highway system. Focus on the wires and get transmission right, and a major ingredient to successful competitive markets will have been added.

Mr. Chairman, the principles you and Senator Craig articulated last year provide the right framework for resolving this critical issue. Those are: a market-driven and business-oriented resolution to transmission issues; the voluntary development of transmission institutions; the continued flexibility of the market to determine the structure of RTOs; and encouragement for expansion of transmission investment.

As the Committee has identified in holding this hearing, one of the key impediments to increasing transmission capacity is the problem of siting new lines, particularly lines that are designed to facilitate interstate or interutility power transactions. Since one must first have a line to site before it is time to consider the siting process, it is important to discuss other critical impediments to increased capacity. These include the need for new investment, disincentives in the tax code, the Public Utility Holding Company Act (PUHCA), and the potential for new federal regulatory authority. Let me first discuss siting.

#### REFORM TRANSMISSION SITING

Transmission siting is a significant impediment to reliable and competitive electric service. If it is not addressed, constraints we have in the system today are going to get worse. Transmission systems are being asked to function in ways they were never designed to function. The combination of increased demand for electricity and new types and patterns of transactions is causing transmission traffic jams. In the last 5 years, the annual number of transactions between regions has increased from 25,000 to 2 million.<sup>1</sup> The transmission systems have handled this increase reasonably well, but the number of occasions on which transmission curtailments must occur is increasing.

Moreover, without the proper financial incentives for transmission expansion, bottlenecks will proliferate. Attached to my testimony are two charts that illustrate the problem. One shows that between 1995 and 1999 the number and complexity of wholesale transactions have grown enormously, resulting in increased use of transmission systems. The other is even more sobering, showing that annual transmission investments, in constant inflation-adjusted dollars have been declining for almost 25 years—at an average rate of \$115 million per year.

Consistent with the recent development of wholesale electric competition, transmission has become much more of an interstate business than it was ever thought it would be. Certainly, it is a far cry from what it was in 1935 when the Federal Power Act was adopted. Congress chose not to provide the Federal Power Commission (FPC), the predecessor to the Federal Energy Regulatory Commission (FERC or the Commission), with eminent domain authority in 1935, given that electric service was generally local in nature. When Congress passed the Natural Gas Act in 1938, it gave the FPC authority to issue a certificate of public convenience and necessity for construction of gas pipelines, and gave the holder of such a certificate the ability to go to court to exercise eminent domain authority, if necessary, to build transmission facilities. That grant of authority reflected the interstate nature of the gas business, where the commodity was being transported across State lines. The same is now true of the electric industry.

Utilities have been as hesitant as many in Congress to suggest that the Commission ought to have authority for transmission siting. For many in Congress, it has been a matter of principle that land use decisions ought to remain at the local level. For utilities, it has not only been a matter of principle, but a matter of political sensitivity. We need to rely to a great extent on the judgment of State utility commissioners and other officials in our business. While we prefer deference to traditional State prerogatives, the increasingly interstate nature of transmission is undeniable, and the importance of constructing new facilities to facilitate interstate, if not inter-regional transactions, speaks to adopting a more streamlined process with a role for the federal government.

A State through which a utility line must pass may be reluctant to authorize its construction if there is no direct local benefit, regardless of the benefit to interstate commerce. In the new competitive marketplace, this is a potential recipe for disrupting the supply chain. New lines are going to benefit the entire network, and help ensure a large, robust competitive marketplace. Not having new lines also has an

<sup>1</sup> Ron Scherer, "The Other Electricity Crisis: Transmission Lines," February 20, 2001, at 3 (citing Edison Electric Institute).

effect on the entire network. Some entity with responsibility for this larger area needs to be accountable for these decisions.

We endorse Chairman Murkowski's siting provision included in S. 2098 from the 106th Congress. We hope that this provision can be included in legislation in this Congress.

Alternatively, FirstEnergy recommends granting the Commission the authority to site electric transmission facilities similar to the authority contained in the Natural Gas Act. Under Section 7(c) of the Natural Gas Act, a certificate of public convenience and necessity is required before a natural gas company can undertake the construction, operation, extension or acquisition of facilities used in the interstate transportation or sale of natural gas.

Depending on the type of facilities being proposed in an application for a certificate of public convenience and necessity for a gas pipeline, the FERC requires detailed information concerning the proposed facilities including, among other things, the proposed route, the environmental impact of the proposed facilities, identification of affected landowners and steps taken to address any concerns affected landowners might have with respect to the proposed facilities and documented compliance with various Federal laws.

Once FERC has granted a certificate of public convenience and necessity with respect to the facilities, if the holder of the certificate cannot acquire the rights-of-way necessary to construct and operate its proposed facilities, it can acquire the same by exercise of the power of eminent domain in the District Court of the United States for the district in which the facilities are located.

I endorse federal siting authority, even though in Ohio we have a comparatively good siting process. Each State handles transmission siting differently. In Ohio, prior to about 25 years ago, we had a process much like many other States where an applicant for a transmission line would have to gain approval from a variety of State regulators at the State Public Utility Commission, the Environmental Protection Agency, and other agencies who administered statutes that might be affected by a proposed facility. In addition, a utility would have to get approvals from local governments. What a utility might find is that local governments would pass ordinances to block proposed facilities. What we have nationally now is a situation somewhat analogous to what most states used to have, with utilities needing to gain a variety of approvals to build the network to support interstate commerce.

In the early 1970s, Ohio adopted a law modeled after one in New York State that established a transmission siting board. Today in Ohio if you propose a transmission facility, the application need only be approved by the State siting board. The applicant must demonstrate a need in Ohio for the facility, and must demonstrate that environmental considerations are given due regard. Once those thresholds are met, the board issues a certificate of environmental compatibility and public need. I am told that thirty-nine states follow this model, but there are still a number that do not.

Siting more transmission is a means to achieving reliable, cost-effective electric service in the new electric marketplace. However, siting is only one challenge, and it is necessary to provide details on some of the other critical problems. As difficult as transmission siting has been, it is of less importance in my view to the future of the transmission industry and electric service generally, than letting this brand new transmission business be a business that people are willing to grow.

#### ENABLE THE INDEPENDENT TRANSMISSION BUSINESS TO FORM AND GROW

The new transmission business must be able to make a case for itself. It must be able to demonstrate to investors, employees, customers, regulators, suppliers, and others that it can perform and grow—that it can be a stand-alone enterprise. For a stand-alone transmission company operating independently of affiliated generators, distribution companies or other market participants, this means it must demonstrate that it can attract investment, recruit and keep highly talented, highly motivated people, and pay a just and reasonable return to its owners. Investors need to know that investing in the new transmission industry has commensurate opportunity for reward as investments of similar risk.

This point bears emphasis: federal and state regulatory policies are separating the generation, transmission, and distribution components of an industry on which so many conveniences and necessities of modern life are dependent—light, heat, refrigeration, water, sound, transportation, safety and medical services, to name a few. The objective of these policies is to promote competition for electric service within wholesale and retail markets by permitting both retail customers and generators access to the transmission system on a nondiscriminatory basis. In particular, the FERC, by promoting the formation of Regional Transmission Organizations, is re-

quiring transmission service to be furnished by large multi-state organizations independent of transmission owners. This policy requires the transmission business to stand on its own in providing reliable transmission service, expending its facilities to support growing competition for electric service, and providing reasonable compensation to stockholders. Since reliable and readily available transmission service is one of the keys to effective competition, a regulatory environment must be created that gives this new transmission business the opportunity not simply to survive, but to thrive.

The new transmission industry might look to the naked eye a lot like part of the old utility, with the same power lines, the same people running the facilities, regulated returns and so on. However, lest anyone think that electric restructuring is just a simple asset shuffle, California demonstrates that we cannot overlook the direct relationship between investing to keep up with changing demands and electric reliability.

Open access to transmission facilities, which FERC required in Order No. 888, means that transmission lines once solely used for the vertically integrated company that owned the line, are now part of an interstate transmission highway that could be used by anyone. The problem is that as a whole, the systems were not built to serve as an interstate highway. They were built to deliver electricity from a specific power plant to a specific load center within the regulated service area of a single utility or utility system. The separation of transmission from the traditional utility and the transfer of control over transmission service to RTOs introduces new requirements and dictates a new approach to ensuring reliability of transmission service.

Let me explain it this way. Open access is the equivalent of making Constitution Avenue accessible for use for I-95 traffic. It has worked fine as a main artery for local traffic all these years, but now it must facilitate through traffic. If it cannot be upgraded to handle the interstate traffic, there could be serious consequences. Separation and regionalization are the equivalent of saying that we are going to turn over control of Constitution Avenue to a regional entity that will plan for its expansion so the I-95 traffic can get through. However, the new interstate operating entity has to have its own borrowing authority. In the real life of the new transmission industry, the operating entity is the private sector, and we need to compete with others in the private sector to attract investment to tackle the project. I might add with respect to siting that the local authorities might not be too keen on building an interstate highway through the heart of town.

Don't just take my word for how important it is to get the new transmission industry right. Look at the findings of the January, 2001, report of the PA Consulting group, "The Future of Electric Transmission in the United States." This report argues that "the inability of the restructuring process to adequately address as yet the needs of the transmission sector is jeopardizing the health of both the sector and of the entire electric power industry, which it supports . . . . [The] lack of additional incentives in the face of new risks lies at the heart of many of the problems now facing the transmission sector." Or look at the possible scenarios envisioned by Cambridge Energy Research Associates in its Autumn, 2000, report, "High Tension: The Future of Power Transmission in North America." It concludes that with the proper incentives, the transmission sector will function appropriately, but without the proper incentives, the resulting inadequate, unreliable transmission system will force a government takeover of transmission or a patchwork of distributed generation as customers avoid crumbling transmission networks altogether.

Enabling large regional transmission businesses to become operational is a significant technical challenge requiring millions of dollars of investment in new equipment and systems. The new technology needs to keep pace with the end uses of electricity. There are increasingly end use applications of computers and computer-based control equipment where not only the quantity but the quality of electric service is fundamental to enabling everything to work. At times, even the smallest disturbance can cause a malfunction of this sensitive equipment. New technologies are required to improve power quality, and that takes investment.

In a regulated service such as transmission, setting out the right business proposition depends very heavily on Congress and federal regulators establishing the right federal policies. In addition to the siting prescriptions I recommended above, the following is what we believe the federal government must do.

#### REFORM TRANSMISSION RATES

Congress should reform transmission rate making to reflect the risks and uncertainties in the brand new transmission industry. FERC has a legal obligation to set rates that simultaneously protect consumers' interests in having reasonable rates

and investors' interests in a reasonable return on investment. However, transmission rate reform, which many parties acknowledge is needed, has been too long in coming. The best thing for consumers is a robust, growing transmission network, and it will require some different regulation to bring that about.

Put yourself in the shoes of an ordinary investor. The stock broker calls with the opportunity to invest in a company that provides a regulated service, which typically has a comparatively low risk and a commensurate return. However, this regulated industry has been newly reconfigured, supply and demand patterns are in flux, the regulatory environment is uncertain, and the company may have limited future flexibility on how to position, acquire and dispose of assets.

This is an investment I do not want to have to make, because it is a vision of the future of this new transmission industry I do not have and our country should not have. Instead, I want to bring this brand new industry to investors full of hope that a well-run transmission business will gain customers and be able to keep some of the rewards for providing good efficient service and improving customer satisfaction. This is the essential task for the industry, Congress, and FERC.

We support transmission rate reform so that returns on transmission assets are in line with assets in industries having commensurate risk. We also support innovative rate treatments, such as allowing transmission owners to share with customers some of the financial benefits of providing more cost-effective service. FERC is moving in the right direction on issues like these, but encouragement from Congress, especially in the form of legislative language directing FERC to consider the need for transmission investment and expansion when setting rates, is very important.

#### REMOVE TAX BARRIERS

Congress should enact tax reform to remove disincentives to formation of regional transmission organizations and to provide incentives for new investment. Specifically, we need to allow for tax-deferred sales and tax-free spinoffs of transmission property, as called for in Chairman Murkowski's bill, S. 389. This language resulted from an agreement between the Edison Electric Institute, the American Public Power Association, and the Large Public Power Council. In addition, we need to accelerate depreciation periods for transmission property, as called for in S. 596, introduced by Senator Bingaman.

Forming a for-profit transmission company or transco, which is what my company and many if not most other utilities are doing to comply with Order No. 2000, is extremely difficult, and is complicated by the tax laws. To meet the Order's independence requirement, many utilities prefer to find a way to divest transmission assets, especially if they are forming transcos. In other cases where government action results in a taxable event that would not otherwise have occurred, the tax code prevents incursion of tax penalties. If utilities sell transmission property and reinvest the proceeds into other utility property, taxes should be deferred until a taxable event involving the property occurs. If utilities spin off transmission property, this should not be considered a taxable event.

As for depreciation of transmission assets, the depreciation period should be brought into line with periods for property in other industries, given the changed circumstances under which the industry must attract capital. We thank Senator Bingaman for his foresight on this point.

#### REMOVE PUHCA BARRIERS

Congress should repeal the Public Utility Holding Company Act, or at the very least, exempt newly-formed electric transmission companies qualified as RTOs from its provisions. When the Senate Banking Committee held a hearing on S. 306, the Public Utility Holding Company Act of 2001 (which has now been adopted by that committee by a 19-1 vote), Cindy Marlette, FERC's Deputy General Counsel, testified to the impact of PUHCA on RTO formation, stating:

PUHCA may cause unnecessary regulatory burdens to utilities who, in compliance with Commission policy and regulations, seek to form or join regional transmission organizations (RTOs). . . . Under PUHCA, any entity that owns or controls facilities used for the transmission of electric energy—such as an RTO—falls within the definition of public utility company, and any owner of ten percent or more of such a company would be a holding company and potentially could be required to become a registered holding company. This could serve as a significant disincentive for investments in independent for-profit transcos that qualify as RTOs.

Put simply, the Holding Company Act stifles investment in the emerging independent transmission industry.

## REPEAL OR REFORM SECTION 203 OF THE FEDERAL POWER ACT

Congress should repeal or streamline the review of dispositions of utility property by the FERC under section 203 of the Federal Power Act. Among other things, this review is a barrier to consolidation of transmission networks and formation of RTOs.

Section 203 of the Federal Power Act is currently a “one size fits all” provision that applies to the disposition of all jurisdictional assets with a value of \$50,000 or more. It applies to everything from a simple sale of a transmission substation to the most complicated utility. FERC reviews of dispositions of property under section 203 take far too long and are often duplicative of reviews conducted by other agencies. For some transactions, review is required by FERC, the Department of Justice, the Federal Trade Commission, the Securities and Exchange Commission, the Nuclear Regulatory Commission, and each affected State. Utility transactions should be reviewed by the government, commensurate with the way transactions involving other industries are reviewed. There are important societal and governmental interests to be protected. However, the massive, time-consuming, duplicative review specific to the electric utility industry is contrary to consumer interests because it delays companies’ ability to respond to market needs and needlessly increases transaction costs.

The industry is positioning itself to dispose of transmission property because FERC determined to have RTO formation. Recently when FirstEnergy established a transmission subsidiary within our own family of companies, the federal review, including SEC approval, took over a year. Although the FERC acted promptly by comparison—that is, within 7 months—reforming or eliminating the property disposition review at the Commission would be a positive step.

## AVOID MARKET STRUCTURING AUTHORITY

Congress should avoid giving FERC new authority to restructure the industry. As noted above, RTOs are forming. They are doing so according to what the experts in this industry have judged to be in the long-term interests of transmission service and transmission customers. This process is already subject to intense FERC review and approval.

Now is certainly not the time to add market structuring authority, with 98 percent of investor-owned transmission assets being committed to RTOs. The industry is demonstrating that many proposals in the last Congress for additional RTO authority were unnecessary. Many also have proposed giving FERC market power authority. We believe this would have a chilling effect on the investment and industry consolidations needed to capture the efficiencies of competition and ensure adequate supply and reliability of delivered power. Antitrust agencies already have ample authority to ensure industry compliance with antitrust laws. FERC was designed as an economic regulatory agency. Market structuring functions should remain primarily elsewhere.

Furthermore, if the federal government focuses the transmission debate on the authority of the Commission to restructure the industry, it conditions the industry to be concerned with regulation, and not with improving transmission systems. The businessmen will be regulatory experts, not transmission experts. Lately my colleagues and I have spent a lot of time negotiating our way through regulatory changes and policy debates, when what we need to do most is run this critical business and focus even more intently on customer satisfaction.

## ADOPT MANDATORY RELIABILITY STANDARDS

We support the adoption of mandatory reliability standards to provide for proper enforcement of the rules of the road. We support the reliability language of the North American Electric Reliability Council (NERC), as modified to address concerns about its interplay with the reliability requirements for RTOs contained in Order No. 2000.

In the 106th Congress, Congressmen Tom Sawyer and Richard Burr introduced H.R. 2786, legislation which addresses many of the transmission problems I have just mentioned. Key portions of that legislation were adopted by the House Subcommittee on Energy and Power in the last Congress as part of H.R. 2944. It is also my understanding that Vice President Cheney’s Energy Task Force report may be headed in the same direction.

I would now like to turn my attention to some of the work FirstEnergy has been doing to form a regional transmission organization and to promote appropriate federal transmission policy.



## THE ALLIANCE RTO

FirstEnergy is one of the leaders in forming the Alliance Transmission Company LLC, which we anticipate will be qualified as the Alliance RTO. This entity, now substantially approved by FERC, will be a for-profit transmission company. The business of the company will be to provide transmission service. The companies who now own the assets that comprise the Alliance will become its customers, along with other generators and utilities.

For the past two years, the major portion of my daily activity and the people I work with has been focused on forming the Alliance RTO. The model we built has attracted five more members to the Alliance, which will now be able to provide transmission service roughly from the Gateway Arch in St. Louis to Kitty Hawk. It will link large load centers such as Chicago, Detroit, Cleveland, and Northern Virginia.

There are business and human challenges that must be overcome. On the business side, we are focused on crafting and executing the business and financial arrangements necessary to establish electric transmission institutions that can serve growing competitive markets for electricity. This is the cutting edge of financial restructuring.

On the human side, the new transco will need experienced and highly trained, highly motivated personnel. It takes experienced people to run these systems. The system operators are the finest people around. The last thing they want to happen is to reduce load or have a blackout. They take pride in making sure that we effectively balance resources and load, and they work day and night—literally 24 hours a day, seven days a week, 365 days a year—to keep the lights on. We must keep these operators. However, without the right business proposition, and without some certainty about the direction and promise of this emerging industry, how will we keep them?

## THE INFORMAL COALITION

In July 1999, FirstEnergy and five other companies launched the informal coalition, which to my knowledge has been the only transmission-specific policy oriented group in Washington. The group's members today are DTE Energy, Duke Energy Corporation, FirstEnergy Corp., Northeast Utilities System, Public Service Electric & Gas Company, and Southern Company. The companies in the group recognize the importance of expanding transmission capacity and adhere to the principles I have mentioned that you and Senator Craig espoused last year. As a practical matter, these principles translate into the kind of agenda items I have discussed. While the group has not yet endorsed a specific transmission siting proposal, we recognize that the increasingly interstate nature of transmission argues for a federal role.

In the past two years, we have held somewhere near 200 meetings with Senators, Congressmen, the Administration and staff. Many key federal decision makers are relying upon our expertise, and we are grateful to have earned their trust.

Looking at where we have come from, I am very proud of this group's efforts. In less than two years, transmission has gone from an issue that most policy makers were not discussing—or if they were discussing it, an issue that centered around more authority for FERC to structure the market and other issues either harmful to the future of the new transmission industry or off the track of what is really critical to its success—to one of the central issues in the restructuring debate. It seems that most people now agree on the need for the appropriate investment picture as an integral feature of transmission policy.

## CONCLUSION

Thank you for holding this hearing and calling attention to our nation's need for more and better energy delivery infrastructure. I am grateful for the opportunity to offer my perspective on the need for reform of electric transmission siting laws and to support the policy direction you have charted, Mr. Chairman. Equally, if not more important, I hope you will consider my recommendations for wider ranging reforms that are needed to free industry to launch the independent electric transmission businesses of the future and close the transmission investment gap.

The CHAIRMAN. Thank you very much, Mr. Szwed. I would like to compliment the panel on the excellent testimony.

I think, unfortunately, we do not seem to be making the impression that is necessary in the American people, and it is unfortu-

nate. I really wonder if the crisis is going to simply have to get worse before people come to grips with the reality.

I am embarrassed that I do not have some of my colleagues on the other side. I know we had a conflict with the Committee on Finance that came up and it is a lengthy hearing, but half the witnesses were chosen on the other side and half were chosen on this side. I think out of courtesy it is unfortunate that we do not have any members here from the other side, and I want it noted because I think it does represent a reality that we have got an important topic here that is vital to relief relative to decision making. We have the responsibility for the decision.

Gentlemen, we have heard a lot about conservation. I think we are all in agreement that conservation has to be a significant part of the overall energy policy, but does anyone believe that we can get there through conservation alone? Yes or no.

Mr. HALVORSEN. No, sir.

Mr. NUGENT. No.

Mr. COOK. No.

Mr. SZWED. No.

The CHAIRMAN. All right. I appreciate that.

I am also inclined to address some of the questions relative to what I see are not signs of realism in recognition of the realities that we are facing today but still a continued NIMBY attitude, not in my back yard, towards relief. Mr. Cook, for example, a few weeks ago Connecticut rejected a new high voltage transmission line connecting Long Island to the New England power grid out of concern for the oysters. And I am very fond of oysters.

[Laughter.]

The CHAIRMAN. But nevertheless, they did not want it in their back yard.

In California, there has been opposition to building new powerplants, but even the relief of starting an existing powerplant at Huntington Beach, California, for 450 megawatts, which can be turned on tomorrow, is opposed not because it is in violation of any air or water quality. It is the heating/cooling process evidently creates algae and there is opposition from those who have boats around the area. If you have a boat, you have a generator, you do not need a long extension cord. Another NIMBY.

Yesterday in the *Los Angeles Times*, there is a growing opposition to the construction of a new high voltage transmission line by San Diego Gas and Electric. Well, if the transmission lines are not built and the power lines are not built, yet the consumer wants reasonable and reliable electricity, how are we going to get through not just to California, but to the rest of the public that we have got a crisis here and a significant portion of the relief is new and expanded facilities?

Mr. COOK. It is exactly circumstances like those that you mentioned, Mr. Chairman—I think those in the industry could probably catalog others as well—that are one of the factors why this is not happening. It is why we believe that we need to change how we are doing things if we are going to be able to get the kind of infrastructure in place that we need to have to move forward.

The CHAIRMAN. It is certainly frustrating. We are talking about complaints of the price of natural gas at the border in California

is too high. I think this would go to Mr. Halvorsen. Am I not correct that the California Commission, as well as local gas distribution companies, have consistently fought against new pipelines?

Mr. HALVORSEN. Yes, sir, that is true. That is why we attached the chart to my testimony.

The CHAIRMAN. For example, did not Sempra, the parent company of Southern California Gas, file at FERC an opposition to the recent Kern River pipeline expansion?

Mr. HALVORSEN. As well as the transwestern expansion, yes, sir.

The CHAIRMAN. Am I also not correct the State of California has steadfastly insisted that all interstate pipelines end at the border of California with the intrastate pipelines inside the border being subject to State jurisdiction?

Mr. HALVORSEN. Yes, sir, that is correct.

The CHAIRMAN. Is not the net effect of this to deny California consumers the benefit of FERC's open access transportation program which has saved consumers elsewhere in the United States billions of dollars?

Mr. HALVORSEN. Well said, Mr. Chairman. That is exactly the right answer.

The CHAIRMAN. Well, if I am giving you the right answer and you are agreeing with me, what is the relief? Logic dictates reality. But is the shoe not pinching enough?

Mr. HALVORSEN. Well, we tend to speak a different language I think sometimes. We have been trying, and particularly I think it is unfortunate that some of the local distribution companies that need the gas have been opposing the pipeline projects. So, again, we are doing our best to communicate that we all ought to work together on this.

The CHAIRMAN. There was a proposal out of San Jose near the Cisco plant to put in a facility, and that was objected to. If they are going to object to everything, I assume they simply are going to be satisfied to buy their power, as much as they can, outside the State, if they can.

Well, Mr. Nugent, your association represents State public utility commissioners. As you know, we have an energy bill in. A number of members are sponsors of that. We are being criticized because our bill did not include eminent domain for electric transmission lines. We talked and thought a lot about it when we discussed it in the makeup of the bill. We thought, since we have eminent domain on pipelines, that maybe the States would address it as far as their responsibility was concerned of ensuring their constituents have access. So, we did not put it in. We have been severely criticized for that. We can put it in. It may be in the task force report. I am inclined to think it is, although I do not know that for a fact.

But many States are protesting. Here is States protest Bush's plan for siting power lines. I am sure you saw that in the Wall Street Journal.

The reason that we have to do it federally, even though I am opposed to it in theory, because I think the States ought to meet the obligation, is that States are incapable of coming to grips and allowing access. Now, you are in the business, Mr. Nugent.

Mr. NUGENT. Mr. Chairman, I reject the characterization that States are incapable. First of all, different States react in different ways.

The CHAIRMAN. Well, let us say the States that I mentioned clearly are not together in relieving themselves of their own problem.

Mr. NUGENT. What I think is developing, as you mentioned a moment ago, the shoe is pinching. I think that may serve as part of an educative process. I think what you are finding is that States are gravitating towards a view that they have to work together to develop a regional solution and do it in concert with the FERC. It may be that you should repose some authority within the FERC that ought to be exercised in conjunction with the people who are very close to the local situation to develop those solutions for the local area.

The CHAIRMAN. I believe in that in theory and I concur with you. The only problem I have is some of those folks that really are in charge of making things work are not in charge of the political realities associated with the decision.

Mr. NUGENT. I led off in the testimony here telling you that the FERC siting process for natural gas pipelines worked fine in our experience. It may be that you would find a model there. I do not think you ought to ignore the very substantial input that you get from people who are working every day in the region.

The CHAIRMAN. I agree with you totally.

My last question is to Mr. Halvorsen. You made reference to gas coming down from Alaska. This proposal ultimately would go into the Midwest market. It would involve a 48-inch pipeline 3,600 miles long. It would cost somewhere between \$10 billion and \$15 billion depending on some of the circumstances, but the \$15 billion is closer in the sense of moving it in the Midwest. That would take about 3,600 miles of X80 pipe, very little of which we make in this country.

Do you think that it could stimulate the steel industry and the steel industry could be competitive with the industry in Japan and Korea relative to an order of this magnitude? It is my understanding it would keep the steel mills in Korea and Japan busy for 2 years.

Mr. HALVORSEN. Senator, we have the steel companies members of our INGAA foundation.

The CHAIRMAN. I know you have.

Mr. HALVORSEN. As you know, we are completing a study on how we can get the infrastructure in place down here to meet that Alaska gas when it hits the border so we can make sure we get it around.

The steel people I talked to here are gearing up for the challenge. They are literally licking their chops at what they see as some great opportunities, and I think you are going to see an industry here that is going to be very competitive.

The CHAIRMAN. Well, I hope so because it is a great opportunity for the American steel industry, and I hope the industry and the unions get behind the reality that we do have an energy crisis in this country and we are not going to conserve our way out alone.

Senator Craig.

Senator CRAIG. Let us pursue the eminent domain and FERC's role a little more. Mr. Cook, you spent a good number of years at the FERC.

Mr. COOK. Yes, I did, sir.

Senator CRAIG. We are looking at what FERC is trying to do with regional transmission organizations and in that, they have attempted to address siting concerns to some extent. Spend some time with us, if you would, talking about regional transmission authorities and the role they could play here—and any of the rest of you who would wish to speak to that—and what we might do or what FERC might do to increase that process or authority.

Obviously, Mr. Nugent is pleased with the way FERC handled gas transmission.

Mr. Szwed, you have talked about, in your testimony, the role that Ohio played in adopting model law, and at the same time, you used the analogy that we are moving from local roads to interstate systems for transmission. Is the RTO the best route to do, and if it is, what need we do more to strengthen it if it in fact needs to be strengthened?

Mr. COOK. I think, Senator Craig, the way the RTO's are developing around the country is quite varied. The ownership of the transmission is still split among lots of owners. Some RTO's have more authority and responsibility with respect to transmission planning than others do. It is a very mixed picture.

I think what is important is that there be a central place, a central forum, where those issues can get worked out. The RTO may be that kind of place if it is coupled with some sort of central forum, single forum, where the real authority for going ahead and siting and constructing is happening. That may be possible on a regional basis.

My guess is you would need to couple it in some fashion with some Federal authority, but it may be able to be done in conjunction with a regional grouping of State authorities.

We need a central sort of single forum for looking at these kinds of issues.

Senator CRAIG. At FERC?

Mr. COOK. It could be the FERC. It could be FERC in conjunction with groups of States, but as long as whatever that body was had the authority to really make the decision and move forward, rather than having to then go back to individual States and deal with Federal resource agencies as well on a piecemeal basis.

Senator CRAIG. Eastern States have a little different setup or a little different landscape than we do in the West as it relates to the Federal authorities and large expanses of Federal land where that can be an increased complication.

Mr. COOK. Yes.

Senator CRAIG. Do any of the rest of you wish to speak specifically to that issue of the RTO and authority?

Mr. SZWED. Yes, Senator Craig, I do have a few comments I would like to make.

First of all, with regard to regional transmission organizations, a comment. What I believe that a regional transmission organization ought to be is a regional independent transmission company, a company whose sole business is to provide transmission service.

It is an owner and operator of assets separate from existing utility companies today. In that kind of a context, that is an entity that owns and operates assets and seeks to make investments in assets to provide for transmission service to customers.

I see that being regional in nature, and as you know, regional in nature because since 1992 we have had a great deal of wholesale competition in the electric business and more recently, particularly in my part of the country, a great deal of move to retail competition. So, the regular franchised service territories that we saw as electric utilities are now dramatically different and more regionalized.

I think that is really important as we step back and think about what kind of infrastructure from a transmission standpoint we need to be able to provide for a robust, competitive marketplace.

Obviously, I went through a number of points regarding the needs for rate reform and so forth, about attracting investment that is so important from a Wall Street perspective. It is so important ultimately from a customer perspective.

But turning the attention to siting—you mentioned Ohio a few minutes ago. This is real tough for me because I feel like I am between a rock and a hard place with regard to siting. I really do appreciate and understand many of the aspects associated with local concerns regarding siting. In Ohio, way back when, we actually had a situation where local communities and so forth got involved in the siting process. But as times changed, we centralized the siting review process in the Ohio Power Siting Board so that we would, from a State perspective, have a single organization that would review environmental, review the need, review all the aspects of putting together siting. Now, we are moving to more of a regional, even broader than regional, transmission network that may involve the siting of more than one State jurisdiction.

I think from a transmission owner/operator standpoint what I am involved in in my business today, in order to try to build this infrastructure, I think it is important that there is a way to streamline that process, to get the certifications that are necessary, and move forward with building transmission projects. I just think that has to happen in some way, shape, or form. But like I said, it is a difficult situation, and what we have proposed here is a move toward more of what is done on the natural gas side from FERC's standpoint in the hopes that that infrastructure can be built more readily.

Senator CRAIG. Anyone else? Yes, Mr. Nugent.

Mr. NUGENT. Mr. Craig, I would say that the commissioners, the regulators from really Maryland to Maine, an area that is very much into the retail competition model, are not yet at the point of moving towards independent transmission companies. 2 years ago, we convened a meeting of people interested in this matter that led to agreements among the ISO's in the PJM area, New York and New England, to cooperate on removing the seams between them. They have five task forces that are working to make them function better in markets, transmission business practices, and so on. The commissions from Maryland to Maine have set up an oversight structure to monitor what they are doing and drive that process. To the extent we can, we are trying to achieve improvements in

that fashion. To the extent inabilities to site transmission come, we would presumably move to attack that problem.

Mr. COOK. Senator Craig, one other comment on the RTO's is really a question of scope. The limitations that we saw in Eastern Interconnection last year that we will see again this year really cut across the country through Tennessee, Kentucky, and restrict the movement of power from the northern tier States down to the south.

Senator CRAIG. Those resulted in those spikes. Is that what you are suggesting?

Mr. COOK. Well, there are actually limitations on the transmission system. We had to cut transactions because the systems were overloaded. Those really are falling in the seams of RTO's. So, the problem, in addition to sort of a regional transmission organization not necessarily having authority to deal with situations within its own territory, you then get the additional problem of having to cross those seams between RTO's.

Senator CRAIG. My time is probably up, Mr. Chairman. One last question. Do you envision regional transmission companies? If so, are they in the concept of the interstate in which they would actually own the toll lines by which the marketplace would access to move its power?

Mr. COOK. That is certainly one model, and I think it is more conceptual at this point. The American Transmission Company is one company that is just a transmission only company. Transenergy is the one trying to build the line across Long Island Sound. That will be sort of a standalone transmission company. Depending on how some of these issues that we are talking about this morning get worked out, you may see more of that, and certainly that is one direction it can go.

Mr. SZWED. Senator, I do see regional independent transmission companies, and they, being in the transmission business, regulated by FERC with a perhaps lighter-handed regulation by FERC, with a for-profit motive. They would have a tariff approved and put in place by the company through the approval of FERC, and all customers would have open and nondiscriminatory access to the system per the requirements of the tariff.

But I think going after your question about perhaps interacting with neighbors and so forth, I see that company being in that kind of a business to want to make sure that investments are made and services provided to relieve congestion as appropriate, as economically appropriate as well.

Senator CRAIG. Thank you, gentlemen.

The CHAIRMAN. Senator Thomas.

Senator THOMAS. Thank you, Mr. Chairman.

Mr. Nugent, you have defended, and properly, the State activities. Has the National Association of Regulatory Utility Commissioners put together any sort of plan that deals with interstate movement?

Mr. NUGENT. NARUC does not do that because we do not do a plan for our member States. We try to enable them to become—

Senator THOMAS. That we are not going to operate as independent States forever is pretty clear. You are going to have to move interstate. There is going to be a national transmission grid, and

if you are going to be there in the State, it looks to me like you have to look beyond what you are doing in your State.

Mr. NUGENT. And that is absolutely true, and I do not think you would find any State further down that path—

Senator THOMAS. Well, have you got a plan? Have you talked about a plan?

Mr. NUGENT. We have not done it through NARUC. We are actively doing it in the regions and developing it.

Senator THOMAS. Well, it is not all regions either, I do not think. Where do you get your fuel for generation?

Mr. NUGENT. The fuel for generation comes from largely outside our region.

Senator THOMAS. What are you using?

Mr. NUGENT. Well, at the moment the fuel in the margin is natural gas, and it comes from Atlantic Canada and Western Canada, and the third source would be the gulf.

Senator THOMAS. Yes. Well, it may not always be that in the energy business that gas is going to be the preferred fuel. So, you may find that instead of moving gas, you may be wanting to move coal-fired electricity that goes beyond perhaps your region. It does not seem to me that we can be quite as parochial as you seem to be with regard to your State.

Mr. NUGENT. I am not suggesting that we are parochial. On the other hand, State commissions operate within State authority, and what we are trying to do is to get State authorities to align and to work in a coordinated fashion throughout a region. We cannot tap into Federal authority. That is yours. You have got it.

Senator THOMAS. I am not talking about authority, Mr. Nugent. I am talking about plans. I am thinking ahead. I am talking about using your expertise to deal with the problem. I think it is important that we do that.

What do you do, Stan, with regard to—I mean, we have had transmission for a very long time. It is not a new idea. How do we move towards a third party operator? I think there is a good deal of support for that idea as far as an interstate grid is concerned.

Mr. SZWED. I think that is a very good question. Just to step back for a moment, today's power system and the way it was built to provide for regulated utilities and to bring generation to load in franchised areas, the Eastern Interconnection, when you step back and think about it, is just one of the most fantastic synchronous machines ever constructed by man. And it works.

But today we have introduced a great deal of wholesale competition. There are different sources of generation now on line or maybe some generation that is not on line anymore, for whatever reason. We are using that system so much differently. And places where congestion might never have occurred are now occurring.

Senator THOMAS. I understand. Where you have generation and distribution aligned, why, of course. But why has there not been transmission? There has been obviously a need for it. Why has there not been investment?

Mr. SZWED. A couple of things. I think in many respects with regard to the regulation of the asset, the rates of return that have been authorized and the utilities have received for returns on these investments have not really kept up with other competitive invest-



ments in that regard. In many respects, because of that—I hate to use this word, but in many utilities it has been a stepchild to other investments that were necessary in other parts of the system.

I think today what I have been working on with other utilities in my region is to create a separate business for transmission, like I said before, a company that would own and operate.

Senator THOMAS. Where would you get the capital investment?

Mr. SZWED. Well, that is a good question. I was just in New York yesterday talking to a couple of colleagues on the investment banking front. I think there are people who are willing to invest in this kind of a business because it would be a regulated business, it would have cash flows. There is a place for that in an investor's portfolio.

The point is, however, in order to get utilities to think about divesting these assets, selling them to a third party to create that business, it requires the more regulatory certainty with regard to the kind of prices that could be charged, the regulatory environment that it would operate in, and so on. We need some of those things done. We need some of those other hurdles I talked about removed in terms of quicker reviews of utility disposition of property, those willing to divest those assets. We need some of those fixes to make that work.

Senator THOMAS. Mr. Cook, just very briefly, what is your notion of the changes in reliability rules?

Mr. COOK. Principally, sir, we need to move to enforceable rules. Right now NERC sets operating policies for how the grid is run, but there is no enforcement mechanism. It is just a matter of peer pressure. The legislation that is pending here now in the Congress would establish a system through an industry self-regulatory organization to set and enforce those rules with Government oversight.

Senator THOMAS. If you do not have an adequate transmission system, how are you going to be reliable?

Mr. COOK. Well, what we are doing now with those rules and what we would do is to make sure that the existing system, as the existing physical system, is operated in a manner that it stays secure so that you do not have cascading outages such as occurred in—

Senator THOMAS. So, what we hear—and I do not mean to interrupt, but I have to move along. We hear all the time, well, there has not been any transmission, so there is not enough capacity. You are saying if you operated it differently, there would be—is there enough capacity?

Mr. COOK. No, there is not enough capacity. What we are saying is that because the capacity is limited, the operating rules will place limits on how much trade can take place on the grid, and that is not wise for the economy.

Senator THOMAS. What I guess I am really seeking from any of you—and I will not take any more time—is we all know the things we are talking about here that have to be done, but they are long-term things. We are not going to have a national transmission system for 5 years or whatever. But some of the things that we could do—for instance, do something to make the capacity of the current system work better or be able to do some things. I do not know whether it is new source on generating plants or whatever, wheth-

er we can change regulations. We can do some things to have some fairly soon changes. We talk about all this stuff we talk about, and it is great but it ain't going to happen in the next few years. We have to get started on it.

Mr. COOK. That is exactly my point. Some of these things will take some time, but we need to begin.

Senator THOMAS. We need to also think of some things that might have some impact in the next 6 months, and there are some things, regulatory things. There are some things about generators. There is some generation that could be going on that is not going on currently because of rules and regulations. Some of these things can be done. I cannot understand why a distributor for gas would be opposed to increasing the volume of fuel he has to distribute.

At any rate, I have taken enough time. Thank you, sir.

The CHAIRMAN. Did you want an answer to that?

Senator THOMAS. No. I do not think there is an answer to that.

The CHAIRMAN. You left a hanging participle or something my English teacher told me somewhere sometime.

[Laughter.]

The CHAIRMAN. Senator Domenici, perhaps you can enlighten us.

Senator DOMENICI. First, thank you very much for calling this hearing. It is a very important issue, and I hope we learn from it.

Let me just talk a little bit about natural gas with any of you who are experts on natural gas and then talk to what kind of mix America is going to have, when we finally solve this problem, as to the resource we use.

Our staff's information would indicate that the Energy Information Administration projects that we need 393 gigawatts, translating into 1,300 new powerplants. That is 300 megawatts each.

Now, could I ask, in your expertise, whatever your respective endeavors are, would you generally agree that they are probably right in terms of just new additional resources needed for electric generating, for those who use electricity over the next 20 years, as they have said here? Do you agree, Jerry?

Mr. HALVORSEN. Yes, sir.

Senator DOMENICI. Why do you agree with that? Is this arithmetic, just adding up a percent of growth each year, or how is it arrived at?

Mr. HALVORSEN. Yes, and I think they have probably as close a finger on that, Senator, as anybody around. That is why we think they are an excellent source of data. So, they are pretty credible.

Senator DOMENICI. Now, I wonder, is there a group that you are aware of, aside from those who want to use a different mix, including conservation, which I will speak to in a minute, that says to live our current lifestyle and grow in a modest manner as projected for us to succeed over time—is there some group that says this number is way too high that any of you are aware of? Mr. Nugent, do you as a regulator believe that nationally we need about this much over the next 20 years?

Mr. NUGENT. I think it is a plausible number. Whether the number is there or it is modestly lower, I am not going to take issue with it.

Senator DOMENICI. So, it is plausible.

Mr. NUGENT. Yes, sure.

Senator DOMENICI. What about the rest of you?

Mr. NUGENT. Even if you do not get all the way there, even if you want to only go halfway there, you have got a lot of work to do.

Senator DOMENICI. That is my point I am going to get to very shortly.

Mr. SZWED. When you think about how everything in our economy today is so dependent on electricity, and quality electricity, given the types of sophisticated control and computer equipment we have, and just to move to electrify so many things, from my standpoint I find continued growth to be credible. Frankly, we see that in our service territories today. We see growth. We see load growing, and we need to accommodate for that.

Senator DOMENICI. It would seem to me the logic of all of this would be if 1,300 is a plausible number of 300 megawatts each, that we then ought to ask those who think conservation should play a big role—and I think most of us are in that category—and just ask how much conservation can we expect and let somebody give us that number. I would assume there is a realistic number of some sort that somebody will say we can conserve X amount if we change our ways, change some standards, do some other things, we can save X amount. Does everybody agree that that is doable, that there are people out there who can give us those kind of answers?

Mr. NUGENT. There are people who claim to, yes.

Senator DOMENICI. Would it not seem logical, unless the answers are totally implausible, that what we ought to do is say, okay, we agree. Now, let us subtract the conservation number from the 1,300, the 300, and what does that leave left over? And it is going to be a very big number. Then it seems like, regardless of where you come down, we ought to get started building those. To me that seems very logical. It may be 1,000. It may be 1,100, but it seems like if you just draw a big graph and say how much do you conserve, and off the 1,300 times 300, and we would be left with an amount.

Now, let me ask. We are down to that amount that we are going to have to do in new electric generating capacity. I am not ignoring conservation. I am down to that amount. The Energy Information Administration projects that most of that new capacity is going to be natural gas, in fact, a very large percentage. I think they say 92 percent of that new capacity will be natural gas.

Now, I do not know how they would get that number, but do any of you have any ideas that it need not be that kind of mix, that it might be a different mix than that?

Let us talk, before you answer, on what the current mix is. I understand it is 52 percent coal. Right? 22 percent nuclear, and it looks like many more of those are going to be relicensed than we thought. So, as a matter of fact, we will take that off the 1,300 new powerplants in some arithmetic manner because we are going to need less because we are going to have more nuclear on board. But nuclear is only 22 percent, and all the rest is made up by the other sources, with wind and solar being less than 1 percent, as I understand it, if you were to draw a picture.

Now, let me ask, do any of you have any doubt that, as a matter of capacity, the United States of America, if it sets its will to this, can build this many powerplants to get on a line towards solution? Do you think we can, Mr. Nugent, based upon your experience with the industry, with American will—

Mr. NUGENT. I think the capability is there. Sure, if the signals are sent and that is the direction you want to go on it. We have demonstrated extraordinary productive capacity in the past, and with the proper will and signals called, of course, you could do that.

Senator DOMENICI. I just wanted to ask if any of you remember a point in history when we were producing 1,300 powerplants over a period of that amount. I think there were a number of periods when annually we were producing equivalent of one-twentieth of 1,300. Is that not correct? Mr. Cook, do you know?

Mr. COOK. I have not done that kind of math, Senator, but certainly there is the capability, assuming the conditions are right and we make the right policy choices to move forward.

Mr. SZWED. Certainly, Senator, also I am just speaking from my own company's experience. Over the past couple of years, we identified a need for the load that we are responsible for serving, and over the last 3 or 4 years, we as a company ourselves put in 500 to 600 megawatts of natural gas fired peaking type capacity, which we were able to successfully do in a couple of years. So, I think you can. I think we can get those kind of things done. We do have the wherewithal to do that.

Senator DOMENICI. Now, let me ask another question. There is going to be some objection to this many powerplants because some are going to say it will dramatically impact the ambient air. It will make our air dirtier. Now, as a matter of fact, that is not necessarily so, is it? If we add 1,300—it will not be that many, but let us use that number, less whatever we do not have to build. We build that many 300 megawatt plants. Do we have to damage the ambient air from its current status? I note, Mr. Halvorsen, you are saying no.

Mr. HALVORSEN. I think the other factor, Senator, is I was in the nuclear business for 12 years. You absolutely have to have nuclear power. I think it has taken a bum rap in the last few years, but I think it is very important for Congress to set the working with the industry not only to push the relicensing of existing plants, but to figure out a framework where you can begin to build new plants and gain the public confidence back. I think that has been the missing link here recently.

Senator DOMENICI. Yes, sir.

Mr. NUGENT. I was just responding to the question on the ambient air. I think any new facility you put in is certainly going to have a marginal impact on air. The question will be, over time, whether the retirement of other dirtier facilities may not offset that impact. It is a complex equation.

Senator DOMENICI. However, it cannot happen, but your answer would be incorrect if you were using all nuclear power because there would be no addition to the ambient air. We are not talking about—

Mr. NUGENT. I was not talking about that.

Senator DOMENICI. I am talking about a number of them being that, however.

Mr. NUGENT. That is fair.

Senator DOMENICI. Now, let me just close by asking with reference to natural gas, do any of you know—follow this chain with me. We are over in New Mexico. Believe it or not, we are on Vermejo Ranch owned by Mr. Turner, sold as far as the mineral rights to somebody else, with Mr. Turner having some of the mineral rights privately owned, and they are finding natural gas there in a beautiful, beautiful pristine area. We will soon be able to take you all up there and show you how you can drill new wells in a pristine area and leave the smallest, smallest footprint you can imagine.

The CHAIRMAN. We can help you with that.

Senator DOMENICI. You can come and see this. It is in reality.

The CHAIRMAN. Well, we have on in reality.

Senator THOMAS. There is no ice there in New Mexico.

[Laughter.]

Senator DOMENICI. But I want to just assume for a moment gas is coming out of that new field, maybe 1,000 new wells more, and it is heading toward—pick a market. California. What happens to the price from the wellhead price to the delivery? My constituents who are drilling the natural gas wells are not getting the kind of price that is being charged at the other end when it is delivered to a utility to burn. Where are the stop-overs that cost money, that push that price up from what my people are getting the field for their gas versus the delivery point? Do any of you happen to know?

[No response.]

Senator THOMAS. I think the answer is no.

Senator BURNS. The silence was deafening.

Senator DOMENICI. It would be interesting to find out, not to find that out to be a negative toward anyone, but it would be good to know.

My last question of any of you is with reference to the infrastructure aside from the plant itself—we have all been discussing pipelines and the like—is there any question in your minds that as far as America having the capacity to build that infrastructure in a timely manner, that we can do that, that that is on the side of doable over the period of time that is being discussed? Mr. Nugent, can we do it?

Mr. NUGENT. I think you can do it. I think the question is figuring out the right plan, the right design, and one that meets what is now becoming a much more competitive market than it has ever been before.

Senator DOMENICI. Do any of the rest of you have a thought on that?

Mr. SZWED. I would say so, and I think I would add to the list that he said, relative to making sure that the right economic incentives and framework are there to make those investments attractive.

Senator DOMENICI. I think you know that nuclear powerplants are being bought and sold today in the United States. Companies are buying them, selling them, trading them because they are gen-

erating electricity at the cheapest price of all generating facilities in the United States.

Do any of you, who have experience in this area, have an opinion as to whether or not we should seriously pursue some new nuclear powerplants in this mix over the next 20 years? Mr. Halvorsen, do you have a view?

Mr. HALVORSEN. Senator, I have got a view. It goes back to how the industry was founded. There was a joint congressional committee on atomic energy many years ago that helped the industry build the first plant. I believe it was in Shippingport, Pennsylvania. I think there has been a lot of very good research done by the Department of Energy on nuclear technology, on how they can be safer, and so forth.

I think it is up to this committee, to some extent, to provide the leadership to bring the industry and Government together to say, let us take the risk, let us dive in, the country needs these plants, and get it done. And I think you can do it.

Senator DOMENICI. Mr. Szwed.

Mr. SZWED. Yes, I would agree with that. I think another consideration that should be taken into account here is there are probably several plants that were either put on hold or just not completed. Maybe someone needs to go back and take a look at what it would take to get those done and bring those on line.

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

The CHAIRMAN. Thank you very much, Senator Domenici.

Senator BURNS.

Senator BURNS. I hear a phrase that I used a year ago that before we can really go headlong into electrical deregulation that we have to have a national grid that was similar to the interstate highway system. We have to be able to shift great blocks of power in a fairly efficient manner to any section of the country. I say that my retail folks in Montana should have access to Florida power if they so want to buy Florida power, but that takes a national grid, and we do not have that today. Is that correct?

Mr. COOK. That is correct. We have got pieces, but at some pretty critical points, it is like we have got an interstate system that is joined up by some country roads.

Senator BURNS. Have we identified where those ties are that need redoing in order to put the interstate system together? Have those areas been identified?

Mr. COOK. There are particular places that have been congested on a regular basis. You have heard of Path 15 in California. There is an interface between Minnesota and Wisconsin that shows up on a lot of days as congested. There are several places where we sort of know where the current areas of congestion are. That is not the same as building a more robust transmission system to allow further trade.

Senator BURNS. What we have got to think of is the people who finally use this product, and of course, they depend on it. I would say right now that the generators and the transmission people still, for the most part, have a credibility problem.

I have mentioned this before. I was rather taken aback way back in January when I picked up the *Los Angeles Times*. In a recent

poll that was taken in California, 54 percent of the Californians still believe that they have no shortage of power, that they are being subject to gouging and a little bit of greed. Jerry, we can sit and shake our head on that, but that was the poll, and that tells me we have got a credibility problem with the people.

I am still going back to this situation of the interstate system, how we can shift blocks of power in order to address a shortage.

Now, let us face it. I do not think our growth in the industrial area, as far as demand on electricity, has increased a lot. But more homes have computers now. And do you know what we do? We go off and leave them on. Now, if you want to know what will drive conservation, it is price that will drive it more than anything else. I think a lot of us are becoming a lot more aware. We go around the house and turn things off now when we leave in the morning, where we were not doing that maybe a year or 2 ago.

I am interested in how important is it that we revisit the EPA's rule on new source, on upgrading the efficiency of coal-fired plants. Would you want to comment on that? As you know, right now if you redo a coal-fired plant to increase its efficiency and output, it makes the plant subject to total review by the rule of the EPA on new source. How important is it that we revisit that?

Mr. NUGENT. This has implications, it seems to me, for the installation of new equipment too.

Senator BURNS. That is correct.

Mr. NUGENT. When I am talking about new equipment, I am talking about a totally separate generator which may have a much cleaner profile.

Senator BURNS. Well, I say to upgrade both—

Mr. NUGENT. I understand. You have an upgrade over here and you have a new generator over here which may be markedly cleaner, and if this new one is able to achieve much greater cleanliness in output, the question is, do you want to undercut its position to do it? It is clearly a matter of what the economics are in the two situations.

Senator BURNS. But if we upgrade the old plant, if we put new equipment in to increase its output and efficiency.

Mr. NUGENT. Its output, efficiency, and cleanliness, it seems to me come in tandem. Why should you see it in isolation?

Senator BURNS. But why they're not upgrading is they have become subject to that review.

Mr. NUGENT. Because of how stringent the standard is. I understand that.

Senator BURNS. How important is that, that we revisit that? Mr. Szwed.

Mr. SZWED. I have to say I am a transmission executive, so I deal mostly with the wires instead of our powerplants. But from our standpoint, as we look at either upgrading plants or making modifications to plants, it is pretty important to know what the rules of the road are and whether there is some upgrade that triggers some new source standard or not. So, it is important to us to be clear as to what those rules are and what rules we are operating under so that we can make effective decisions about how to operate and modify our facilities.

Senator BURNS. I was interested in your figures on how much we are going to have to build in order to keep up with demand in the future. We know that is going to be a lot higher than a lot of us have really thought to this point.

To the chairman, I still think that eminent domain has to be a part of national legislation and that power is vested in FERC if we are to build this interstate highway. And the States I think will definitely have a role to play.

We in Montana can provide pretty economic power if we can transmit it at mine-mouth type generation with coal. We have got over 250 years of compliant coal, low in sulfur. We would like to be a part of the answer here, part of the solution. But right now, all the transmission lines out of Montana are at full capacity. So, we know transmission is going to play a large role. If those people who want to be NIMBY's, then let them be and we will produce the power for them and be a part of the solution, if we can get transmission. We are going to have to do something because of the demand.

These server farms are taking a lot of electricity, a lot more than we really planned on in this new generation of how we make a living.

So, we thank you for your testimony. I appreciate that.

But the building of the interstate highway is very, very important to me. I think our ability to move blocks of power. But let us think about the consumer here for a little bit and the end use of this because I have got industry shut down in Montana because of price and we have got an economy that can be brought to a standstill both in transportation and in our everyday life. We have got farmers this year who will not be able to turn on irrigation pumps. So, we have still got to feed and clothe this country and it takes power to do it.

Thank you very much for your testimony today.

The CHAIRMAN. Thank you, Senator Burns.

Senator Bingaman.

Senator BINGAMAN. Mr. Chairman, I think Senator Landrieu ought to go ahead. She was here ahead of me.

The CHAIRMAN. Correct. Senator Landrieu.

Senator LANDRIEU. Thank you, Senator Bingaman, for that courtesy. I will be brief.

I want to thank the chairman for holding this hearing because I think the testimony has been very helpful in keeping us focused on this very important problem facing our Nation. It truly is a crisis that needs to be dealt with as soon as possible. The challenging thing is that no matter what we would do in the next week or months or years, it is not going to be fixed in a short period of time. But I think it is important for us to lay the right groundwork. So, I am looking forward to working with my ranking member and chairman in developing the framework of a solution.

Let me first follow up on the comments from the Senator from Montana and agree with him that one of the most important things that needs to be in any piece of legislation that ultimately passes is a sophisticated and effective approach in creating this national highway system. As a producer State myself—although Montana produces coal, Louisiana produces a great deal, as you know, of



natural gas—we can produce all day long, but unless we can transmit it, unless we can transport it, unless we can get it to other parts of the Nation, all the production in the world, while it does us obviously some good in terms of jobs generated from the production, is not going to contribute to the overall solution.

So, building that highway I think, Mr. Chairman and our ranking member, needs to be our real primary focus. We have the supply and I think we have the potential for a good mix of supply. But focusing our efforts on building this grid I think is important.

I think the Senator from Montana was also very astute at trying to help us to find out where the gridlock is, where we can identify in the Nation today where the traffic is backed up, to try to open those avenues, as well as where the need is going to be to create new avenues so we can get this flow of power moving.

In addition, let me also make a comment to the panel that while our State is very proud of our efforts to produce natural gas in abundance, we consider it a good fuel supply. It can meet a lot of environmental standards. I want this committee and the panelists also to know that our State is concerned about an over-reliance on natural gas, which would drive the price too high, therefore putting many of our industries at a considerable disadvantage when the price of natural gas is too high. The way to compensate or deal with that is to create multiple sources of supply.

So, Senator Domenici's point about increasing nuclear, making sure, of course, that it is environmentally safe, but promoting policies that increase nuclear energy in this Nation I think are important, as well as looking and revisiting the environmental rules and regulations that help us to have coal as part of that mix. But for it to be as clean as possible and as compliant is very important because while Louisiana is a producer of natural gas, we are also a great consumer of natural gas to run our chemical industries and our powerplants, our agriculture, and agribusiness industry. So, I want to just make that point for the record.

Then I want to also go on the record as saying that I do think that the Federal Government is going to have to be as strong as possible in this whole issue of eminent domain, respecting the States and respecting the regional needs. There needs to be, at a minimum, a Federal backstop to make sure that States and regions have adequate time to make the decision, but if those decisions are not made or if the decisions are being hampered or if too much time is being taken, then I do think whether it is FERC or some other agency should step in for the siting of plants, transmission power lines so that this Nation can grow.

Finally, Mr. Chairman, I have heard you say this, but it is very important. If we do not make the right decisions in the next couple of months, the economic vitality of this Nation could be and is being seriously hampered by this situation. This is not a small matter, and we are going to have to really put aside the old conservative/liberal Democrat/Republican views and try to forge ahead with a robust—creating new ground because if we do not, the economic vitality of this Nation is going to suffer and for no reason because we have the supply. We just need the political will.

So, I want to be put down on the record as being for a strong Federal presence to make sure that this issue is dealt with and to

be respectful to States and respectful to regions. But the Federal Government most certainly has a role to play for the benefit of all the States and all the thousands and millions of individual and companies that are reliant on us getting a source of reliable, steady electricity to continue to give prosperity to this Nation so that more places can grow and expand. And that is a very important issue for this committee and before the Congress.

I thank you for your testimony this morning.

The CHAIRMAN. Senator Bingaman has questions and statements. I am going to have to excuse myself, gentlemen.

Senator BINGAMAN [presiding]. Thank you, Mr. Chairman.

Gentlemen, let me first apologize for not being here during your testimony. The Senate Finance Committee scheduled a markup of this tax bill after we had scheduled this hearing, and unfortunately that required me to be there for some period this morning.

Let me ask a couple of questions. One issue that I am particularly interested in trying to get your thoughts on is where the authority should be vested or located to make decisions on siting of power plants and transmission lines.

Now, in the case of natural gas, gas pipelines, FERC has the authority. As I understand it, that has not worked as well as some would like it to perhaps. It has not been a totally problem free solution to the problem.

In the case of electricity, many people are saying that the choice is between authorities at the State level or at the Federal level.

What I have been interested in trying to explore and pursue is getting more authority at the regional level where I think it makes more sense to have the authority located. We have, of course, significant authority already at the regional level for regional transmission organizations, but we do not have real authority at the regional level for making any decisions on siting. I do not know how practical you think it is for us to pursue that. I would be interested in any thoughts any of you have. Mr. Nugent, did you have any thoughts on this?

Mr. NUGENT. Yes, sir. This is an area that commissions really from Maryland to Maine have been working actively in. We are working on, in a broad sense, to encourage the closer cooperation of the three ISO's that cover the area, PJM, New York, and New England. The commissions from the mid-Atlantic and New England have a memorandum of understanding between them which would govern how we would monitor the development in that regional venture. The attempt here is to see if we cannot produce, short of an RTO, something that would function as well in all respects, such as facilitating transmission between the regions, and markets that would function as well as a regional transmission organization. I would venture to say, though no one has concluded that, that if we find that it falls short of meeting the standards for regional transmission operations adequately, that we would probably take the next step with regard to how the circumstance ought to be resolved.

One of the difficulties in the middle of this, of course, is that the New York Public Service Commission has more power, to some extent, more authority than the rest of us because its ISO falls en-

tirely within its jurisdiction as opposed to the other States where it does not. And we rely on the FERC authority.

Now, in addition, there is no area in the country where commissions have worked more closely together than in New England, where the New England Conference of Public Utilities Commissioners has served as a common ground for the meeting of the New England commissions. We are looking for governance just within New England of ISO, New England, and operations of the regional grid, we have as New England commissioners proposed that there be an independent regional markets board in order for what might be a New England only RTO to be a truly independent structure, that there also be a market monitoring and mitigation unit independent from the ISO and market participants to ensure the proper functioning of that market. My commission has gone beyond that and said that we also ought to oversee the operations or advise the FERC on the operations of the ISO in New England.

Now, we are not asking for the establishment of a direct authority. We believe that the FERC has and, if not, ought to have the authority to rely upon a regional group that would examine issues from a regional perspective, try to devise solutions that meet the regional needs, and serve those up and make a decision on it. If, over time, the FERC was satisfied with the quality of decisions that was coming forward and was repeatedly endorsing those decisions or not disturbing them, that would grant a degree of credibility to that regional oversight mechanism, and that regional oversight mechanism could be expected to give solutions that met local circumstances and to give them far more promptly than if you have to cycle them through Washington.

Senator BINGAMAN. So, is it fair to say you think FERC should have some kind of backstop authority to put in place and enforce what the regional group comes up with, but not the sort of national siting authority that they have got in the case of gas pipelines?

Mr. NUGENT. I think it ought to be a backstop authority. I may come to regret this some day if they do not agree with me, but the point is you have to have solutions that are consistent with a national model and national principles. But that does not mean that you cannot devise solutions in New England that are somehow different from California that meet each region's immediate needs but are still consistent with a national model.

Senator BINGAMAN. Mr. Cook, did you have any thoughts on that?

Mr. COOK. Yes, sir. I think it is important to develop a single forum where those issues can get worked out, and the scope of the authority of that forum ought to be to have a geographic reach sufficient to deal with the issues that it is trying to grapple with. And a regional model may fit that kind of thing, but there will be seams between regions.

One of the matters we discussed earlier today was the siting of a transmission line across Long Island Sound to move power from New England onto Long Island. That is a situation where you really have two regions abutting each other, and it is a common jurisdiction between them. Some of the other issues that we have talked about deal with lines that could cross two or three regions, and

there will need to be a mechanism to deal with those kinds of things.

In Texas, they have got a pretty good handle on things because the Texas commission has authority for virtually the whole grid within Texas and they can make decisions that take account of those issues and then implement them. We do not have that luxury in the rest of the United States. The grid really crosses State boundaries, crosses regional boundaries, and we need an effective way to deal with those issues.

Senator BINGAMAN. Mr. Halvorsen, did you have a thought on this or Mr. Szwed?

Mr. SZWED. I guess I would just like to say a couple things. Our testimony today recommends that with regard to electric transmission siting, that it has a Federal presence. There is the Federal Energy Regulatory Commission Authority that would parallel that what is in the gas industry today. As I said before, I think we need to look at that more broadly because of the broader nature of markets.

I do not know if that is the solution. I really recognize the sensitivity between local and regional issues relative to siting issues and so forth. But I am also concerned about making sure that if someone has the ability to build a transmission line or is ready to build a transmission line, that we have a process in place that can be streamlined, if you will, to get through the permitting side and get to the point where the construction can begin. I would be concerned about creating too much in the way of a great deal of bureaucracy around it, but clearly knowing what agency that you can go to ultimately to get that siting approval.

Senator BINGAMAN. And that should be FERC.

Mr. SZWED. In our estimation that should be FERC. We also in our testimony indicated that I think in Chairman Murkowski's bill from last year there was a provision that had FERC as a backstop if after certain conditions were not met from the States, that FERC would step in. But, yes, we are advocating that there be Federal authority on this to help move the ability to get these lines or other facilities in place.

Senator BINGAMAN. Is the setting of generation reserve margins something that should be done on a regional basis?

Mr. COOK. I think that is typically done State by State. Some regions now set those kinds of things, and that really needs to take account of, the way the system is designed, the kinds of resources that are available on the system. I do not expect a single national standard would be set.

Senator BINGAMAN. But if, in fact, we wind up with a de facto set of regions that we are trying to oversee and manage, then something like setting generation reserve margins should be done at that level too rather than just at the State level.

Mr. COOK. I think those things need to take account of the interconnected nature of the system, and going State by State does not do that.

Senator BINGAMAN. Did you have a thought on that?

Mr. NUGENT. We currently are doing it on a regional basis. It is done through ISO New England. We are currently somewhere around 18 percent, if you include the tie line from Hydro-Quebec.

But off the top of my head, I think it would be useful to have some sort of minimum standard that extended more broadly. Take the situation, for example, if we have an 18 percent standard and New York and PJM had only a 5 percent standard, you might find the excess capacity that we have and are counting on to carry us through the next period might be drained away by people in adjacent areas. So, I think you probably want to have some minimum standards that are set there, and that question requires a much more careful and thoughtful response than I have been able to give you. But you do have to have some consistency of approach.

Mr. SZWED. I would characterize some of the reserve margins you are talking about in two categories. There is an operating reserve margin which is specifications that NERC and many of the regional councils associated with NERC specify that needs to be on to meet any contingencies on a real-time basis. So, for example, in my part of the country, we are required to carry, I believe it is, a 4 percent reserve margin every hour of the day. So, in the event a generator comes off line or if there is some other disturbance on the system, the other components of the system could react to that and make up—

Senator BINGAMAN. And where does that requirement come from?

Mr. SZWED. That is an operating procedure and protocol that comes from the North American Electric Reliability Council and the associated regions of the country that have those. Every one of these regions of the country have an operating protocol.

Then there is more of a planning reserve margin which is probably in the traditional way we used to plan generation. We would look at the load. We would look at the long-run load projection. We would look at the long-run supply, and we would look at the reserve level between those numbers. In many respects, they are numbers like you heard before, 15 to 20 percent depending upon the situation. I think that question has to be thought about in the move to competitive markets and whether there should be a specified reserve margin or not. I think that may be a question for the individual locales and the State of where things are in terms of the move to retail competition.

Senator BINGAMAN. I guess an obvious question is, if you set a reserve margin, then who would have the ultimate authority to enforce compliance with that reserve margin and take the steps necessary to do that?

Mr. NUGENT. Two comments, Mr. Bingaman. One is, it seems to me, if you set a standard and you have a regional structure that is linked or backstopped by the Federal one, it would be incumbent on that regional structure to meet the standard that was set at the Federal level, and if it failed to do so, the Federal entity might move in.

One of the things you have to keep in mind is this is not just an operating question, but it goes to the subject we discussed the last time I was here, which is the functioning of markets. You have to have adequate additional capacity in markets to support a fully competitive market. So, you do want to encourage the existence of certainly a substantial amount of extra capacity.

Senator BINGAMAN. Well, let me stop with that. I gather the other members have given up. So, why do we not terminate the hearing. Thank you all very much for being here and testifying.

[Whereupon, at 11:31 a.m., the hearing was recessed, to be reconvened on June 21, 2001.]

[Subsequent to the hearing, the following was received for the record:]

SOUTHERN CALIFORNIA GAS COMPANY,  
*Los Angeles, CA, May 23, 2001.*

Hon. FRANK MURKOWSKI,  
*Chairman, Senate Energy and Natural Resources Committee, Dirksen Senate Office Bldg., Washington, DC.*

DEAR SENATOR MURKOWSKI: At the May 15, 2001, Senate Energy Committee hearing on Energy Infrastructure Siting, Jerald Halverson, President of the Interstate Natural Gas Association of America, in response to a question asked by Chairman Murkowski, suggested that Sempra Energy, the parent of Southern California Gas Company (SoCalGas) has opposed critically needed pipeline expansions to California markets. In his prepared statement, Mr. Halverson appended a table documenting such opposition. This table is also an exhibit in the currently ongoing formal hearing at the Federal Energy Regulatory Commission (FERC), which is investigating the practices of an affiliate of an interstate pipeline. The exhibit lists six interstate pipeline proposals, dating back to 1989, and purportedly shows that SoCalGas has protested the proposed expansions.

Before I address the inaccuracies in this table, let me state SoCalGas' general position on interstate pipeline expansions:

- SoCalGas supports construction of interstate and intrastate pipelines when necessary to meet the needs of its customers; and
- SoCalGas believes that construction should be coordinated to ensure regulators, both state and federal, that proposed expansion facilities will meet the needs of consumers.

We recognize that interstate pipeline capacity is necessary to provide natural gas supplies to help fuel the economy. But sometimes "light handed regulation" over interstate pipelines has produced volatility in commodity prices and has reduced the rights of customers to existing interstate capacity.

Mr. Halverson's table claims that in the Kern River 2001 Emergency Expansion, "SoCalGas protests degradation of service because it will not expand Wheeler Ridge capacity." It is important that you know exactly what SoCalGas said in this case.

"SoCalGas supports expansions that will provide more reliable and usable pipeline capacity. However, the expanded capacity needs to be rationalized and it must be constructed to facilitate deliveries to targeted markets, e.g., electric generating loads. . . . the question presented by this filing is whether it is appropriately tailored to serve the intended markets."

Our filing requested that FERC convene a comprehensive conference (within 15 to 20 days of the filing) to collaborate among the market participants and the state and federal regulators. FERC denied this request and issued a license to build, without making any determination as to whether this pipeline will actually serve any electric generation needs, either now or in the future. Subsequent to this order, FERC agreed to convene this conference on May 24, 2001. This is only one of the inaccuracies included in this table.

A review of the applications listed on the table, including actually reviewing the comments that SoCalGas has submitted over the years, reveals that we have opposed some of the projects. But it is critically important to understand the reason for our opposition. For many years SoCalGas objected to pipeline construction or expansion projects that reduced the reliability of existing services. For example, the Mojave pipeline necessitated expansion of the upstream pipeline system of El Paso Natural Gas Company, on which SoCalGas had secured significant levels of transportation rights to serve customers in southern California. SoCalGas requested that shippers on the El Paso expansion be granted rights to deliver gas into the Mojave system (the purpose of the expansion project) but not to the delivery point of SoCalGas (Topock) since SoCalGas had all rights to this point. FERC rejected this request (effectively abrogating our contract rights) and allowed new shippers to have the same level of service as SoCalGas at the Topock point. Any company opposition

has consistently been based upon the need for coordinated action, which federal regulators have steadfastly refused to provide, until now.

Local distribution companies in California, as well as the CPUC, opposed projects that threaten the reliability or economic viability of consumers' existing interstate pipeline rights. Federal regulators have consistently refused to consider these issues or concerns. California utilities and their consumers have endured substantial stranded costs resulting from these policies, as well as a basic inability to utilize services even when paying maximum rates. The poorly conceived nature of interstate pipeline construction in the 1990's has exposed customers to hundreds of millions of dollars in stranded costs.

Mr. Chairman, we have a very difficult problem to solve. FERC has now finally agreed to host a public forum for all stakeholders on this issue. We are hopeful that a comprehensive discussion of western region natural gas infrastructure needs will occur at this conference. It is our hope that this discussion will provide a clearer understanding of what gas infrastructure will be needed to satisfy future natural gas demand in California and the west.

Very truly yours,

LEE M. STEWART, *President,*  
*Energy Transportation Services,*  
*Southern California Gas Company.*





## U.S. ENERGY TRENDS

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THURSDAY, JUNE 21, 2001

U.S. SENATE,  
COMMITTEE ON ENERGY AND NATURAL RESOURCES,  
*Washington, DC.*

The committee met, pursuant to notice, at 9:55 a.m. in room SD-106, Dirksen Senate Office Building, Hon. Jeff Bingaman, chairman, presiding.

### OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. I am informed that Senator Murkowski is on the way, but wants us to go ahead and start, so we will do that. I am also advised that Senator Wyden wanted to make a short statement because he has a conflict and needs to go to another committee, so I will defer to Senator Wyden to make his statement.

[The prepared statements of Senators Bingaman and Johnson follow:]

#### PREPARED STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The purpose of the hearing is to consider energy policy with respect to fuel specifications and infrastructure constraints and the impact on gasoline supply and price. The Committee held the first part of this hearing on April 26. The administration was still working on its energy policy then so that hearing focused on the refiners and distribution networks. Today we are happy to have witnesses from the Department of Energy and the Environmental Protection Agency.

As we have all noted, gasoline prices have become increasingly volatile in recent years. There are a number of factors that have contributed to an increasingly tight and inflexible market.

1. Escalating consumption by light duty passenger vehicles, led by the growth in the number of SUV's, which EIA projects to increase over 2 million barrels a day within the next ten years.

2. The Number of different fuel specifications that must be produced and distributed around the country, some metropolitan areas require their own specific formulation.

3. The difficulty of siting new facilities, whether due to environmental permitting difficulties or just plain community opposition, refineries and pipelines are now operating virtually at capacity with little down time for repairs and maintenance.

As we know, U.S. Refinery capacity has not grown as fast as demand for fuels, especially the highly sophisticated refineries needed to produce clean fuels. In addition, refining capacity is not evenly dispersed around the country. The Gulf Coast refineries produce a large portion of the fuels used in the midwest and the east. The need to transport those fuels hundreds of miles increases the opportunity for something to go wrong somewhere in the system, as we saw last summer in the midwest.

Another complication is the concern with groundwater contamination from MTBE. California has banned MTBE effective in 2003, eleven other states are seeking to do the same. Daniel Greenbaum, the Chair of EPA's Blue Ribbon panel on oxygenates, testified before this Committee in April that, due to changes in refining capability, oxygenates are no longer needed to produce reformulated gasoline.

The Clean Air Act is not under the jurisdiction of this Committee, but how environmental regulations affect the availability of affordable fuels is of serious concern to us. The administration's recent decision to deny California's request for a waiver of the oxygenates raises some serious supply concerns. I hope the witnesses will be able to clarify the administration's position.

In the energy bill I introduced earlier this year with a number of my colleagues, we proposed streamlining the number of fuel specifications. The administration's national energy plan also recognized the need to create greater flexibility in the fuels markets. I hope the administration witnesses can give us more detail.

I have serious concerns that without action soon to both limit demand growth and to increase the flexibility in the system, we are going to see ever higher and more volatile gasoline prices. The public expects us to develop policies to prevent that from happening. I look forward to hearing testimony from the witnesses and to some discussion about how we should proceed.

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PREPARED STATEMENT OF HON. TIM JOHNSON, U.S. SENATOR FROM SOUTH DAKOTA

Mr. Chairman, very few items affect the American consumer more directly than the price that they pay for gasoline. The recent volatility and increases in gas prices have affected all of us and left us grasping to determine the reasons for the changes. It is time that we get some answers on what is happening and look for solutions that can stabilize the situation.

I think it is important that we take a broad view of the issues we are addressing today. To me, this committee should be focusing in energy security and how we can mitigate the boom-bust cycle with which we are constantly faced in the gasoline and energy industries. While I think it is important that we consider issues such as reformulated gasoline and its effect on prices, we must also look at the makeup of our supply and how we can improve the energy security of the nation.

There are many different types of gasoline on the market. Most of the differences in the makeup of gasoline have been largely driven by environmental concerns. The changes to the Clean Air Act in 1990 required oxygenate standards in gasoline in areas of the country that have poor air pollution. Using RFG has been largely successful in those areas and in other areas that have opted into the program. The federal standard for RFG is fairly clear and uniform—RFG must contain at least 2% oxygen by weight. Federal RFG has a very strict recipe for sulfur, oxygen, toxics and vapor pressure that are the same everywhere. Some states have chosen to set up additional requirements to meet emission standards, increasing the use of so-called boutique fuels. This appears to have caused a greater variance in prices than the federal RFG standard.

But, as we all know, MTBE, the main additive used to meet the oxygenate standard is being phased out because of water contamination concerns. California applied for a waiver from the oxygenate standard because it is phasing out MTBE by 2002. However, the EPA has denied the waiver, correctly pointing out that California did not meet the requirements for a waiver under the Clean Air Act.

If MTBE is phased out, ethanol is the main additive that would be used to meet the oxygenate requirement. Concerns have been raised about the ability to meet the oxygenate standard with ethanol. The chief concern appears to be the ability to meet the capacity in California. The California gasoline market is approximately 14 billion gallons per year. The total amount of ethanol that would be required to replace MTBE is about 600 million gallons per year—less volume than required by MTBE. The ethanol industry is currently producing 2 billion gallons per year and growing, so there is enough capacity. Moreover, California state agencies concluded last year that if ethanol were substituted for MTBE, there would be benefits for water quality and no substantial adverse effects on air pollution.

Concerns have been raised that gas prices will go up in California with ethanol use. But EPA Administrator Whitman pointed out recently that if the oxygenate requirement were waived, this would only increase the amount of gasoline that would be used to replace the oxygenates, further straining gas supplies and potentially causing prices to go up.

The California issue is important and how it is addressed can go a long way to determining how we balance gas supplies and the environment. However, when considering gasoline composition, energy-related factors are not driving the debate. All of the formulations of gasoline are the result of controlling properties that effect emissions. These are important issues that must be considered when debating energy policy. But the current requirements set a very thin line of error and are quite varied, causing some confusion in the market.

I have introduced legislation with my colleague on the committee, Senator Hagel, that would help to alleviate some of these constraints and focus the issue on energy concerns. Our bill, the Renewable Fuels for Energy Security Act of 2001, would require that all transportation fuel produced in the United States to contain a percentage of Renewable fuel. This includes ethanol, biodiesel and other biomass fuels. Unlike the current scheme which aims at particular areas in order to produce results, our legislation would ensure that an energy benefit would accrue to everyone nationwide while providing important environmental benefits.

The debate that is before us today presents us with a unique opportunity to address these issues. There are many different types of gasoline out there. We must consider the environmental impact but also consider energy concerns. Bringing all parties together to find comprehensive national solutions that mitigate the difficulties that we face in our gasoline supplies would go a long way towards increasing the energy security needs of the nation. Ethanol and renewable fuels can and should be a vital part of this solution.

Thank you, Mr. Chairman, and I look forward to the testimony.

**STATEMENT OF HON. RON WYDEN, U.S. SENATOR  
FROM OREGON**

Senator WYDEN. Mr. Chairman, than you, and I very much appreciate your thoughtfulness, and I will be brief.

As this country struggles with the high cost of gasoline at the pump, the oil industry has claimed that a lack of refinery capacity and restrictive environmental standards are the causes of the current supply shortages and high prices. Documents that I released last week raise questions about the credibility of the industry's arguments.

These documents show that just a few years ago the industry was concerned that there was too much refinery capacity. Internal industry documents reveal that the industry wanted to reduce capacity and supply in order to boost their profit margins. Casting further doubt and relevant especially to today's discussion, is the fact that there were no requests made to the Environmental Protection Agency by any refinery for a determination of whether a new source review was required under the Clean Air Act during the past 10 years. These applicability determinations are the first step in determining whether these Clean Air Act requirements apply to changes in refinery operations.

In my opinion, it is hard for the industry to claim that the clean air standards prevented refineries from making changes to expand capacity when the oil companies never even asked the Environmental Protection Agency if they were covered. It is my view, Mr. Chairman, and I will conclude with this, that the industry's own documents and their failure to take even the first step towards getting EPA clean air approvals raise serious doubts about the oil industry's efforts to blame environmental requirements for supply shortages and high prices.

I, like you, Mr. Chairman, have a hectic morning, and I hope to be able to come back and ask some questions of Linda Fisher, who we know from years past, and appreciate her involvement. I thank you very much for this chance to make this brief statement about the concerns I have.

The CHAIRMAN. Thank you very much. Let me make some general statements about the committee's agenda at this point and then make a few statements about this morning's hearing.

Two weeks ago, when I became chair, I indicated that I thought it made sense for us to look at the possibility of a short-term en-

ergy bill that would focus on a couple of significant issues. The ones that were crying out for attention most were: 1) the dysfunctional energy market in California, in the West, which we have all spent a lot of time focused on; and 2) the need for increased funding for the LIHEAP, the low income home energy assistance program. It seemed to me that both of those were near-term problems. They required some urgent attention and we thought we would pursue a markup this next week on those issues.

We have now, of course, seen a new order out of FERC with regard to the problems in California and the West generally. Senators Feinstein and Smith have observed that in their view we should postpone any further consideration of legislation in this area until we see how well that FERC order works. I think that is wise.

In addition, the President has reversed his position on the LIHEAP funding and has requested additional funds in that area as part of this urgent supplemental appropriation bill. I understand the President has requested \$150 million of additional funds as part of that bill. The House has indicated a higher figure, \$300 million, and we are trying to get an even higher figure agreed to here in the Senate, but clearly there is action taking place and there is an opportunity in the supplemental appropriation for us to deal with that.

In light of those changes, it is my thought that we should move on to the longer term issues that were the subject of the bills that were produced earlier this year. Senator Murkowski introduced a bill and I introduced a bill with many Democratic cosponsors. I believe there is a lot of common ground between those two bills. We have a summary document that our staff has prepared that I will distribute today to members of the committee and to anyone interested. The document tries to identify the common ground between our two approaches on a long-term bill. It contains over 30 specific provisions that we seem to have pretty good agreement on. I would ask that all members of the committee look at that and come back and give us a sense before the recess next weekend, or whenever we do go into recess, about whether they would feel comfortable including those and having those provisions as the beginning for a chairman's markup on a long-term bill.

My own view is that this list of sections by itself does not add up to a balanced and comprehensive energy bill. There are other topics in both bills that might be fairly noncontroversial that are not on this list because one side thought of them and the other did not. The research and development provisions of the democratic bill are one example of that. There are also some very controversial issues that we need to do further looking into before I think we can come to closure on what we should include in a comprehensive bill. Examples in that area would be electricity restructuring, vehicle fuel efficiency and global climate change. We need to determine what provisions or accommodations can be made in this comprehensive bill to deal with those issues and, I am sure, others as well.

I hope that before we leave next week, or before we leave for the July 4 recess, if we are fortunate enough to finish our work and be able to leave, I hope that by then we can identify a tentative

schedule of hearings that we will pursue in July, leading to a markup. I welcome suggestions on what that should include.

I know Senator Murkowski has indicated that there have been a great many hearings in the committee. That is true. We have had 15 hearings on various aspects of oil and gas production, for example, in the last Congress and in this Congress. I do think, though, there are some gaps in the record and I would like to see us fill those gaps. We have yet to really focus on energy efficiency. I hope we can do that in the hearings coming up. There are some other hearings as well. Obviously, we have a very thin record on the issue of global climate change. That is another issue.

This next Tuesday, I believe Senator Murkowski has agreed to the suggestion that we go ahead and have the hearing on the Price-Anderson reauthorization, as well as some of the nuclear incentive provisions in the Republican energy bill. We had a number of potential witnesses who came to an earlier hearing to address those issues, but due to the fact that both parties were having special caucuses that particular morning, we were not able to really have that hearing. Therefore, there are a couple of important issues related to Price-Anderson that we need to air if we are to have credibility in putting forward a comprehensive energy package, so I hope we can identify a subject that we can agree to pursue next Thursday in the hearing before we go into recess.

I wanted to make those general statements. Let me now go on to a statement regarding this particular hearing this morning. I think it is a very important hearing and I was commenting to Bob Simon this morning that I think this is an issue that may be a little bit over the horizon, in that a lot of people here in official Washington have not yet recognized the importance of it and the impact that it is going to have on gas prices and gas availability in various parts of the country. I think it is very important and I think it is a topic that we need to focus on, and very soon.

The subject, of course, is fuel specifications, infrastructure constraints and their impact on gasoline supply and price. We had a first hearing on this issue April 26. The administration was still working on its energy policy at that time, so we were not able to hear their testimony. Today we are happy to have witnesses from both the Department of Energy and the Environmental Protection Agency.

As we have all noted, gasoline prices have become increasingly volatile in recent years. There are a number of factors that have contributed to the increasingly tight and inflexible market. Let me mention a couple of those. Escalating consumption by light duty passenger vehicles is one. It is led by the growth in the number of SUV's, which the Energy Information Agency projects to increase over 2 million barrels a day within the next 10 years.

The number of different fuel specifications is another factor that has added to this tight and inflexible market. These are really the subject of this hearing.

Third, the difficulty of siting new facilities, whether due to environmental permitting difficulties or just plain community opposition. Refineries and pipelines are now operating virtually at capacity, with little down time for repairs and maintenance. U.S. refining capacity has not grown as fast as the demand for fuels has

grown, especially the highly sophisticated refineries needed to produce clean fuels.

In addition, refining capacity is not evenly dispersed around the country. The gulf coast refineries produce a great portion of the fuels used in the Midwest and in the East. The need to transport those fuels hundreds of miles increases the opportunity for something to go wrong somewhere in the system, as we saw last summer in the Midwest.

Another complication is the concern with groundwater contamination from MTBE. California has banned MTBE effective in 2003. Eleven other States are pursuing efforts to do the same thing. Daniel Greenbaum, who is the chair of EPA's blue ribbon panel on oxygenates, testified before this committee at the April hearing that due to changes in refining capacity, oxygenates are no longer needed to produce reformulated gasoline. The Clean Air Act is obviously not under the jurisdiction of this committee, but clearly the administration's recent decision to deny California's request for a waiver of the oxygenate requirement does raise some serious supply concerns. I hope the witnesses will be able to clarify the administration's position and the anticipated effect that they see from that decision.

In the energy bill that I introduced earlier this year, with a number of colleagues, we proposed streamlining the number of fuel specifications. The administration's energy plan also recognizes the need to create greater flexibility in the fuels market, so I hope that the administration's witnesses can give us more detail about how the administration believes we should proceed to do this.

I have serious concerns that unless we act to both limit demand growth and to increase the flexibility of the system—and that is what we need to figure out how to do—we are going to see even higher and more volatile gasoline prices. The public expects us to develop policies to prevent that from happening and I look forward to hearing testimony from the witnesses about how we should proceed.

Let me defer to Senator Murkowski for any statement he has before we hear from the witnesses.

**STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR  
FROM ALASKA**

Senator MURKOWSKI. Thank you, Mr. Chairman. I listened with interest to your announcement that you would not seek a short-term bill, and I think that is an appropriate procedure, recognizing the reality of the calendar we are on. As you know, we had anticipated previously to have an energy bill out of the committee prior to the July 4 recess, but as a consequence of the turnover of the Congress, why, obviously that process went awry.

In any event, it would have been very difficult, I think, to try and move significant legislation, recognizing that the patient's bill of rights will be before us for an unknown period of time, and we have not had any advice from the leadership relative to when they intend to take up energy on the floor, and I have, as you know, asked the Leader to identify a time on the calendar.

I think it is most appropriate, recognizing that, on the polls at least, energy has surpassed education as the number 1 issue in the

minds of the public, so the fact that you have seen fit to indicate your willingness to circulate some 30 topics that we can begin hearings on, or review hearings that have already been held, I think is noteworthy, and I want to assure you of my support in that regard.

As indicated to you in my conversation, it would have been very difficult to try and keep any short-term fix, so to speak, clean and free of amendments. I know members on my side are supportive of a comprehensive bill, would have amended any short-term effort in the committee, and certainly would have offered amendments on the floor, and I think we would have had kind of a runaway comprehensive bill, as opposed to something that would have been more representative of the prevailing attitudes on the committee as a consequence of the orderly hearing process.

So be assured of my support in moving towards hopefully the development of something you and I can agree on, a chairman's mark, and take up the items that we cannot agree on and resolve them by a vote within the committee and through the process on the floor as well.

As you indicated, this is the second of our Energy Committee hearings looking at gasoline specifications and infrastructures, and the impact they have on the energy supply and price. We had a hearing in April. We had Gary Heminger of Marathon Ashland Petroleum, we had Tom Roberts of National Convenience Stores, Daniel Greenbaum, Health Effects Institute, Don Dagle, Exxon Mobil Refining Company, and Craig Moyer, Western Independent Refiners Association.

One of the issues, of course, is the necessity of having so many different types of reformulated gasoline, is it necessary. It was kind of interesting to be reminded of where the responsibility lay.

We were advised by the expert witnesses that we were the ones who passed the Clean Air Act of 1990 that required oxygenated fuels, and we were the ones who ignored the warnings from those who knew something about the business of making and delivering affordable and clean fuels to America, and those warnings were not adhered to, and as a consequence, when we got in trouble in this area, we began to accuse the industry of some sinister plot to make some witches' brews of 13 to 15 different types of reformulated gasoline.

In any event, I think we have found ourselves to blame as opposed to lashing out at EPA or other agencies, which we, by law, directed them to execute, so I hope in your testimony you do not hesitate to remind us that any time Congress attempts to mess around in the recipe business and we do not know what we are doing, why, God help the public.

Now, in the last hearing, I asked our witnesses to provide the committee with specific recommendations on how to change the law, if necessary, to reduce balkanization of fuel supply, and in what may have been a first for this committee, there was near-unanimity that removing the oxygenate standard Congress issued in the 1990 Clean Air Act would help greatly.

If we look at the problem—of course, California is the best current example—it is my understanding that oxygenates now make up at least 8 percent of California's gasoline supply. By banning

MTBE, as California decided to do, 2 years ago, California will at least need 8 percent of something, something to replace it, when the ban takes effect in 2002, otherwise it will be a reduction of 8 percent in supply of gasoline.

Ethanol is an additive, of course, that would help, but it is difficult to transport. California wants to be exempt, as you know, from the ethanol as well. Well, that was not possible. We are seeing requests from the Northeast States as well.

The fact is, gasoline refinery capacity is not adequate to make up for the shortfall in California if they do not use oxygenate, that is MTBE, or ethanol, and price spikes could result.

These problems, of course, are not easy to resolve, but I want to relate in my concluding reference, during the last hearing I asked specifically what we could do to add more flexibility into the fuel system, which is what the previous witnesses requested. Unanimously they responded that, quote, "the refiners' flexibilities are enhanced when they are allowed to meet emission reduction goals in the form of performance standards rather than product specifications."

In other words, they asked us to tell them what want them to make, and let them determine the best recipe. Well, obviously, that has to meet the Clean Air Act, but I think one of our witnesses, Daniel Greenbaum, probably stated it the best, and I quote.

He said, "we have two paths we can follow for clean fuels to continue clean-burning fuels with legislated mandated fuel additive requirements and risk potential market distortions and increases in price, or to keep the strong clean air performance requirements for these fuels, but to free the market to make them in the most cost-effective way possible with a minimum of specific fuel-additive requirements."

To achieve these, the witnesses offered two potential solutions. One is to keep the clean air standard in place, and delete the oxygen mandate, and the second was to keep the clean air standard in place and give States the ability to weigh the oxygenate mandate. They all believe they could meet the clean air standard with either of these solutions, and I recognize that our witnesses today may have different views, and I look forward to those views, but to sum up the testimony, and this is from the gentleman representing Exxon-Mobil, Don Dagle, but the other group, I am told, agreed with this statement, additionally, new scientific data that became available after the 1990 Clean Air Act amendment demonstrates that oxygenates are not needed—not needed—not needed to provide the requisite environmental benefits of reformulated gasoline.

Further, technological advancements in newer vehicles obviate any earlier justification for mandating oxygenates in reformulated gasoline in order to address environmental concerns. I would certainly appreciate your evaluation and comments relative to that statement, because if there is another alternative than ethanol and MTBE, this appears to be that alternative, and whether it is suitable, practical, is what obviously we are interested in.

Thank you.

The CHAIRMAN. All right. Why don't we start with Ms. Fisher. We appreciate you being here. We understand this is your first testimony and we are anxious to hear it, so jump right in. Thank you.



**STATEMENT OF LINDA FISHER, DEPUTY ADMINISTRATOR,  
U.S. ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY ROBERT D. BRENNER, ACTING DIRECTOR OF AIR  
AND RADIATION PROGRAM**

Ms. FISHER. Thank you very much, Mr. Chairman. I appreciate the opportunity to be with you today, and I am joined today by Rob Brenner, who is our Acting Assistant Administrator for the Air and Radiation Program at EPA.

I appreciate the opportunity to discuss with you this morning the vital role cleaner-burning gasoline plays in America's air quality, and to comment on an initiative related to the boutique fuels program that is contained in the national energy plan.

I also want to explain to you EPA's recent decision regarding the State of California's request for a waiver of the oxygen content requirement in reformulated gas.

First and foremost, Mr. Chairman, EPA is concerned that consumers receive the air quality benefits of cleaner burning gasoline at a reasonable price. When Congress passed the Clean Air Act amendments of 1990, it established a number of successful programs to achieve cleaner motor vehicles and cleaner fuels. The RFG program was designed to serve several of these goals. These included improving air quality and extending the gasoline supply through the use of oxygenates.

The Federal RFG program is required by Congress in 10 metropolitan areas which have the most serious air pollution levels. Other areas have chosen to opt in to the RFG program as a relatively cost-effective measure to help combat air pollution problems. Today, roughly 35 percent of this country's gasoline consumption is cleaner-burning reformulated gas.

The Clean Air Act amendments also require RFG contain a 2-percent minimum oxygen content by weight. Both ethanol and MTBE are used in the RFG program, with fuel providers choosing to use MTBE in about 87 percent of the reformulated gas. Ethanol is used in 100 percent of reformulated gas sold in Chicago and Milwaukee. These are areas that are much closer to ethanol-producing centers.

The Clean Air Act requires States to regulate fuels through State implementation plans if the EPA finds such regulations are necessary to achieve a national air quality standard. This has resulted in a number of different formulations being required by States which are often referred to as boutique fuels.

EPA understands the challenges that State and local boutique fuel requirements place on production and distribution of gasoline in the United States, particularly if any disruption in supply occurs. If the number of special fuels could be limited, while maintaining needed air quality benefits, greater flexibility within the distribution system could possibly result. It is important to note that these State clean fuel programs are providing significant air pollution reductions.

The national energy policy that was issued in May directs the EPA to study the opportunities in consultation with DOE and USDA and other agencies to maintain or improve the environmental benefits of State and local boutique fuel programs while exploring ways to increase the flexibility of the fuel distribution sys-

tem. We have begun that boutique fuel assessment. We are consulting various stakeholders, including the States and the refiners, and we expect to make recommendations later this year that we will share with this committee.

I would now like to talk about the decision that was recently made by Administrator Whitman to deny the State of California's request for a waiver of the oxygen requirement in reformulated gas. That decision was a very difficult one, but it was the only one we felt we could make, given the information that was before us.

I also would like to take the opportunity to acknowledge that our communication of that decision to Governor Davis and other California officials had not gone the way we planned. Unfortunately, they turned out to hear about it in the press, rather than from us personally, and we regret that that had to happen.

The criteria for granting a waiver such as that requested by California is clearly set forth in the Clean Air Act. The Statutory language states that the Administrator may waive in whole or in part the oxygen requirement upon determination by the Administrator that compliance with that requirement would prevent or interfere with attainment by the area of the national primary ambient air quality standard.

Our decision regarding California's request for a waiver was therefore limited to only one criteria that the statute provides, and that is, California's request could only be granted if EPA had determined that compliance with the oxygen content requirement would actually interfere with its ability to attain an air quality standard.

Congress set a very high hurdle for granting such waivers. It does not allow the agency to consider the risks of MTBE in drinking water in California. It does not allow the agency to consider the effect on gasoline prices or on energy supplies that the oxygenate requirement and the California ban on MTBE might have.

After extensive analysis of the information that California provided, the agency concluded that there was significant uncertainty over the change in motor vehicle emissions that would result from a waiver of the oxygen mandate. California had not clearly demonstrated to us what the impact of a waiver would be on the formulation of smog.

It seems to be well-known that, late in 2000, EPA staff presented to agency management at that time a proposal to grant the California waiver in partial. The previous administrator, however, chose not to sign this proposed partial waiver before she left office.

In the initial briefings of Administrator Whitman and our staff, EPA technical staff were further asked to evaluate issues relating to the uncertainty of any of the assumptions and estimations that would be needed to reach a decision on the waiver. One of the major uncertainties results from the significantly increased evaporation of gasoline vapors due to commingling. Commingling refers to the mixing in the vehicle fuel tanks of ethanol-blended gasolines and gasolines without ethanol, a situation that would occur if we had granted the waiver.

The possibility of commingling arises because, as both EPA and California's analysis showed, a significant portion of gasoline in California would be blended with ethanol, even if they were not required to use the oxygenates.

In its technical submissions, California acknowledged the uncertainty of the actual occurrences of commingling, and it was a result of the analysis around this that demonstrated the high degree of certainty in the overall emission effects, depending on which assumption one makes about commingling.

As a result of this uncertainty, we believe California did not clearly demonstrate the impact on vehicle emissions that would occur from a waiver of the oxygen mandate. Administrator Whitman could not grant the waiver, since there was no clear evidence that a waiver would help California reduce harmful levels of air pollutants.

As I stated earlier, our evaluation of California's request for a waiver can only be based on a demonstration that the oxygen requirement would prevent or interfere with the attainment of an air quality standard. We therefore did not, and could not under the Clean Air Act, consider the effects of the oxygen requirements on the energy supply or the price of gasoline.

Mr. Chairman, and members of the committee, the clean fuels program that I have talked about today are critical to our Nation's efforts to reduce the harmful effects of air pollution. They are also important to the production and distribution of gasoline at a fair price to consumers, but we have learned an awful lot about clean-burning fuels since 1990, when the Clean Air Act was first passed.

We now know that MTBE, if leaked or spilled, can contaminate water supplies far more readily than other components of gasoline. We know that a number of States have exercised the authority granted to them by the Clean Air Act to establish different fuel formulations that are now called the boutique fuels. A proliferation in the number of boutique fuels has created challenges to fuel producers and distributors and, through the process I described, EPA will develop some recommendations to address this issue.

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

As I have stated earlier in my testimony, our authority to address many of these issues is limited. We are committed to working with the Congress to explore ways to maintain or enhance the environmental benefits of clean fuel programs while increasing the flexibility of the fuel distribution system. This concludes my oral statement, Mr. Chairman, and I would appreciate it if you would put in the record my full statement, and I would be pleased to answer any questions that you might have.

[The prepared statement of Ms. Fisher follows:]

PREPARED STATEMENT OF LINDA FISHER, DEPUTY ADMINISTRATOR,  
U.S. ENVIRONMENTAL PROTECTION AGENCY

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

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

Let me begin with a history of the RFG program.

#### HISTORY OF RFG

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

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

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

The federal RFG program is required by Congress in ten metropolitan areas which have the most serious air pollution levels. Although not required to participate, some areas in the Northeast, in Kentucky, Texas and Missouri have elected to join, or "opt-in," to the RFG program as a relatively cost-effective measure to help combat their air pollution problems. Today, roughly 35 percent of this country's gasoline consumption is cleaner-burning reformulated gasoline. The Clean Air Act Amendments of 1990 also required that RFG contain 2.0 percent minimum oxygen content by weight. Neither the Clean Air Act nor EPA requires the use of any specific oxygenate. Both ethanol and MTBE are used in the RFG program, with fuel providers choosing to use MTBE in about 87 percent of the RFG. Ethanol is used in 100 percent of RFG in Chicago and Milwaukee, which are closer to major ethanol production centers.

#### BENEFITS OF RFG

Ambient monitoring data from the first year of the RFG program (1995) indicated that RFG had a positive impact on reducing toxic emissions. RFG areas showed significant decreases in vehicle-related tailpipe emissions. One of the air toxics controlled by RFG is benzene, a known human carcinogen. The benzene level at air monitors in 1995, in RFG areas, showed the most dramatic declines, with a median reduction of 38 percent from the previous year. The emission reductions which can be attributed to the RFG program are equivalent to taking 16 million cars off the road. About 75 million people are breathing cleaner air because of RFG. Since the RFG program began six and one-half years ago, we estimate that it has resulted in annual reductions of VOC and NO<sub>x</sub> combined of at least 105,000 tons, and at least 24,000 tons of toxic air pollutants.

As required by the Clean Air Act, the first phase of the RFG program began in 1995 and the second phase began in January of last year. As an example of the benefits, in Chicago, EPA estimates that the Phase II RFG program results in annual reductions of 8,000 tons of VOC and NO<sub>x</sub> combined and 2,000 tons of toxic vehicle emissions, benefitting almost 8 million citizens.

#### BOUTIQUE FUELS

The Clean Air Act authorizes states to regulate fuels through state implementation plans if EPA finds such regulations necessary to achieve a national air quality

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

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

#### REDUCING THE USE OF MTBE

There is significant concern about contamination of drinking water in many areas of the country. Current data on MTBE in ground and surface waters indicate widespread and numerous detections of MTBE at low levels. Data from the U.S. Geological Survey indicates a strong relationship between MTBE use as a fuel additive in an area and finding detections of low levels of MTBE. A number of states have taken action to ban MTBE. Accordingly, EPA published last year an Advance Notice of Proposed Rulemaking requesting comments on a phase down or phase out of MTBE from gasoline under Section 6 of the Toxic Substances Control Act (TSCA). EPA believes that TSCA is the best regulatory process available for limiting or eliminating the use of MTBE. TSCA gives EPA authority to ban, phase out, limit or control the manufacture of any chemical substance deemed to pose an unreasonable risk to public health or the environment. We expect to have a proposal prepared for inter-agency review later this summer. Actions taken by a growing number of states to ban the use of MTBE as a gasoline additive is the single biggest factor that threatens to proliferate boutique fuel requirements around the country. Eleven states have banned MTBE, one as early as the end of 2002. At least a dozen more states are considering similar bans.

#### PRODUCTION COSTS FOR RFG AND THE PRICE OF GASOLINE

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

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

- Fuel demand continues to increase as Americans continue to travel more. Although recently there have been signs of slowing, vehicle miles traveled (VMT) have been increasing. Over the past twenty years, as the economy has grown, VMT has increased by 114% while population has only grown by 24%.
- In addition, the fuel economy of the vehicle fleet is the lowest in 20 years and is declining, as Americans have purchased many more pickup trucks, minivans and sport utility vehicles. By 2000, nearly half of the new vehicles purchased in the U.S. fit into these categories.
- Finally, it is worth noting that prices this spring rose in areas that do not use clean fuels as well as those that do.

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

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

## CALIFORNIA'S REQUEST FOR A WAIVER FROM THE OXYGEN REQUIREMENT

I would like to turn now to EPA's recent action concerning the state of California's request to waive the federal oxygen requirement for RFG. In March 1999, Governor Davis signed an executive order banning the use of MTBE beginning in 2003. In April 1999, California requested a waiver from the oxygen requirement. California's waiver request was based on the assertion that additional oxides of nitrogen (NO<sub>x</sub>) reductions are needed in California in order to attain the National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter. California claimed that without the oxygen requirement, greater NO<sub>x</sub> reductions would be achieved with their California RFG Phase 3 (CaRFG3) fuel. Last week Administrator Christie Whitman announced that EPA could not approve California's request.

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

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

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

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

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

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

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

In late spring of 2000, EPA staff concluded that further Agency analysis was needed in order to fully evaluate California's request. EPA performed an independent analysis of the effect of a waiver on gasoline properties and emissions in California. EPA's analysis included refinery modeling performed by the same independent refinery modelers utilized by the California Energy Commission in their December analysis. This analysis compared the properties of California gasoline, with and without a waiver of the oxygenate requirement, assuming a California MTBE ban. EPA's technical and legal staff then began to integrate the various results into a complete and comprehensive analysis which we used to draft a proposed decision on the California waiver request.

Late in 2000, when the various analyses were near completion, EPA technical and legal staff presented the Agency management with a proposal to grant California a partial waiver; that is, a waiver for a year-round oxygen level of 1.0 percent by

weight. The previous Administrator chose not to sign this proposed partial waiver before she left office.

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

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

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

Under the new scenarios analyzed earlier this year by EPA, commingling would result in increased VOC emissions. Depending on the level of the increase associated with commingling, the total emissions of VOC associated with a waiver may increase or decrease, resulting in an uncertain impact on ozone. As a result of this uncertainty, we believe California has not clearly demonstrated the impact on vehicle emissions that would occur from a waiver of the oxygen mandate. While we agree with California that the waiver would likely result in a decrease in NO<sub>x</sub> emissions, we note that a waiver would increase emissions of carbon monoxide (CO). As stated above, there is also significant uncertainty about whether ozone-forming emissions of VOCs would increase or decrease if a waiver were to be granted.

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

#### CONCLUSION

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

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

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

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

The CHAIRMAN. Thank you very much. We will include your full statement in the record. Mr. Card, why don't you go ahead with your testimony before we ask questions.

**STATEMENT OF ROBERT CARD, UNDER SECRETARY,  
DEPARTMENT OF ENERGY**

Mr. CARD. Mr. Chairman, members of the committee, good morning. I would like to ask that my written testimony be submitted for the record as well.

The CHAIRMAN. It will be included.

Mr. CARD. You have asked me to comment on the following three topics. First, the ways of streamlining the array of fuels to reduce price volatility while protecting environmental goals, second, the implication for gasoline markets of the efforts to ban certain fuel additives, and finally, the implications of EPA's decision to deny waivers of the Clean Air Act oxygen mandate.

Before addressing those specific items, let me say that we are encouraged by the recent gasoline price information that shows Nationwide prices 8 cents a gallon less than a year ago, and trending down. California prices are also trending down, but less so due to refinery operating difficulties in the State. We are hopeful that the supply situation remains stable, which should support continued price relief.

With regard to the committee's first question, on fuel type streamlining, DOE certainly supports this as an important objective. We look forward to working with EPA on the national energy policy study on this subject. The study is still underway, but some policy issues that would be important to us would include the following.

First, the equity of forcing higher fuel prices on a consumer group to support fuel fungibility with a nearby fuel area, as compared with the commensurate benefits of a common fuel.

Second, the effective decisions on key fuel volume additives which impact the total gasoline supply.

Third, the effect of market signaling of our intentions to refiners and fuel additive producers to provide them clear investment parameters for capacity or quality adjustments.

Finally, the opportunity to take advantage of planned future vehicle and fuel standards to eventually move more toward a national fuel specification.

With regard to the second question of the implications of banning certain fuel additives, we share the environmental concerns regarding the reported effects of certain additives in the environment. However, we would encourage the stakeholders to ensure their considering two issues in both the decision to ban and the timing of the phaseout if the decision has to be made: First, these additives currently make up 5 to 10 percent of our total fuel capacity, which is beyond the reserve capacity currently available in the system; and secondly, have all reasonable controls been imposed to keep these additives and other gasoline constituents out of the environment?

Lastly, with regard to the implications of the waiver denial, we note that the primary impact of the decision was the ban on the additives. Once the decision to ban was made, the relative impact of the waiver denial, while still of concern, is relatively minor. However, with appropriate caveats, including implementation timing for market adjustments, we support EPA's evaluation of both



MBTE's environmental impacts, and the possible need for increased flexibility in the Clean Air Act standards.

Thank you.

[The prepared statement of Mr. Card follows:]

PREPARED STATEMENT OF ROBERT CARD, UNDER SECRETARY,  
DEPARTMENT OF ENERGY

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to present testimony addressing the important national energy policy topic of the impacts of fuel specifications and infrastructure constraints on energy supplies and prices. The Committee specifically asked that the Department of Energy address questions relating to impacts on gasoline markets from possible reductions in the number of different gasoline types, state actions to limit the use of certain gasoline additives like methyl tertiary butyl ether (MTBE) and the recent decision by the Environmental Protection Agency (EPA) to deny California's request for a waiver of the reformulated gasoline oxygenate requirement under the Clean Air Act. I will address each of the Committee's concerns, but would like to start with the broader National Energy Policy context, and recent energy markets experience, as a framework for these issues.

The early focus of this Administration on the development of a comprehensive National Energy Policy was motivated to a significant degree by the rising concerns over the adequacy and cost of energy supplies, not the least of which is gasoline and other petroleum products on which much of our economic activity depends. We have observed over the past few years a tightening of the supply/demand balance in the petroleum product market in general and gasoline in particular. Recent events in the world oil markets have contributed to the high and volatile prices we have experienced this summer and last year, and they need to be understood before trying to come up with solutions. Dr. Cook of the Department's Energy Information Administration addressed these near term issues in testimony before the House Committee on Government Reform, Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs last week and I will not repeat that here. More relevant to this Committee's interests at this hearing are some of the underlying refinery capacity and fuel specifications issues that have been developing for a much longer time. These include:

- The poor investment climate throughout the 1990s associated with the refining industry's historic over capacity and competition from foreign refineries;
- The subsequent closure of uneconomic refineries some of which were also unable to meet new environmental requirements; and
- High investment requirements simply to maintain existing capacity due to the imposition of a range of new clean fuel requirements starting with reformulated gasoline in 1995 and continuing through at least 2006.

Having experienced a decade of poor returns, facing legal challenges related to permitting on previous expansion, and having to comply with significant new requirements for cleaner fuels that will demand large stay-in-business investments, it is not surprising that the financial decision making in the refining industry has responded very cautiously to the recent strong growth in gasoline (and other transportation fuels) demand. We also believe that efforts to significantly improve vehicle fuel economy and introduce or require use of non-petroleum fuels, while potentially valid in and of themselves, further raise the financial risk associated with investment in additional capacity. Other parts of the petroleum product supply system, including pipelines and terminals, have faced similar financial situations that have discouraged investment and have left us with limited capacity.

Assuring adequate capacity to meet future demand in an environmentally responsible manner in the longer term is not an easy matter but we must take on this challenge. In the short term, our choices are even fewer and any changes that have been proposed must carefully consider impacts on price and supply. Under this framework, I will take each of the three questions raised by the Committee in order.

STREAMLINING THE ARRAY OF GASOLINE SPECIFICATIONS

Concern has been expressed about the wide range of gasoline types used in the United States and their impact on system flexibility. In response to the National Energy Policy recommendations we are working with the Environmental Protection Agency in an interagency effort to examine the current situation surrounding what has come to be called "boutique fuels" and to explore possible alternatives. However, I think it is important to understand that the current situation of using different

fuels to meet the differing air quality needs of various urban areas has economic benefits, at least at this time. Under this approach, areas that do not need the more expensive clean fuel do not have to bear the cost of that fuel.

Problems arise with this localized fuel approach when there is an upset in the supply system and fuel supplies need to be brought in from alternative sources that may not normally store or make the particular fuel needed. In the past, such as last summer in St. Louis, EPA and the Department have dealt with these supply disruption situations by considering fuel supplier or state government requests to allow the sale of non-conforming gasoline (typically conventional gasoline) on an as-needed basis. This system has worked well and continuing it is certainly one option. Other approaches may be possible and will be considered as part of this NEP review of the "boutique" fuels.

In the meantime, we need to be sure that what we do to attempt to "fix" the perceived problems doesn't make the overall situation worse. For example, some stake holders have proposed a near-term move to widespread use of federal reformulated gasoline, or regional fuels, in lieu of the current mix of clean and conventional gasolines. While this might help make for a simpler distribution system, it would reduce the total volume of gasoline that today's refineries could produce and place significant additional investment requirements on refineries.

These changes and additional investments would have to be addressed at the same time refineries are making investments to meet important new fuel quality requirements for gasoline and diesel fuel. A loss of additional refining capacity is an almost certain result of such a near-term change. Again, a longer term change may be possible and will be considered in this NEP review.

#### STATE LIMITATIONS ON GASOLINE ADDITIVES

The Department has been involved for some time with EPA, other Federal agencies and state organizations like the Northeast States for Coordinated Air Use Management (NESAUM) in addressing the issue of MTBE, an oxygenate used in clean gasoline formulation, affecting water supplies. This problem arises primarily from leaking underground gasoline storage tanks and there is an ongoing, federally-mandated effort to fix and upgrade most of these tanks. Individual states have made additional efforts to address these leaking gasoline tanks and their potential impacts on water supplies. However, some states have made the choice to resolve the problem by banning the use of MTBE in gasoline. This clearly is one option for addressing the problem and we can appreciate that some states, like California and New York, believe that it is the best option. However, we believe addressing these water quality concerns with near-term bans of gasoline additives represents a major threat to the adequacy of gasoline supplies in those states and potentially on a more widespread basis.

As refiners face additional requirements to meet even tighter clean fuel standards for their gasoline, like the recently promulgated standards for Tier II low sulfur gasoline, and anti-backsliding toxic emission control requirements for conventional and reformulated gasolines, and address commercial considerations like the Unocal patent, they will find oxygenates such as MTBE even more necessary and valuable to increase volume, make up for lost octane and address other property changes such as distillation characteristics. The availability of oxygenates also provides valuable immediate gasoline blending flexibility to refiners trying to meet tight product specifications; the oxygenates are aromatic-free, high octane, virtually sulfur-free blendstocks that can be put in almost any shipment of gasoline to offset performance shortfalls in other parts of the refinery. This is particularly true for MTBE which can be blended at the refinery, shipped in pipelines and which has little negative impact on vapor pressure. The effect of being able to readily blend even small amounts of MTBE into gasoline is to help assure product deliverability, reliable supplies and affordable gasoline prices to consumers.

If a sufficient number of States were to restrict use of MTBE, refiners and distributors might choose to remove MTBE from all gasoline to protect the fungibility of the gasoline distribution system and avoid even more "boutique" fuels. 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.

Alternatively, gasolines with and without MTBE could be produced but with less flexibility and fewer exchange opportunities in the distribution system. In addition to the ongoing supply problems one could expect from trying to produce both refor-

mulated and conventional gasolines without MTBE, regional refinery or distribution supply problems could lead to additional short-term difficulties under state-by-state bans. One would expect these situations to contribute to regional gasoline shortfalls and longer periods of price volatility as markets struggle to re-balance on a state-by-state basis. In addition, for Northeast states, which depend heavily on imported reformulated gasoline, MTBE bans and the subsequent need for special gasoline blendstocks for ethanol blending could be even more problematic.

EPA'S DENIAL OF CALIFORNIA'S REQUEST FOR A REFORMULATED  
GASOLINE OXYGENATE WAIVER

The first step in assessing the implications of the EPA decision to deny California's waiver request is to understand the full range of factors affecting California's gasoline supply and price.

California, like the rest of the nation, has experienced strong growth in gasoline demand.

This has come at the same time that clean fuel standards were tightened to meet important air quality needs.

These product quality requirements as well as limitations on the emissions from the refineries themselves have limited gasoline capacity and have contributed to closure of some of the economically weaker refineries.

Together with events in the broader world oil market, these factors have caused a severe tightening of the supply/demand balance in the California gasoline market. The unique nature of California's clean gasoline requirements and its distance from, and lack of ready access to, the major U.S. refining center in the Gulf Coast make outside supply of gasoline to California very difficult, further contributing to the higher and more volatile prices in that market.

It is against this background that California made its decision to eliminate MTBE from gasoline at the end of 2002 and to increase use of ethanol and other gasoline components produced outside the California refining system. With or without an oxygenate requirement for Federal reformulated gasoline in California, a very large amount of ethanol and other outside components will have to be used to meet California's quality and volume requirements. While an oxygenate waiver may have increased refinery flexibility at the margin, its affect would have been minor relative to the basic decision to eliminate MTBE and the pre-existing, very tight supply/demand balance that has developed in California.

The Department of Energy remains very concerned about our current and longer-term energy supply situation. We will continue to work with EPA and others to better understand the energy supply implications of all our actions and look for additional ways to improve the current capacity situation. While we fully support the various clean fuel requirements that are necessary to achieve our air quality goals and we share a strong desire to protect the nation's water quality, we believe that it is important that these initiatives are implemented in a way that has the least negative impact on fuel supplies. As we move forward, the National Energy Policy provides important guidance and Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," will appropriately focus our attention on these impacts in future rule makings. Assuring adequate supplies of energy, gasoline in this case, in an environmentally responsible way and at reasonable prices to support continued, strong economic growth is a key goal of this Administration.

Mr. Chairman, that ends my testimony and I would be happy to answer any questions the Committee may have.

Thank you.

The CHAIRMAN. Well, thank you very much. Let me see if I can understand better some of the testimony that we just heard. Ms. Fisher, my impression is your position at EPA is you had no choice but to go ahead and deny this waiver.

Ms. FISHER. That is correct, based on the information supplied by California. We did not believe they met the threshold set in the law.

The CHAIRMAN. And the threshold set in the law, as you see it, is the requirement that in order for you to grant a waiver you have got to show that it adds to the, or that it contributes—let us see, what was the phrase you used there?

Ms. FISHER. It inhibits the ability of the State to meet the clean air quality standards, so they would have to demonstrate that the 2-percent oxygenate requirement actually interfered with their ability to meet the quality standard.

The CHAIRMAN. Okay, so you believe that you were legally obligated to go ahead and deny their request for a waiver. Now, is that true with—I guess that is true with the other States. You did the same thing in New Hampshire, is that right, I mean, the previous administration did?

Ms. FISHER. Let me have Mr. Brenner answer that.

Mr. BRENNER. Mr. Chairman, New Hampshire is in the midst of preparing an application for us. They are asking for the opportunity to develop an alternative to reformulated gasoline and to opt out of the program before 2004, which would normally be the date by which they could first opt out.

The CHAIRMAN. So theirs has not been ruled upon yet?

Mr. BRENNER. It has not been formally submitted to us, I do not believe.

The CHAIRMAN. Okay.

Ms. FISHER. And Mr. Chairman, let me clarify something, because I know you have representatives from the State of California. Their petition demonstrated that the oxygenate requirement would interfere with their ability to meet the standard for NO<sub>x</sub>.

If we had granted the waiver, we were concerned that they would increase levels of carbon monoxide, and the petition information gave us great uncertainty as to whether, if we granted the waiver, levels of ozone would increase or decrease, so it is a little bit complex, but for one of the air pollutants it actually would have improved the situation in California, for another air pollutant it made it worse, and for a third, there was a lot of uncertainty about what the relative impact was going to be, and it was all of that that led us to the denial.

The CHAIRMAN. Now, is the administration proposing to Congress that we change the law that has constricted you, or caused you to make this decision?

Ms. FISHER. We are definitely looking at whether legislative fix is needed. Based on what we know today, which is significantly different than where we were in 1990 when the Congress passed the Clean Air Act, we know that refiners can produce very clean-burning fuel without the oxygenate requirement, and through the boutique fuel study and others, we are going to look at what kind of legislative fixes you might need to make a program that is more flexible, that still provides significant clean air benefits to us.

The CHAIRMAN. Mr. Card, you are a part of the administration. You had a part of the administration that is not prohibited from looking at energy supplies or price of gasoline and I am interested in understanding better—I could not tell from your testimony whether you believe that this decision, the combined decision, the decision of California to ban MTBE and the decision of EPA to deny their waiver application, whether those two decisions together are going to cause supply problems or cause increases in prices of gasoline in California or elsewhere in the country. Do you have a judgment on that?

Mr. CARD. Well, our position on that, as was pointed out earlier, is that the supply and demand situation is very tight, and if you take 5 to 10 percent of the supply out of the system suddenly, without a period for adjustment, it certainly could create a problem. Whether the marketing signaling has been adequate in this instance to create additional capacity remains to be seen for us. We cannot predict one way or the other.

The CHAIRMAN. Well, I guess the concern that I have is that California, whether their decision was right or wrong on banning MTBE in the beginning of 2003, they did give some lead time. They sort of made the decision. They advised everybody of the decision. I am concerned that in trying to meet the requirements of the Clean Air Act, given the denial of the waiver request, we are going to have real problems getting the ethanol in California at a reasonable price to do this without a dramatic increase in the price of gas. Am I wrong about that?

Mr. CARD. Well, the way we would see it is, if you take MTBE out, you have taken out 5 to 10 percent. You have got to put something back in, so in a way we would hope that the ethanol system can respond and do that, otherwise you have to have a basic increase in refining capacity, so the issue here is less the fuel composition than the total quantity of fuel available, so even though the refiners might be able to meet the standard without the oxygenate, they do not have the capacity right now today to do so. It is a capacity issue.

The CHAIRMAN. You are saying you hope the ethanol can be provided to meet the need.

Mr. CARD. Yes. If nothing else, it will be needed for quantity.

The CHAIRMAN. Well, I guess my concern is that I do not know if it is adequate for us to be sitting here saying we hope there will be enough to meet the need. We have a chart around here that I could show which demonstrates where the ethanol in the country is produced and you can see that most of it is not produced in California. Most of it is produced in the Midwest and not only is there a problem in producing enough, there is also a problem in transporting it to the West Coast and I do not know if any study has been made of that, as to whether or not we have got enough tankers or whatever it is that is going to transport that.

You see, that chart there shows the production capacity for ethanol and you can see that almost all of it is in the Midwest. Have you looked at that?

Mr. CARD. We have not studied it specifically, but at this time we do not have conclusive evidence that the ethanol system cannot rise to meet this demand. We would just point out that with already a sticky situation in California under the current system, we are certainly imposing a whole series of new challenges, and a large new infrastructure has to be put in place in a short period of time, but I do not want to presuppose here that it cannot be done.

The CHAIRMAN. I think if the standard is that we need conclusive evidence that the system cannot respond, that is not the right standard. We are going to be held to a higher standard than that, those of us in Congress and, I think, the administration as well.

We are going to have to either be able to demonstrate with some assurance that this is likely to be achievable at a reasonable price, or we have got to move on to plan B, and I do not hear any plan B being discussed or even thought about. Am I wrong on that?

Mr. CARD. I guess what I would like to do is submit an answer for the record on that.

[The information referred to follows:]

California's decision to ban the use of MTBE will significantly increase the difficulty and cost of producing adequate volumes of the gasoline required in California. Having to use ethanol as an oxygenate in that portion of California gasoline covered by the Federal reformulated gasoline program may further increase the difficulty and cost because of ethanol's price and the actions refiners have to take to reduce gasoline volatility during the summer to accommodate ethanol's impact on vapor pressure. The Energy Information Administration's Annual Energy Outlook 2001 estimated that the price increase in California gasoline, as a result of the MTBE ban and retaining the oxygenate requirement, will be on the order of five cents per gallon in constant 1999 dollars. This figure is consistent with estimates of cost increases made by other analysts. However, higher prices are possible if greater volumes of ethanol are used, ethanol supplies are inadequate or overall gasoline supplies are inadequate.

California has several options to address its fuel supply needs, if it views the current situation as unacceptable. Obviously, it can reconsider the timing and severity of the limitations imposed on MTBE use. Alternative sources of gasoline, such as the U.S. Gulf Coast and Asian refining centers, as well as alternative sources of ethanol (such as Brazil) can be engaged. Reducing demand for gasoline, such as we have seen for electricity this summer, is possible.

The CHAIRMAN. Okay. That is good.

Senator Murkowski, did you have some questions?

Senator MURKOWSKI. Thank you. This is for Ms. Fisher. Can you give us an idea why the previous administration chose not to sign the waiver that would have cut the oxygenate standards in half for California? It is my understanding that this waiver was on Ms. Browner's desk for sometime, and the Clinton administration, I gather, at the end decided not to sign it, but EPA has had California's waiver request for, good heavens, 2 years. That is an awful long time for a State to have to wait for an answer.

Ms. FISHER. A couple of things, Senator. First of all, it is my understanding that the previous administrator, Administrator Browner, also had some concerns about the effect that granting the waiver would have on smog—ozone—which were the same areas of uncertainty that led to Administrator Whitman finally denying the waiver. That was Administrator Browner's primary area of uncertainty. It was ours as well.

With respect to why it took 2 years, we actually spent a lot of that time working with California to get more information and to run different various scenarios on what the impact of the waiver would be.

Senator MURKOWSKI. But there was no time limit on it, is that correct?

Ms. FISHER. There is not a time limit in terms of when we have to make a decision to grant or deny a waiver? I do not believe there is, no.

Senator MURKOWSKI. So you know, can you not just go on? You have done it for 2 years now. California has had a waiver, and nobody's acted on it. Now, you have acted on it, right?

Ms. FISHER. Correct.

Senator MURKOWSKI. California was never granted the waiver. They requested it, were never granted it, and you have denied it.

Ms. FISHER. Correct.

Senator MURKOWSKI. As a first order of business. I am curious, you know, one administration lets it sit for 2 years, the next administration comes in and makes a decision, when there is no time, evidently—it is not an issue that has to be done by a certain time frame.

Ms. FISHER. Well, in some ways it was very ripe for decision, in that we had, from our perspective, completed the analysis that needed to be done, and secondly, California, in order to plan its own fuel supply issues, did need to know whether they were going to have the waiver granted or not.

Senator MURKOWSKI. Well, I agree with you, and I think it was appropriate that you make a decision. I am just pointing out a contrast here. One administration for various reasons decides not to make a decision. The next one, it is the first thing they do when they come in.

I am concerned also about, you mentioned in your statement that EPA is not allowed to consider any of the impacts on fuel supply and price when deciding issues under the Clean Air Act.

Ms. FISHER. When deciding whether or not to grant a waiver of oxygenate requirement.

Senator MURKOWSKI. Now, it is my understanding the President issued an executive order requiring that an energy impact study be done on agency decisions which affect energy supply and price. I am wondering how you reconcile the limits placed on EPA by the Clean Air Act, on the one hand, with the demands of the executive order on the other.

Ms. FISHER. Well, the executive order directs us to understand the impacts. It does not override the statutory requirement. Therefore, energy imports were not something that we could actually take into account as we made the decision.

The CHAIRMAN. Now, Mr. Card, relative to your statement, I am going to move into a general area of concern relative to refinery capacity. I met with some of the small refiners the other day and my understanding is that the number of small refiners in this country contribute about 5 percent of the total contribution of refined product, primarily diesel.

They are faced with an inability to comply financially with the requirements of a retrofit that would address the removal of sulphur from diesel. You know, some refineries that cost \$20 to \$25 million are suddenly faced with \$40 to \$50 million in retrofit and no way to meet that kind of a requirement. The reality is that if they go out of business, we are going to have a further shrinkage of refining capacity, which in the absence of eliminating MTBE and the difficulty associated with more ethanol production suggests that this crisis of inadequate supply could be with us for some time. Do you have some comments on how the Department of Energy is looking at the dilemma that these small refiners are faced with?

Mr. CARD. Well, I think that would have to be rolled over into the overall evaluations as part of the national energy policy that we are deliberating right now. Certainly, there is a delicate bal-

ance, and we need to do what we can to keep all the refineries that are able to perform according to the permit requirements in business.

Senator MURKOWSKI. Do they not have to conform by, what, 2004?

Mr. CARD. Linda would know much better, but I think it is 2005 or 2006, the sulphur standard implementation.

Senator MURKOWSKI. Maybe Mr. Brenner can help us. Senator Bingaman and I have addressed this in our comprehensive general considerations about what we do with the refiners, but we would like you to highlight the significance of what it means if some relief is not provided, either some kind of tax incentive, accelerated depreciation, something, because otherwise my understanding is they are simply going to go out of business.

Mr. BRENNER. Senator Murkowski, the sulphur in gasoline requirement begins in 2004, and the sulphur in diesel fuel begins in 2006. We added some provisions to the rule to help refiners facing financial hardship, and to give small refiners some additional time. We did address relief to refiners in the rule.

Senator MURKOWSKI. How, again? The first part, how are you relieving them?

Mr. BRENNER. First, there is a waiver provision to help provide additional time for those refiners that are facing a financial hardship. In fact, we just recently granted that extra time in the case of the sulphur in gasoline requirement for a couple of refiners recently.

Senator MURKOWSKI. Is it not more of an economic reality, though? I mean, you give more time, well, time, they are still faced with the dilemma, unless there is new technology that comes along and makes the process less expensive.

Mr. BRENNER. Well, the goal is that with more time, then they have an opportunity to increase the capital they need to make the investment through their profits. It gives them more time to accrue the funds needed for the investment.

Senator MURKOWSKI. My last question—well, the staff indicated concern over the problem associated with the small refiners being one of overlapping requirements and timetables for compliance and so forth. In my conversation yesterday, they appear to be grasping straws to try and stay in business, recognizing that as they get an extension of time, they still have to plan to comply, and the economics of their operation suggests that it is not in the cards to comply, because the costs cannot be amortized based on the volume that they are capable of producing.

Mr. BRENNER. Senator Murkowski, in the rule we did provide them with up to 4 additional years, and we have committed to monitor the implementation of this program.

Senator MURKOWSKI. What I am telling you is, the conversations I had with some, time is not the issue. Granted, they can stay in business for another 4 years, but their ability to meet the requirements based on the economics in the industry and the economics if you do not expand that refinery.

My last question is relative to fuel standards which would simplify the distribution system. My question is, would it also reduce the total volume of gasoline that today's refineries could produce?



In other words, how do you streamline fuel specifications to reduce the total gasoline volume, and we have seen enough alleged price spikes to know what the effects of a short supply can mean under a regional fuel system, where price spikes become more likely, so would it not be more responsible for regional fuel standard increased prices to be at the pump for consumers who do not live in nonattainment areas?

Ms. FISHER. Senator Murkowski, we are looking at the impact throughout the country of all of these different fuels on demand, on supply, and on price, and we hope to come back to the Congress in the early fall or late summer, with our report. The report will better clarify both the impact the different fuels are having on price and will also provide recommendations on how we can modify our fuels program to reduce any disbenefits.

Senator MURKOWSKI. Finally, and I know my time is up, but the question that was posed to you in my opening statement by Mr. Dagle that oxygenates are not needed to provide the requisite environmental benefits for reformulated gasoline, do you concur with that?

Ms. FISHER. Today, we can produce much cleaner fuels without the use of oxygenates than we could when the Act was first passed. We do not disagree with that.

Senator MURKOWSKI. Then why is that not a solution?

Ms. FISHER. The reformulated gas program was designed for several reasons.

Senator MURKOWSKI. I know.

Ms. FISHER. Eliminating that and not addressing the fuel supply and the renewable fuels program leaves two of the goals of the reformulated gasoline program unaddressed.

Senator MURKOWSKI. Well, then, would you recommend to the committee some specifics on how you would take the statement recommendation, which you concur with that they are not needed, to provide us with an alternative that is other than the two that we have, which are ethanol and MTBE, and we are throwing out MTBE and putting more pressure on ethanol.

I have no problem with ethanol at all, other than it is very difficult to transport, and it is going to be tough to move out to the west coast, and the east coast as well. Maybe a Senator over from the farm State could figure that out, but we need an answer, or a recommendation of changing laws or whatever, and still comply.

Thank you.

The CHAIRMAN. Senator Wyden.

Senator WYDEN. Thank you, Mr. Chairman.

I want to come back, Ms. Fisher, to this question I touched on in my opening statement about the oil industry position, which is that much of the problem today, the shortages and the high prices, is due to the lack of refinery capacity and the restrictive environmental standards.

The documents that I have gotten and made public last week indicate that there were reductions in refinery capacity for the purpose of increasing profit, and they said that repeatedly, and then there were reductions in the refinery capacity, and I want to ask you now about the environmental aspect of this issue.

Under the new source review provisions of the Clean Air Act, a refinery can ask your agency for an applicability determination whether changes in operations that boost production would be subject to a permitting requirement. Given that there are no request by refineries for applicability determinations by EPA during the past 10 years, does this mean that there was either no intent to expand refinery capacity, or else that folks were increasing output without first getting a permit, in violation of the law?

Ms. FISHER. Well, as you know, Senator, we have brought several cases against refiners because we are concerned that they may have expanded capacity beyond what is anticipated without coming in and asking us, applying for a new source review permit, so there are a number—we have had a few settlements already. We have had a number of other cases pending on this exact point.

Senator WYDEN. My understanding is that those lawsuits are being reviewed right now, is that correct?

Ms. FISHER. As part of the national energy plan.

Senator WYDEN. There have been a lot of national news articles with folks in your agency and elsewhere, veteran lawyers concerned about how those things are being handled.

Ms. FISHER. We settled one just a few weeks ago. The others are being reviewed by the Justice Department, and we expect that review to be done shortly.

Senator WYDEN. Now, are you all going to be the lead agency under the Bush energy effort with respect to evaluating the impact of the new source review on refinery capacity?

Ms. FISHER. Yes, we are.

Senator WYDEN. How do you see your expertise with respect to how you are going to be able to make decisions on this issue? Other than asking the industry, how are you going to go about it?

Ms. FISHER. Well, let me tell you a little bit about our review. EPA has invited the participation of other Federal agencies, DOE, DOI, Justice Department and others, to participate in the study. We are in the process of issuing a white paper on the new source review program, which will serve as the basis for several public stakeholder meetings that we intend to hold with people that are affected by the new source review program.

We are going to go into communities that have a lot of these plants in them. We are going to have one hearing in California, so hopefully we want to provide an opportunity to get not only the various affected industries' involvement, but also communities that live around these plants, as well as environmental and other groups that are concerned.

After that, we will issue some recommendations for next steps. As you probably know, the agency has done a lot to look at what we can do to make the new source review program more flexible. Through this review program we hope to be able to implement some of those changes that we have already identified. It might be at the end that we will need to come back to Congress and talk about changes as well, but we do anticipate a very open process.

Senator WYDEN. Well, I hope that you will keep the committee, and I just speak for myself, up on this, because I think it is a central question with respect to the whole debate about refinery capacity. We have got documents now on Mobil e-mail saying that a full

court press was warranted to keep a refinery down, a refinery that is still down, for price reasons. Now, that is part of the equation, and we are going to continue to explore that.

But the environmental issue is equally as important, and given the fact there were not any requests by refineries for an applicability determination under this statute during the past 10 years, as I read it, one of two things was happening. Either there was no intent to expand refinery capacity, which is certainly in line with the documents that I have obtained, or else folks were doing it without first getting permits.

So I am sure my colleagues have a lot of areas they want to explore, and I do not want to chew up any more time, Mr. Chairman, but I would like to keep me posted on this personally.

Thank you.

The CHAIRMAN. Thank you.

Senator Kyl.

Senator KYL. Thank you, Mr. Chairman. It appears to me that we have the makings for a bipartisan compromise here, because you have essentially made the point that we need to act sooner rather than later, and provide more flexibility in the statute. I agree with that, and that appears to be a fundamental tenet of the Bush administration recommendations generally with regard to the fuel problem, more flexibility, fewer boutique requirements and so on.

But I think time is of the essence here, and waiting until this fall may not, frankly, work. Congress may move before the administration, if it does not move before then, because not only is there a crisis now, as we are all well aware, but there are decisions and investments being made which require some degree of certainty, and therefore I would urge the administration to move forward very quickly with recommendations.

If the statute is outmoded, if it puts too much of a straitjacket on the EPA, for example, in its decisionmaking process, then that ought to be removed immediately, and we can deal with other issues later. We do not have to wait until we have a perfect solution for every problem and put it all in one great big bill. We can begin to move, so I think we ought to move on that.

There are a couple of other issues. Given the fact that the denial of this waiver, as well as other factors that have been alluded to here, are going to significantly advance the ethanol market, I wonder whether the administration is also willing to reconsider the ethanol subsidy. I understand it is at 54 cents a gallon right now.

Clearly, there is going to be a much stronger market for it. The question that Mr. Card put to us is, are they even going to be able to meet that demand, because we are not going to be able to expand refinery demand, and MTBE's are not going to be able to make up the difference in those States where they are not banned, so the question is, will ethanol be able to fill that, what was it, 5 to 10 percent gap?

So it does not seem to me that a subsidy of that amount is required to cause people to produce something that presumably they are going to try to produce as much of as they possibly can in order to meet the demands of the market. Therefore, question, will the administration reconsider the amount of the ethanol subsidy?

In that regard, I would like to put into the record, Mr. Chairman, an article from the *New York Times* dated June 21, 2001, and read a couple of paragraphs from it and ask for your response to it, both Mr. Card and Ms. Fisher.\*

The headline is "Administration Seeks to Retain Aid for Ethanol" and the first paragraph reads, "a report prepared for Congress by the Bush administration recommends continuing Federal incentives for ethanol-fueled vehicles, but it does so despite finding that the program has failed to live up to either of its goals, reducing gasoline consumption, and substantially increasing the use of alternative fuels."

I am going to skip a couple of paragraphs and just read a couple more here.

"Because burning gasoline produces large quantities of carbon dioxide, a gas linked to global warming, the 1998—excuse me, 1988 law promoting ethanol use actually increased American emissions of global warming gases by 1.46 million metric tons last year, the report says. This meant that the rule accounted for about a tenth of the increased output of such gases by American vehicles, which have been the fastest-growing source of global warming gases."

It seems like maybe we are working at cross-purposes, Mr. Chairman. We are promoting the use of something that is creating something that we are trying to get rid of, and it seems to me that the administration has got to come to grips with this, despite the politics.

Regarding that, another bipartisan approach to this, it seems that both political parties score by promoting the ethanol subsidy. Let me quote further from the article. "The ethanol program has bipartisan backing among corn State officials. Marlys Popma, the executive director of the Republican Party of Iowa, said that supporting the broader use of ethanol was crucial to the electoral successes of any presidential candidate seeking votes in the State's caucus every 4 years, the first of each presidential campaign."

Quote, "ethanol is hugely important in Iowa, because it drives up the cost of corn," she said. But as I said, it is bipartisan. According to the State's Democratic Governor, Tom Vilsack, ethanol, and I am quoting, "is a lifeline, and it is a real ray of hope to family farmers that creates not only economic opportunity but preserves a way of live that is important to preserve."

Mr. Chairman, I was born in Nebraska, grew up in Iowa, and I understand that there is a real challenge to the family farms in those regions, but the question is whether it ought to be government policy to promote the production of something and the use of something which has deleterious side effects in terms of global warming, and drives up the cost of gasoline, and makes it more difficult for people out West—you will note on that map we do not have any ethanol production. It makes it more difficult for us to drive.

Ethanol does not work in the hot climate of Arizona. That is one reason that I am concerned about its required use here, which is the effect of not granting the waiver. I read the law, too, and I agree, I do not understand how you could have granted the waiver,

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\*The article has been retained in committee files.

given the law, but that leads me to the conclusion that we need to do something about the law.

Mr. Chairman, without making this point any further, I think it is clear, I would like to get the response of the witnesses to what I have just said, and urge the administration to very quickly review these matters so that at least in those areas where there is some bipartisan consensus, and we understand the need for greater flexibility, and because of the change in science, and capability here, we now perhaps have the luxury of doing some things that we did not have 13 years ago, that we need to move forward with alacrity.

Senator JOHNSON. Will the gentleman yield for just a brief question?

Senator KYL. Sure, but I would like the witnesses——

The CHAIRMAN. And then we will go, obviously, immediately to the agencies.

Senator JOHNSON. Would you agree that the *New York Times* article, read in its entirety, does not suggest that the use of ethanol contributes towards global warming? The problem is the lack of access to ethanol, is in the vehicles and our lower mileage standards for vehicles that are dual use as a consequence of lack of access to ethanol. That is the reason we are burning more fuel, gasoline than was earlier projected, and again, contributes towards global warming and emissions.

Senator KYL. In responding to my colleague and, of course, we can all read the article, I could quote here the comments from the Sierra Club spokesman that is very critical of the continued use of ethanol, and talks about the increase in price.

It is correct that part of the problem is lack of availability for these dual use kind of vehicles, but it is also absolutely true that the article points out the fact that this particular fuel produces large quantities of carbon dioxide, which contributes to global warming. That is absolutely clear from the article, and I do not think it is a matter of scientific contention.

The CHAIRMAN. If the witnesses have any comment in response.

Senator KYL. And I would very much appreciate the comments. We are here to hear the administration's position, and I think we need to hear it.

The CHAIRMAN. If the witnesses could go ahead and comment, and then we will take other questions.

Ms. FISHER. All right. I will jump in first.

First of all, it is a DOT report that is in draft, and we really have not had a chance to fully review it, so with that caveat, let me say a couple of things. First of all, the report is talking about a specific program that allows automobile manufacturers to get relief from their fuel efficiency—CAFE standards—that making cars that use ethanol and gasoline, to get some relief from so if they make these dual-fuel cars, at the same time they can also sell other cars that do not achieve high gas mileage.

It is that relief, and the fact that people have not been using as much ethanol as originally expected in the dual fuel vehicles as that the report attributed to an increased use of gasoline. Also, it is that increased use of gasoline that contributes to global warming. Ethanol itself does not produce carbon dioxide at the same level as gasoline, so the ethanol is not contributing to global warm-

ing. The way this program is structured is why we are not getting as much of a clean fuel benefit as originally expected. The report is a little confusing on this issue.

The second thing, I just to be sure you understand, is that the DOT report is focused on a separate program from what we are talking about today regarding the California waiver. When I saw the headline in the *Times*, I thought it was talking about the oxygen waiver that we are discussing here today. It really is a separate part of the Clean Air Act.

The CHAIRMAN. Did you have any comment, Mr. Card, before we go to the next question?

Mr. CARD. I would just support EPA's comments, and our position would be that all fuel sources should be considered, notwithstanding some legitimate concerns raised and, again, I want to reiterate in the short term we have a general capacity concern that needs to be considered in whatever our policy would be.

The CHAIRMAN. Thank you very much.

Senator Landrieu.

Senator LANDRIEU. Thank you.

Ms. Fisher, you might be the one that could answer this. Kind of following up, but in a little different vein than the Senator from Oregon, would there be in your mind any reason for a refinery to be in business, other than to make money?

Ms. FISHER. Probably that is the main reason to be in business.

Senator LANDRIEU. I thought so, so I was confused about the conversations about refineries making money. I mean, just like any business, that is why they are in business, to make a profit, and I would just like to say on the record that I hope not this administration or the previous administration would question a legitimate business in the United States for making money, unless there is some extraordinary circumstance to indicate that they are doing so in an illegal fashion.

Secondly, I want to ask about how many, if, on this record, you could put on this record, or maybe it has been put on our record previously and, if so, I am not knowledgeable of it, but how many refineries are currently under construction in California, if you know that? How many have been permitted, but are not yet under construction, and how many are in the pipeline in terms of how many requests by the industry that have not yet been acted upon? Does anybody know that?

Mr. BRENNER. We can provide that for the record.

There are no permits in or requests for permits for new refineries. There have been no requests for new refineries to be built anywhere in the country for a couple of decades now, however.

Senator LANDRIEU. So even in California today, there is not a permit request to build a new refinery. How about permits for expanding existing refineries?

Mr. BRENNER. There are probably requests in for expanding existing ones. I know of at least one request to restart a refinery that had been shut down.

Senator LANDRIEU. Are you aware of any requests that would have come from Governor Davis' office to the industry, since he has a problem there—we all do, but particularly to try to increase this capacity for the people of this State? Are you aware of any requests

that he either informally made to the industry to try to expand their capacity, or those—are you aware of anything he might have asked along those lines?

Mr. BRENNER. We are not aware of that, but perhaps some of the panelists on the next panel may know about that.

Senator LANDRIEU. Well, let me ask about something that you all might have some information about for the record. This transportation logistics problem, ethanol I believe is transported primarily by rail car and barge, is that correct? Has California taken any steps to determine if there is rail car capacity to move some of this fuel into California if this change is made that we are talking about, the supplanting change?

Mr. BRENNER. I know that the California Energy Commission has done some work to look at potential ethanol supplies in the State, but I do not know all the details of the analyses they have done.

Senator LANDRIEU. Because we ship a lot of things out of Louisiana, as you know, and I asked—I do not know, Mr. Chairman, if we ever put a graph up there of the pipelines in this Nation, but I think we have got more pier square inch, or square foot than anybody in the country, because we can build them and permit the pipelines, but ethanol cannot move through pipelines, I understand, because of the moisture content.

It has to move in a different way, and it cannot be moved like other types of gasoline, or blended gasolines, and so California and other places that need additional supplies should look at their own rail situation and their own barge situation as well as their refineries, and then in addition, it is not just the transportation issues, but it is the vehicles are not—not only that the vehicles maybe created, but the gas stations do not allow for these new vehicles to be able to access a higher blend of ethanol, so it is not just the make-up of the fuels, but it is the transportation and the barging of the fuels, and the capacity issue, and I just think this committee would be all well-advised to stop trying to find out whose fault it is, and just try to get down to getting a system where people can get the gasoline they need, the power they need to get this economy off of stall and into a fast motion, and we spend too much energy, I think, trying to investigate or decide who got into a room and decided to get the price up. It is not that. It is a combination of things, and so I just wanted to go on the record with that.

The last thing we need to do is worrying about people who are in business to make money. That is why they are in business, and it is not their fault that the rules and regulations that lie at the feet of this Congress and this committee were written improperly sometimes, or not without enough foresight, as well as what has happened in California.

Thank you.

The CHAIRMAN. Thank you very much.

Senator Hagel.

Senator HAGEL. Mr. Chairman, thank you. I am pleased to note my friend and colleague, Senator Kyl's new-found interest in global warming.

[Laughter.]

The CHAIRMAN. We liked his quoting the Sierra Club, too.

[Laughter.]

Senator HAGEL. He has found a new reference point, the Sierra Club. I do not often hear him use the Sierra Club as a reference for anything other than something that is draconian.

Senator DORGAN. Senator, I would ask you to yield on that point. I actually made a note, global warming, Sierra Club, and *New York Times*.

[Laughter.]

Senator DORGAN. It is a red letter day here in Washington, D.C.

Senator HAGEL. Well, he will be getting some cards and letters here, I assure you. He has gone off the reservation completely, Senator. That is notwithstanding his grounding in his early days in Nebraska and Iowa of shaping his normally good judgment on these things and his sharp and precise intellect.

But nonetheless, I think they are important questions, and I know we have witnesses following in the next panel that I am sure will address these in some detail, but I wanted to ask a question, but before I do that, there were some questions that came up and probably will be more come up regarding ethanol, and one the Senator from Louisiana referenced, shipping.

I think one of the things we point out on ethanol, it is more flexible in its shipping capacity and potential, certainly more flexible than MTBE, so we start with that as a plus, but a couple of other issues I think need some clarification. Again, I will allow the next panel of witnesses to get into this in more detail, but a question about demand.

As is pointed out here in the paper that the chairman has distributed regarding the capacity, current capacity in ethanol, somewhere in the area of 2 billion gallons today, it is projected by the industry and government that over the next year-and-a-half that capacity will go to about 3½ billion gallons, and the reason for that, of course, is new ethanol plants now coming online. In my State of Nebraska they are coming online. I suspect the Senator from South Dakota will address this as well, so I think the capacity issue, an appropriate question, a relevant question is going to be dealt with as it is being handled now.

Second, the issue of the oxygenate properties of ethanol itself, and the Deputy Administrator of EPA clarified one of those points I think it needs again to be made, and that is that ethanol itself is not a global warming gas, or property, but it has not been stated yet, as far as I know, that ethanol has twice the oxygen content of MTBE.

Now, that is important to point out, because refiners only need to blend half as much ethanol to meet the oxygen requirement as is the current situation with MTBE, and there are other dynamics to this that I think will come out in the second panel, but those are important points to make, and I think that leads me, then, into my question, because as the Senator from Louisiana accurately points out, we should be about finding solutions, and how do we deal with the challenges that we have in this country on preserving our environment, and the issue of reformulated transportation fuels and why we are in the box that we are, or at least I think we are in some box, and I suspect others do.



I have a document in front of me here that talks about 14 different types of gasoline, 42 when all three octane grades are considered. The U.S. fuel market has indeed become balkanized, and that I suspect is much of the focus on your review, your inter-agency review.

I would like to get your sense, both from Energy and EPA, as to timing. I know you have addressed some of the dynamics of that review here this morning. When do you think it would be complete? Are we talking about the possibility of less balkanization? How can we do that? Where are we now? What do we know now?

I know that one of the problems we have that rarely gets mentioned is the fact that some States and cities opt out for their own standards, and their own creative ways to deal with this, so we should not be surprised that we have got this balkanization, and I would hope that the Department of Energy and EPA under this President will bring some sanity and some common sense to this, so with that, have at it.

Ms. FISHER. First of all, Senator, you are correct, the benefits of using clean fuels to assist cities to meet their air quality standards is tremendous. It is one of the more cost-effective ways that cities can actually achieve their air quality standards, and that is why so many have come to us to ask for approval to go ahead and use these kind of fuels, and it has created probably a lot more different fuel blends than anybody ever anticipated.

For that reason, under the direction of the national energy plan we have begun a study on the boutique fuel program, and I walked in here this morning knowing that we would have a draft ready for the Congress in September. Based on earlier discussions earlier with the staff, however, the opening comments by the chairman, release in September is not necessarily going to be helpful given when the Senate wants to act. We have been shoving notes back and forth to each other up here trying to figure out what we can do to speed that up and at least get a draft to you as quickly as we can.

So what I would like to do is try to get back to the committee with an accelerated schedule, with the understanding that an earlier release may not be quite as informative, or solid. I am respectful of your time demands, however, and the interest of the public on this, so we will try to get it to you as soon as we can.

Senator HAGEL. Thank you.

Mr. Card.

Mr. CARD. Well, EPA is lead on the study, and I would just say we look forward to working with them on it and supporting whatever schedule they think we can meet.

Senator HAGEL. Very precise.

That is, I guess, as good as we are going to get this morning.

Ms. FISHER. I need to find out more about the steps we need to go through, whether it is putting more bodies and money on it, or whether there is information that we are just not going to be able to get, and get analyzed over a certain period of time, so that is why I am hesitating.

Senator HAGEL. All right. Well, I know under the very able leadership of Chairman Bingaman you will not be without guidance and counsel from this committee.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Senator Hagel.

Senator JOHNSON, did you have questions?

Senator JOHNSON. Yes. I am encouraged that there seems to be a growing broadbased agreement, I think that is bipartisan in nature, that we need to move with some urgency with the administration relative to streamlining the multiplicity of gasoline formulations that are out there. I think there is a general agreement on that, and that that would have some significant help.

I think Senator Bingaman has done some good work, along with Senator Murkowski, on things that we might be able to do to facilitate greater refining capacity, and we need to look at that.

One of the areas, of course, of concern to me is with the utilization of ethanol. As the *New York Times*, my good friend from Arizona pointed out, noted in their article, virtually all vehicles can utilize up to 10 percent blends of ethanol. That is not a problem. The unique concern we have here is the Federal program where auto companies are allowed lower CAFE standards in a certain number of their vehicles if they manufacture dual use, dual-fuel technology vehicles which can utilize 85 percent blend ethanol, or E-85, as we refer to it in our part of the country.

They have produced over a million of these vehicles, then authorized them to produce more lower-CAFE-standard vehicles, pickups and SUV's and so on. Unfortunately, as the *Times* notes, only 101 of the 176,000 service stations in the United States sell E-85, and not a single gas station in all of the State of California sells E-85, so the problem has been the chicken-and-egg problem, I suppose, in terms of coming up with a technology for vehicles that can have this dual-fuel capability, and yet at the same time making sure that there is access to that fuel. If there is not the access to the fuel, then clearly the program is not going to work.

Again, this is a draft study, and we have already made some comment about it, but it does concern me that if we are going to be serious about E-85 and other kinds of alternative fuel utilization, we are going to have to work more closely than we have, obviously, with the gasoline distribution industry to see to it that, in fact, it is in place.

I think that we are producing enough, and the production level is going up, and so we have that issue to contend with, and any comments, again, that you might have about how do we address that other side of the equation in terms of making sure that ethanol, or biodiesel, for that matter, is available with the access that ought to exist that it is really going to work, would be of interest to me.

Also, if we now move quickly away from MTBE in California and, in fact, an oxygenate is required, I am advised that is about a 600-million gallon ethanol requirement. We have the ethanol. There has been some question raised about transportation issues, and I would be interested if the administration is doing anything to address how do you get the ethanol from what is primarily the Western Great Plains to the State of California in their particular case, with the decision made not to grant a waiver?

Ms. Fisher, any comments that you might have?

Ms. FISHER. At EPA we have not really looked at the transportation challenges.

Senator JOHNSON. Right.

Mr. CARD. I am not aware of what we are doing, but I will be glad to submit an answer for the record.

[The information referred to follows:]

If California implemented their MTBE phase-out plan, the infrastructure to transport, store, and handle ethanol for that market would need to be expanded, particularly if the oxygen requirement for reformulated gasoline (RFG) was retained. For the bulk terminals that receive and blend ethanol, the infrastructure modification costs are expected to be small. The costs of new tankage, blending system, piping modifications, and adding a rail spur to a gasoline terminal are estimated to add up to only a half-cent per gallon of ethanol shipped.

In order to minimize transportation costs, it is crucial to have good coordination and planning among the ethanol distribution industry, state governments, refiners, ethanol producers, and others in order to minimize potential supply and price impacts. For those states that are relatively distant from the Midwest producers, such as California, good coordination among the various involved parties will greatly diminish the potential for supply difficulties associated with long transportation distances. However, even in these markets, distribution is not expected to be a "make or break" issue. Ethanol would likely be delivered to California by a combination of water and rail shipments. A 1999 industry survey of fuel distribution companies found that most gasoline distribution terminals could add ethanol storage capability in six months or less and that the transportation costs would be 18 cents per gallon of ethanol. Factors used in determining the cost of blending ethanol in California RFG include addressing the loss of low vapor pressure gasoline blending components and the cost of the ethanol itself. Since each gallon of California RFG would contain 5.7 percent ethanol by volume, the transportation costs alone would be one cent per gallon of RFG. Since this survey was conducted, the industry has begun activities aimed at augmenting the distribution infrastructure for California. For example, Williams Energy announced on June 14, 2001, it has entered into an ethanol storage agreement which will come on line by the fourth quarter of 2001.

Senator JOHNSON. Any feedback on that would be helpful, and I would appreciate it. Some of this is more apt for the second panel coming up. I am going to have to excuse myself here very quickly to go to an appropriations markup, and I am going to miss valuable discussion at that point, but both of those points are somewhat the same in terms of, how do you get it from the Midwest affordably to other parts of the country, and then secondly, how do you get more stations to actually carry these fuels, whether it is an ethanol blend or otherwise?

I have been working with my good friend, Senator Hagel from Nebraska, on legislation which would go beyond the oxygen additions with our Renewable Fuels for Energy Security Act of 2001. As you say, there are multiple goals we are trying to accomplish here. Certainly, clean air is a very dominant issue, but we are also trying to make some strides in terms of energy security in this country, and I would say that while there is a tax break available for ethanol, our friends in the oil industry are not without their particular tax benefits as well, and we need to keep that in mind.

This may be more a comment than a question, but it does seem to me that the thrust of the hearings here today need to be what we can do relative to implementing common sense environmental standards in this country, but we also need to keep in mind that there is an energy security issue in play here, and to the degree that we can displace petroleum, which we now import at a higher level even than we did during the 1970 shortages, we all gain from

that, and we want to work with your agency to see that we can arrive at that point.

Senator KYL. Mr. Chairman, would my colleague from South Dakota just yield for a quick comment?

Senator JOHNSON. Certainly.

Senator KYL. One of the reasons that I am so concerned about ethanol, and this goes directly to the point you made about lack of facilities in California, and I think the same is true in Arizona, is that the ozone which is produced naturally by the burning of ethanol is one of the most pernicious air pollution issues in the hot climates of Arizona, and, I suspect in California. That may also be one of the reasons why, in any look at that issue, I think there does have to be some regional consideration of the byproducts of the burning of these different kinds of fuels.

Senator JOHNSON. Well, the gentlemen may very well be correct that there are some regional modifications that are appropriate. I think the second panel is going to be probably in a better position to talk about those issues of what we do in hot climates relative to the ethanol.

Mr. Chairman, I yield back.

The CHAIRMAN. Thank you. There are two other Senators waiting to ask questions of this panel, and then as soon as they are complete we will move to the second panel.

Senator Dorgan.

Senator DORGAN. Mr. Chairman, I, too, have to go to the markup of the supplemental appropriations bill, as I believe Senator Johnson is going there, so I am going to just take one minute and say thank you to the witnesses.

I regret I am not going to be able to be here for the second panel, but I do want to clarify, again, this issue with Senator Kyl. His use of the *New York Times* piece I think sounded as if the Times piece was a rap on ethanol. In fact, it was not at all.

The *New York Times* piece was being critical, implicitly, of the automobile industry, not the ethanol industry, so I think it is very important—I forgot who answered the question, but I believe, Ms. Fisher, that when you responded, it took you a while to respond, but it boiled down, you were essentially saying Senator Johnson was correct in his assessment, is that correct?

Ms. FISHER. Yes, that is correct.

Senator DORGAN. All right. I just think it is very important. I believe that this was put in the record in its entirety, was it not, but I just think it is very important that we understand this piece was not a rap on the ethanol industry at all. It was about the automobile industry.

I am a big supporter of the ethanol industry and renewable fuels. I also believe we need to increase production and so on and so forth, but you know, if our entire energy policy is simply yesterday forever, it is not much of a policy. Let us find ways in which we develop fuels that are limitless.

One final point, Mr. Chairman. I have said this before, but my first car when I was a young boy, it was an antique car that my father pointed out to me and I bought for \$25. It was a 1924 Model T Ford, and I restored it, but in the process of restoring as a very

young boy this 1924 Ford, I learned how a 1924 car worked, and it worked just like today's car in terms of putting gas in it.

You take the gas hose at the pump and you stick it in the tank and you put gasoline in the engine, and 76 years later, nothing has changed. We are still driving up to a pump and sticking a hose in the tank and filling the car, and my point is, as we develop this energy policy we need to do a lot of things, we need to do them right, but let us also think in the long, long term as well about renewable and limitless energy sources.

I think one step here that is important is this hearing. The chairman has described a hearing here that I think is also a very important part of these questions that we must deal with, the many different standards of fuels and the boutique fuels, and all of the supply issues that relate to them and relate to various regions of the country.

So again, my regrets at not being able to stay, but I must go over to the Appropriations Committee for a markup of the supplemental.

Mr Chairman, thank you.

The CHAIRMAN. Thank you very much.

Senator Fitzgerald.

Senator FITZGERALD. Well, thank you, Mr. Chairman, and I am pleased to be here, and I want to be on the team that is congratulating the EPA on your decision. I think you absolutely did the right thing.

A couple of years ago, working with Senator Boxer from California, I sponsored a resolution calling upon the EPA to ban MTBE and replace it with ethanol. Subsequently, the two Senators from California I guess changed their mind on ethanol, but at one point just 2 years ago they were supporting banning MTBE and replacing it with ethanol.

The EPA, under the previous administration, did institute an administrative ban Nationwide of MTBE, am I correct?

Ms. FISHER. Senator, they began an action under TSCA, the Toxic Substances and Control Act, to look at both a ban and phase-down of MTBE. We have continued work on that and hope to propose something I think sometime this late summer/fall.

Senator FITZGERALD. So you are still going through the process of banning it Nationwide, and within a few years MTBE will be banned Nationwide.

Ms. FISHER. Well, TSCA is one of the more interesting environmental statutes, and there is a huge amount of analysis that the agency has to put forth in order to effectively ban a substance. It requires the agency to look at all different ways to manage a toxic chemical, including a ban, and so we have to go through the proposal process, and in that, we will undoubtedly consider some kind of phase-down and ban.

We are not through with the process yet, so it is hard for me to predict kind of over what time period it would actually happen.

Senator FITZGERALD. Okay, but it should theoretically—I think Administrator Browning had thought that the ban would be complete within about 3 years after she began the process.

Mr. BRENNER. Our expectation is that if we were to use TSCA, it would probably take longer than 3 years to complete that full process.

Senator FITZGERALD. Oh, really? Okay. So in the absence of a congressional act to ban MTBE—do you think Congress should step up and ban MTBE? I know that they are doing a geologic survey, that everywhere they look they are finding MTBE in underground drinking water supplies.

In Illinois, we do not even use MTBE, but we have had 25 communities that have detected it in their drinking water supplies, and their wells have had to be shut down. I know 60 Minutes did a big report about MTBE contaminating underground drinking water supplies in California.

What would you think if Congress stepped up to the plate and banned MTBE?

Ms. FISHER. Well, first of all that is probably the most expeditious way of dealing with MTBE, because the TSCA rule-making process is long.

I cannot provide a precise answer to your question. There are some components that we really would need to look at with a ban, as was said earlier. It currently makes up a significant part of the fuel supply of the country, and one of the reasons California has phased it down over a few years is to be able to address that, so I think there are some issues we would want to look at.

Certainly we have many environmental concerns with it. It is leaking in underground storage tanks. Perhaps more importantly, the cleanup of it is very expensive and very difficult to do, so I think while we proceed on our administrative rulemaking under TSCA, we would like to work with you to come up with the right solution.

Senator FITZGERALD. I know that some oil companies are already starting to switch over to ethanol to meet the Clean Air Act requirements and to get sufficient octane in their fuel, and I think some were concerned about liability they were potentially facing for cleanup.

I know that in Illinois and in New York there are large class action suits against refiners and petroleum producers, or gasoline producers, for the cleanup of MTBE-contaminated waters. Am I correct to say that some oil producers were already starting to switch, or petroleum producers were already starting to switch off of the MTBE?

Mr. BRENNER. I believe it is correct that some of the oil producers have begun to move away from MTBE and use more of other oxygenates such as ethanol.

Mr. CARD. I am not aware of exactly what is happening there, but I guess I would just reiterate our concern on timing, and as EPA has stated, being stated to the volumetric effects of whatever we do here, which has to be balanced, and also, as I said on my opening statement, to assure ourselves that we have done everything we can to contain it before we decide it needs to be eliminated.

Senator FITZGERALD. I guess MTBE started out back in the seventies, when the EPA banned lead. The oil producers or the refiners had to find a way to get sufficient octane out of their fuel, and

they started adding additives, oxygenate additives, and that is when MTBE started being used, and then it was discovered that there was a clean air benefit to having an oxygenate.

Now, some people are criticizing ethanol and saying that it increases the volatility, which I guess is true, in warm climates, but my question is, doesn't the EPA regulate volatile organic compound emissions out of gasoline so that they are capped at a certain level, and so whether it is refined with MTBE or ethanol, there would be a VOC cap?

Ms. FISHER. Yes. When gasoline is blended with ethanol, the underlying volatility of the base fuel lowered to account for the higher volatility of ethanol, so that it can meet the overall limit for VOCs. So refiners must adjust the base gasoline fuel's volatility. They lower that to account for the increased volatility that the blending with ethanol will cause.

Senator FITZGERALD. Now, I know some of the other Senators were raising the issue of the transportation of ethanol, and it is true, because of its propensity to evaporate, we have never been able to ship it in pipelines and the like, and most of it, as the map shows, is produced in the Midwest, but for a long time it has been transported to certain areas around the country such as Denver, Las Vegas, and Anchorage, Alaska, as I understand it, and it could be manufactured right where it is going to be used. An ethanol plant, for example, could be set up and running in the Los Angeles area, or not far from Los Angeles. Would that not be a way to address the transportation issue?

Mr. CARD. I guess there would be a question of feedstock. Normally, economically you would want to put the plant close to the feedstock, since that is the higher volume component. There is no technical reason why that could not exist, but I would wonder about the economics of it.

Senator FITZGERALD. Well, you would just have to transport the grain, the corn, for example. Corn typically is what is used for manufacturing ethanol, and you could just transport the corn to wherever the plant is. I mean, there is no prohibition against having ethanol plants on the west coast, is there? I mean, that map could change over the next 10 years so that we have some plants closer to the West and the east coast.

Mr. CARD. There would certainly be no technical reason why not. Perhaps the next panelists could comment on the economics of transporting corn versus ethanol. I think that is probably what it would come down to.

Mr. BRENNER. Senator Fitzgerald, I know that the State is also looking at opportunities to produce ethanol, and other oxygenates—well, oxygenates from some of the agricultural products in their State.

Senator FITZGERALD. My staff just pointed out to me that we already have some plants on the west coast, one in California, one in Washington, both that make ethanol out of beverage waste, or brewery waste.

Ethanol can be manufactured out of any plant product that has a lot of starch content in it, so we should have plentiful sources of it.

Well, I will not take any more time of the committee, but I did want to compliment the administration. I think you made the right decision.

Ms. FISHER. Thank you.

Senator FITZGERALD. It took a lot of courage. I think it will be good for our Nation's clean air, and it will not have an adverse impact on our Nation's water supply. Ethanol, as I understand it, evaporates, or is eaten by the microbes in soil very quickly if it ever inadvertently leaks out of an underground storage tank, and we should not have the problems that we have with MTBE, so I want to congratulate the administration on a job well done.

Ms. FISHER. Thank you.

The CHAIRMAN. Thank you very much, and let me thank the witnesses. I think this has been a useful discussion. We will dismiss this panel and ask the second panel to please come forward.

Mr. BRENNER. Mr. Chairman.

The CHAIRMAN. Yes.

Mr. BRENNER. As we leave the table, I would like to just clarify what I told you about New Hampshire's submission. We are still talking to New Hampshire about the details of their plan, but we do have a formal petition for them, and have begun the review process for that petition.

The CHAIRMAN. Okay. Thank you.

The second panel will come forward.

I am informed that Mr. Grumet has another obligation, and would like to go first. After his testimony he will have to leave before we ask questions, so let us just start on the left-hand side here with Mr. Jason Grumet, who is the executive director of the Northeast States for Coordinated Air Use Management. Go right ahead, please.

**STATEMENT OF JASON S. GRUMET, EXECUTIVE DIRECTOR,  
NORTHEAST STATES FOR COORDINATED AIR USE MANAGE-  
MENT (NESCAUM)**

Mr. GRUMET. Mr. Chairman, thank you very much for that indulgence, and I can stay until about 12 o'clock, so I will speak even faster than usual.

Mr. Chairman, again, my name is Jason Grumet, and I am the executive director of NESCAUM, which for the past 30 years has been representing the air quality programs in the Northeast States.

On behalf of our eight member States, Mr. Chairman, I welcome the opportunity to testify here today in support of the proposition that legislative options do exist to improve the environmental performance, the cost-effectiveness, and the resiliency of our Nation's gasoline supply. We would like to applaud this committee, Mr. Chairman, the Environment and Public Works Committee, and the administration for focusing necessary attention on these opportunities.

Mr. Chairman, to address any problem, of course, we have to first start with its diagnosis, and what I would like to do in the bulk of my testimony is to identify the forces that drive States away from consistent Federal requirements to what we are calling boutique fuels, and then I would like in the final minute or so to



outline the parameters of what we believe could be a solution that would provide the national or broad regional clean fuel I think we all desire.

At the outset, Mr. Chairman, I think it is worth noting that few governors bounce out of bed in the morning exuberant in the hopes of navigating the labyrinth of Federal preemptions necessary to adopt their very own fuel specifications. It is the unequivocal preference of the Northeast States to have access State-wide and region-wide to clean fuels that are adequately protective of public health, and rationally designed.

There are two reasons why States leave the Federal program. Those two reasons are inadequately protective or irrationally designed Federal programs, or successful efforts by some petroleum companies to limit State access to the clean fuel we desire. These inadequacies, Mr. Chairman, are numerous and, sadly, they are increasing, and I will only summarize a few and skip the rest, lest that would be the totality of my testimony here today, but a couple that are worth noting, first, as Senator Murkowski pointed out, the Clean Air Act itself is in part to blame.

The Clean Air Act fundamentally bars many States from having a single fuel. In New York State, the downstate New York City Metropolitan Area is compelled by the Clean Air Act to sell Federal RFG. In the attainment areas, Mr. Chairman, the State is absolutely legally barred from access to Federal RFG, so we have one boutique established under law, which we suggest Congress reconsider.

Secondly, Mr. Chairman, a substantial inadequacy in the Federal fuel program is its failure to effectively address air toxic emissions. Air toxics pose a national health problem in this country. Attached to my testimony are several charts which lay a couple of key points. They note that there are four toxins, several known human carcinogens which exceed the appropriate health standard Nation-wide, and in many urban areas they exceed the health standards by a factor of 10. I am speaking of the pollutants benzene, 1,3-butadiene, formaldehyde, and acetaldehyde. These are known carcinogens, or asthma irritants, and they are well in excess of health-based levels.

Mr. Chairman, 80 percent of these priority compounds are emitted by mobile sources, and even taking into account all of the EPA regulations that are adopted or proposed, these compounds will continue to exceed health-based thresholds through 2030. Recognizing the national scope of the air toxics problem calls us, Mr. Chairman, to question the rationale of excluding two-thirds of the Nation from the 40 percent benzene reductions provided by Federal RFG.

Moreover, any serious efforts, we would submit, to address the boutique fuels problem must provide access to entire States, and must provide toxic benefits to all Americans, not just those who are unfortunately living in nonattainment areas for ozone.

The final category relating to the rationale for States leaving the Federal program apparently tends dynamically to relate to decisions that favor ethanol at the cost of clean air. First, Mr. Chairman, I would like to mention the issue that Senator Fitzgerald raised, which is the volatile organic compounds. While the fuels are required by law to meet a certain VOC level, ethanol-blended fuels

are given waivers. In conventional gasoline, they are given a 1-pound waiver from this requirement, which results in a 15-percent increase in VOC emissions.

States like New York that do not want to suffer those increased VOC emissions are driven, again, away from the Federal program, and just recently, citing concerns about rising fuel costs in Wisconsin and Illinois, Administrator Whitman relaxed the RFG standards, creating a waiver of the volatility requirements in Federal RFG. Not only does this drive States away from RFG, but it foreshadows, Mr. Chairman, weakening of standards, and the increases in prices that we in the Northeast will experience if the administration's decision to mandate ethanol is not reconsidered.

If it is not possible for the States where ethanol is produced to cost-effectively use ethanol without weakening environmental standards, we shudder at the potential implications for the cost where ethanol is not produced.

I would like to touch on EPA's recent decision to deny the California waiver, and I am sure my colleague, Mr. Keese from California, will go beyond my discussion. EPA's recent decision is in direct conflict with the desire to harmonize fuels, and, Mr. Chairman, it falls more than a few notes flat of the desire to reduce prices at the pump.

For those concerned with supply and price issues, Mr. Chairman, I would submit, respectfully, that boutique fuels are the deck chairs on the ethanol mandate Titanic. Under the current ruling, States are left with three unacceptable choices. We can perpetuate the harms caused by MTBE, which I fear, in fact, will happen, and Connecticut, in fact, has already asserted that their legislature should delay their MTBE ban because of how unworkable an ethanol mandate will become.

Our second choice is to propel States to abandon the Federal RFG program, creating more boutique fuels, and this I also believe will happen. I will submit that every State not statutorily bound by the program will seek every available means to get out of it, in lieu of an ill-designed ethanol mandate.

Or finally, we can simply force consumers to pay more for a higher-polluting fuel.

Mr. Chairman, while the Northeast recognizes the important national benefit that ethanol has to offer—Senator Johnson touched on these benefits to the farm economy—energy diversity, national security, reductions in greenhouse gases, urban air quality is by far the weak link upon which to base the desire for expanded ethanol use. Therefore, we will continue to urge the Senate Environment and Public Works Committee to lift the ethanol mandate and lift the oxygen mandate, and we will continue to urge our friends in the ethanol community to design proposals that shift away from the false pretext of urban air quality towards the legitimate attributes that ethanol has to offer.

If I can move now to the second reason why States are driven away from the fuel program—

The CHAIRMAN. Why don't you do that quickly?

Mr. GRUMET. I will give you just a moment, Mr. Chairman—and that is the effective efforts by some petroleum companies to discourage the use of Federal clean fuels. Since 1995, petroleum com-

panies have consistently, systematically, and successfully worked to discourage or even legally bar States from reformulated gasoline, urging instead the adoption of the very boutique fuels that they are now complaining about, and I am simply submitting that we need to better understand this dynamic and the evolution in their thinking so that we can address this problem rationally.

In conclusion, Mr. Chairman, let me just outline the parameters of the solution, and they are brief. In terms of program design, all areas of the country that desire clean fuel must have access to clean fuel.

Secondly, Mr. Chairman, the clean fuel must be based on environmental performance standards, not on product mandates.

Third, Mr. Chairman, we must balance the legitimate needs for lead time and stability of the oil interests with the legitimate needs of States to adopt more protective programs if the Federal programs fail to adequately protect public health.

And lastly, with regard to environmental specifications, we should build upon EPA and California's low sulphur standards, we should address toxicity Nationwide, we should address the legitimate drive-ability concerns raised by the auto industry so they can optimize cars to achieve low emissions, and finally, efforts to promote renewable fuels must be based on the true advantages of ethanol, not on the false pretext that we need it to clean up the air.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Grumet follows:]

PREPARED STATEMENT OF JASON S. GRUMET, EXECUTIVE DIRECTOR, NORTHEAST STATES FOR COORDINATED AIR USE MANAGEMENT (NESCAUM)

Thank you Mr. Chairman. My name is Jason Grumet and I am the Executive Director of the Northeast States for Coordinated Air Use Management (NESCAUM). NESCAUM is an association of state air pollution control agencies representing Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont. NESCAUM provides technical assistance and policy guidance to our member states on regional air pollution issues of concern to the Northeast. On behalf of our eight member states, I would like to express our appreciation for this opportunity to address the Committee regarding opportunities to improve the environmental quality, economic efficiency and resiliency of our nation's fuel supply.

The Northeast states appreciate the concerns voiced by representatives of the petroleum industry that the proliferation of state fuel specifications constrains market flexibility and exerts upward pressure on fuel prices. Moreover, we believe that the environmental quality of gasoline must continue to improve if we are to provide our citizens with the public mobility they desire and the public health protection they deserve. Both these concerns can be addressed through the development of a consistent national clean fuels program. We applaud this Committee and the Administration for focusing public attention on the opportunity to simultaneously strengthen the reliability and environmental quality of our nation's gasoline supply. Already, staff at EPA have reached out to the states and to a host of interest groups to garner our input in pursuing the recommendation from the National Energy Policy report to explore the boutique fuels issue. We greatly appreciate their efforts and look forward to working with EPA, DOE and USDA as they conduct this inter-agency process.

At the outset, it is important to note that few Governors wake up in the morning exuberant to navigate the labyrinth of statutory pre-emptions necessary to adopt and enforce their very own fuel specifications. On behalf of the NESCAUM member states, I wish to express our unequivocal preference for a well-designed, environmentally adequate, regional or national fuel that provides Northeast consumers with a reliable supply of clean, low-cost gasoline.

In charting a course toward the desired harmony of a low cost clean fuel, it is necessary to explore the dynamic that has encouraged states to regulate the environmental properties of gasoline. There are two dynamics that lead to the patchwork of fuel standards present in our nation: 1) environmentally inadequate or poor-

ly designed federal requirements and 2) successful efforts by petroleum companies to limit access to clean fuels.

#### INADEQUACIES IN FEDERAL FUEL PROGRAMS

States bear the ultimate responsibility to protect the health of our citizens. While we strongly prefer effective federal regulation to individual state requirements, states must maintain and responsibly exercise the ability to adopt environmental regulations necessary to protect public health.

Inadequacies in the current federal program are numerous and sadly appear to be increasing. The Clean Air Act restriction barring attainment areas from the federal reformulated gasoline (RFG) program is the first inadequacy we would ask Congress to reconsider. This federal requirement absolutely precludes states like New York from having a single fuel. The New York City Metropolitan area is mandated under the Clean Air Act to sell only RFG while the majority of the remainder of the state is legally barred from participating in the federal RFG program. Beyond supporting the exclusion of attainment areas under statute, the American Petroleum Institute (API) and National Petrochemical and Refiners Association (NPR) successfully litigated in 1999 to bar the states of Kansas and Missouri from extending RFG into the Kansas City ozone maintenance area. The intensity with which API and NPR worked to prevent these states from taking advantage of the federal fuel template must be better understood before we can fairly and effectively address these same organizations' concerns over the multiplicity of different fuel requirements.

A second inadequacy of the current federal fuels program is its failure to address air toxics emissions in the two thirds of the nation's fuel supply that is satisfied by conventional gasoline. Mobile source air toxic emissions pose a very real health threat across virtually the entire nation. EPA's National Air Toxics Assessment (NATA) indicates that four pollutants resulting primarily from the combustion of gasoline, benzene—1, 3 butadiene, formaldehyde and acetaldehyde—exceed 1 in 1 million cancer and/or non-cancer health benchmarks across the country. Benzene, 1, 3 butadiene and formaldehyde also each exceed one in one hundred thousand cancer risk thresholds in all major population centers in our region. In the Northeast, motor vehicles are responsible for over 80 percent of the emissions of these priority toxic compounds. I have attached several graphs that 1) illustrate ambient levels of air toxics in our region; 2) depict mobile source contributions to these ambient levels; and 3) demonstrate that even with all the regulations EPA has adopted or proposed to adopt, many areas of the country will continue to experience unhealthy levels of mobile source toxics for the next thirty years.\* The national scope of this problem leads us to question the public health basis for excluding two-thirds of the nation from the 40 percent reduction in benzene levels provided by the RFG program.

Unfortunately, EPA failed to act as required under Section 202(1) of the Clean Air Act to reduce emissions of benzene and the other mobile source air toxics. Several weeks ago, New York State, Connecticut and several national environmental and public health organizations challenged EPA recent mobile source air toxics rule-making in the D.C. Circuit Court. The substantive basis of this challenge is EPA's failure to require any actual reductions in mobile source air toxics despite its clear obligation under section 202(1) to promulgate regulations "containing reasonable requirements to control hazardous air pollutants from motor vehicles and motor vehicle fuels." Such requirements must reflect "the greatest degree of emission reduction achievable through the application of technology which will be available, taking into consideration the standards [already established for motor vehicles], the availability and costs of the technology, and noise, energy, and safety factors, and lead time." 42 U.S.C. § 7521(1)(2). Finally, the statute required EPA to issue regulations no later than the beginning of 1995 that, "at a minimum, apply to emissions of benzene and formaldehyde. *Id.*" A fuller explanation of the inadequacies in the Agency's rule is attached.

The strong state interest in achieving reductions in the toxicity of motor vehicle fuels argues that any serious effort to reduce the number of state fuel specifications must enable entire states to access the same federal requirements and must provide air toxic benefits to all Americans, not just those living in ozone nonattainment areas.

An additional environmental inadequacy in federal fuel specifications is the federal relaxation of volatility (RVP) requirements in conventional gasoline containing ethanol. Here again, states that are concerned about evaporative pollutant emis-

\*The attachments have been retained in committee files.

sions are forced to adopt state specific standards to correct this weakening of federal fuel requirements. The recent federal decision to relax RVP requirements in Midwest states for ethanol-blended gasoline foreshadows the relaxation of environmental quality and/or the increase in price that the NESCAUM region will face if a de facto ethanol mandate is imposed in our region as a result of continued adherence to the current RFG oxygen requirement.

In fact, the problem of “boutique fuels” is certain to get much worse unless EPA reconsiders its decision to deny states relief from the RFG oxygen mandate. With the mandate in place, states have three unfortunate choices. We can allow our water supplies to remain vulnerable to the unacceptable harms posed by continued MTBE contamination. We can pay higher prices for the more polluting fuel that will result from a summertime ethanol mandate in the Northeast and California or we can seek every means possible to abandon the federal RFG program and adopt state fuel specifications. Already, Maine and New Hampshire have been driven to abandon federal RFG in lieu of state fuel specifications absent the oxygen mandate. Unless the decision to mandate ethanol in RFG areas is revisited, I predict that those states not statutorily bound to the RFG program will soon follow suit.

The Administration’s expressed concern over fuel price increases and its call for states to harmonize fuel specifications is in conflict with the Administration’s proposed denial of the California waiver request. We find the analysis behind the Agency’s action unconvincing, to say the least. The concern it asserts over the co-mingling of ethanol and non-ethanol fuels—while legitimate—seems thoroughly overwhelmed by the increases in volatile organic compound (VOC) emissions caused by substantially increasing the ethanol content of summertime fuel. Moreover, EPA seems to conveniently ignore the fact that California’s request was based on interference with both ozone and particulate matter (PM) National Ambient Air Quality Standards (NAAQS). EPA agrees that emissions of nitrogen oxides (NO<sub>x</sub>) increase when ethanol is mandated and has long acknowledged that NO<sub>x</sub> is a key precursor to PM formation. Regardless of whether one agrees or disagrees with the EPA’s co-mingling analysis, the consensus that NO emissions increase under an ethanol mandate clearly meets the requirements set forth to grant states relief from the oxygen mandate.

NESCAUM interest in this decision is far from academic. New York State and Connecticut have banned MTBE and are actively considering filing waiver requests seeking similar relief from the oxygen mandate. We believe that denying state requests for relief from the oxygen mandate is contrary to the environmental and economic interests of our region. In the context of this discussion, it is fair to think of boutique fuels as deck chairs on the ethanol mandate Titanic. The price impacts from an ethanol mandate in RFG are staggering. Equally concerning are the inevitable requests to weaken environmental standards that are certain to follow. Any serious effort to address fuel infrastructure concerns, supply constraints, cost increases and environmental quality must begin by lifting the oxygen mandate in RFG.

While the Northeast states recognize that ethanol presents many important national benefits including farm income, fuel diversity, energy security and reduced greenhouse gas emissions, urban air quality is without question the weakest link upon which to base an expansion of ethanol use. Until advocates of renewable fuels abandon the pretext that ethanol is needed to address ozone nonattainment and focus on ethanol’s legitimate attributes, our nation will fail to capitalize on the potential benefits ethanol has to offer.

#### SUCCESSFUL EFFORTS BY PETROLEUM COMPANIES TO LIMIT ACCESS TO CLEAN FUELS

Stated concerns over boutique fuels resonate with an ironic “dog catches car” ring to those who have actively participated in the debate over fuel quality standards. As noted above, a central factor in state decisions to adopt separate boutique fuel requirements has been the aggressive and successful lobbying campaigns by some petroleum companies to discourage adoption of federal RFG. The detailed specifications and requirements that define federal RFG were established through a lengthy and ultimately successful regulatory negotiation (reg neg). Of course the petroleum industry participated actively in this process, as did states and the environmental community. Within weeks of the successful conclusion of the reg neg, while the hand-shakes remained warm, some petroleum companies initiated active campaigns to discourage states from opting their nonattainment areas into the RFG program. With catchy slogans such as “Only Fools Opt-in to RFG,” a number of petroleum refiners and distributors worked to convince a host of regions to adopt separate low RVP boutique fuel requirements in lieu of federal RFG. A request for input from environmental regulators in Atlanta, Phoenix, Pittsburgh, St. Louis, Detroit, Bir-

mingham and Kansas City would reveal that in every instance some, if not all, of the petroleum interests involved in these discussions urged states to adopt the very state-based fuel requirements about which they now voice concern.

The purpose of this review of recent history is not to discourage the pursuit of harmonized clean fuel standards, but rather to try and determine what has changed in the last few years. Having worked with representatives of API, NPRA and their member companies closely over the past several years, I have come to respect their professionalism, intelligence and ability to enhance corporate profitability. Therefore, it seems necessary to dig deeper in an effort to better understand the dynamics that led these companies to consistently advocate for separate state fuel standards in lieu of a consistent federal program since the inception of the RFG program in 1995.

Superficially it would appear that petroleum interests have worked rather systematically to circumscribe the use of clean fuels to the narrowest geographic scope. If this view is accurate, I fear that the effort to limit state fuel standards is unlikely to succeed. In the absence of more effective and protective federal requirements, states will undoubtedly strive to continue to improve the environmental performance of motor fuels. However, if changing circumstances provide an opportunity to reconsider the environmental and economic benefits of extending clean fuels to broader reaches of the nation, then I am very optimistic of our ultimate success.

#### PROPOSED NATIONAL CLEAN FUEL STANDARDS

In closing, I would like to outline the essential parameters of an effective national fuels program.

Program Design: The program must: 1) be accessible to all areas of the country that desire clean fuel; 2) be comprised of environmental performance standards and not burdened with poorly designed product specifications; 3) provide adequate lead time for fuel refiners and suppliers and adequate market stability to enable effective planning; and 4) maintain the rights of states to adopt more protective state standards if such standards are necessary to protect public health and or the natural environment.

Fuel Quality Specifications: The program should: 1) build upon EPA and California Air Resources Board (CARB) low sulfur requirements; 2) address the toxic emissions of—at a minimum—benzene, formaldehyde, 1, 3 butadiene and acetaldehyde; and 3) address driveability issues to enable the automobile industry to optimize vehicle emission control systems. In addition, any efforts to promote renewable fuels must provide the fuel industry with the flexibility to determine where and when to sell ethanol, must maintain all environmental performance standards and must be grounded in the legitimate national benefits that ethanol has to offer. Efforts to perpetuate further price supports and/or to mandate the sale of renewable fuels nationally should be justified by a demonstration that ethanol provides national value that is not captured in the free market.

In closing, I would like to again thank the Committee for the opportunity to appear before you today and offer the commitment of the Northeast states to continue working with Congress and the Administration to develop a federal fuels program that meets the environmental and economic needs of our region and the nation.

The CHAIRMAN. Thank you very much. We appreciate that excellent testimony.

Mr. Segal, why don't you go right ahead. This is Scott Segal, who is a partner with Bracewell and Patterson, speaking on behalf of the Oxygenated Fuels Association.

#### STATEMENT OF SCOTT SEGAL, PARTNER, BRACEWELL AND PATTERSON, ON BEHALF OF OXYGENATED FUELS ASSOCIATION

Mr. SEGAL. Thank you, Mr. Chairman, Senator Fitzgerald. I want to thank you for the opportunity to appear on behalf of OFA. OFA is the national trade association of manufacturers of oxygenates, principally MTBE. For a variety of environmental, commercial, and performance-related reasons, MTBE is now used in 80 to 85 percent of all the RFG in use today. As the Department of Energy has pointed out, it contributes over 400,000 barrels of

gasoline production, which is equal to the output of five U.S. refineries.

By contrast, boutique low RBP fuels sap the conventional gasoline supplies by as much as 5 percent, particularly during the summer months. Lately, and in fact just a few seconds ago, we have heard a lot about the concept of boutique fuels. The President's national energy plan called for an exploration of ways to increase the flexibility of the fuel distribution infrastructure to improve fungibility and to provide added gasoline market liquidity.

Whatever we may say about the use of MTBE in reformulated gasoline, such RFG cannot be usefully described as boutique fuel. Indeed, RFG is about one-third of the current mix of gasoline used in the United States, and given its volume and performance, use of MTBE adds to fuel fungibility and liquidity.

While some criticize the administration's recent decision to comply with the Clean Air Act in denying the California waiver request, that decision is by no means inconsistent with the national energy plan. As EPA's own blue ribbon panel put it, MTBE is currently an integral component of the U.S. gasoline supply both in terms of value and octane. It is equal to about 5 percent of the U.S. gasoline supply but, more importantly, it represents nearly 15 percent of the RFG supply in the United States. The folly of banning MTBE lies in the reduction of gasoline fungibility. A ban on MTBE implemented by some States poses unacceptable problems in fuel segregation, pipeline transportation, and the serving of remote markets like the State of California.

The ultimate boutiques fuel market is one in which some States, in a haphazard fashion, ban the most useful fuel additive in the RFG program. That is the ultimate boutique fuel market. Of course, there are those that would have the Federal Government ban MTBE while allowing the oxygenate standard to remain in place. This, of course, is a mandate for ethanol.

While the current market includes a healthy share for ethanol, further mandates are likely to be counterproductive. An ethanol mandate simply makes it harder to provide cleaner fuels at acceptable prices. According to the California Energy Commission—I am sure we will hear more about this today—the cost of substituting ethanol-blended gasoline in that State could increase refinery production costs by up to 7 cents per gallon. If that figure upholds Nationwide, that is a \$10 billion cost to consumers.

One OFA member who actually refines in California estimated that in California an MTBE ban, coupled with ethanol blending, reduces production volume at that facility by 8 percent. Research on price elasticity of gasoline, which has been accepted in over 300 studies, means that high prices in California will pull gasoline from the rest of the country, creating short supply in the country, and potentially upping retail prices significantly.

Some have argued that phasing out MTBE is necessary to maintain water quality. With all due respect, that appears to be an outdated view. In light of the implementation and enforcement of new underground storage tank requirements. A March 2001 study indicates that the average MTBE concentrations in California have steadily declined over 1995 to 1999 time frame. Indeed, after 9 years of widespread MTBE use in California and other RFG areas,

the level of detects in drinking water are less than 1 percent of water supplies, and even in those instances are barely detectable.

Congress and the States are to be commended for implementation thus far of the UST program, and current statistics regarding MTBE do not constitute a principal basis to eliminate it from the marketplace.

Regarding health impacts, a consensus has emerged. Reviews of scientific panels from the U.S. Government, even California's own Carcinogenic Identification Committee, indeed, from the World Health Organization, and the European Community, all have declined to list MTBE as a human carcinogen.

The Health Effects Institute—you quoted, Mr. Chairman, Mr. Greenbaum at the beginning of the hearing—which chaired the EPA blue ribbon panel, released a report only last week, on June 15, which analyzed three independent studies, and concluded MTBE would be considered less likely to have adverse effects than previously sought.

Administrator Whitman, in denying the California waiver, stated that EPA was, quote, “committed to working with Congress to develop legislation that addresses the concerns about MTBE, while maintaining air quality and other benefits of the RFG program.” Administrator Whitman's concerns are well-founded, because the air quality benefits of RFG with MTBE are significant. EPA's own analysis of phase 1 RFG shows that fuel reduces ozone-forming compounds such as VOC's by over 28 percent. That is 144 percent compliance with the law.

Air toxics are reduced by about 30 percent. That is almost twice as much required by law. Testing shows that benzene levels, which Mr. Grumet just spoke of, have declined 31 percent between 1994 and 1997 in areas using Federal RFG, so how, then, to meet the Administrator's commitment of addressing water quality while not diminishing air quality? By supporting Federal legislation to address underground storage.

While the UST record is good, we can make it even better. Recently, OFA has been in active discussions with gasoline marketers and convenience store owners on shared principles for achieving greater benefits from the UST program. We believe that a bipartisan national consensus exists to recognize the allocation of funds from the UST fund and to target resources to high remediation need areas. In this way, the broad energy supply and environmental benefits of the RFG program on the one hand can be maintained in a cost-effective manner while ground water is simultaneously addressed.

In conclusion, a word to our friends in California. We hope that California will carefully reexamine its position regarding the status of MTBE, which represents about 11 percent of the volume of the State's gasoline, and Mr. Chairman, you see very few gold triangles in the State of California—11 percent of the volume coming from MTBE.

New data on reduced levels of contamination, coupled with even more targeted UST resources, could give consumers in California and elsewhere clean water and clean air for the foreseeable future.

Thanks for this opportunity to testify. We look forward to answering your questions.



[The prepared statement of Mr. Segal follows:]

PREPARED STATEMENT OF SCOTT SEGAL, PARTNER, BRACEWELL AND PATTERSON,  
ON BEHALF OF THE OXYGENATED FUELS ASSOCIATION

Chairman Bingaman, Senator Murkowski, and other Members of the Committee, I want to thank you for this opportunity to appear on behalf of the Oxygenated Fuels Association to address issues related to national energy policy with respect to fuel specifications. OFA is the national trade association of manufacturers of oxygenates, principally MTBE. For a variety of environmental, commercial, and performance-related reasons, MTBE has become the oxygenate-of-choice for making RFG outside the Midwest. MTBE is used in 80-85 percent of all the RFG produced today and comprises significant volumes of the national gasoline supply. As the Dept. of Energy points out, MTBE is valuable not only from the standpoint of its benefit to cleaner air, it is contributing over 400,000 barrels of gasoline production which is equal to the output of 5 US refineries.

This hearing is a timely one, for even as gasoline prices have recently declined somewhat, this country faces significant structural problems related to supply and distribution. Consumers, as well as businesses dependent on motor transportation, demand that our leaders take a reasoned and responsible approach to addressing fuel issues.

It is the difficult task of this Committee to resist the temptation to embrace easy solutions, and instead to travel the path dictated by the facts. Today, I hope to clear away some of the underbrush surrounding the use of oxygenates and the role they play in maintaining a clean and secure source of octane as well as insuring an adequate supply of gasoline at reasonable prices.

Lately, we have heard much about the concept of "boutique" fuels. The President's National Energy Plan called for an exploration of "ways to increase the flexibility of the fuels distribution infrastructure, improve fungibility, and provide added gasoline market liquidity." Whatever else some may say about the use of MTBE in reformulated gasoline, such RFG cannot be described as a boutique fuel. Indeed, RFG with MTBE is a very significant portion of the current mix of gasoline used in the United States; and given its volume and performance, use of MTBE adds to fuel fungibility and liquidity. While some criticize the Administration's recent decision to comply with the Clean Air Act in denying the California waiver request, that decision is by no means inconsistent with the National Energy Plan.

As EPA's own Blue Ribbon Panel put it, "MTBE is currently an integral component of the US gasoline supply both in terms of volume and octane." Because MTBE has such premium blending qualities, EIA estimates that MTBE use in the US is contributing over 400,000 barrels per day of gasoline production which is equal to the output of five U.S. refineries. This production is equal to about 5% of the U.S. gasoline supply, but more importantly it represents nearly 15% of the RFG supply in the U.S.

Without careful examination and appropriate planning, the severe energy and environmental consequences of ill thought government action will further increase our dependence on imports and force prices on the spot market to increase rapidly. It is incumbent on those who would eliminate MTBE, or any other component of our gasoline supply to identify with precision the way in which lost volume would be recovered particularly given refinery utilization and capacity restraints.

The folly of banning MTBE lies in the reduction of gasoline fungibility. A ban on MTBE implemented by some states poses unacceptable problems in fuel segregation, pipeline transportation, and the serving of remote markets. The ultimate boutique fuels market is one in which widely used additives are actually banned in a haphazard and ill-conceived manner.

Of course, there are those that would have the states or the federal government ban MTBE, while allowing the oxygenate standard to remain in place. This, of course, is a mandate for ethanol. Actions like this tend only to compound supply problems, not alleviate them. While the current fuel market includes a healthy share for ethanol, further mandates are likely to be counterproductive. An ethanol mandate will make it harder for refiners to provide cleaner fuels to consumers at acceptable prices. Due to ethanol's high blending vapor pressure, pentanes are backed out of the gasoline pool, further decreasing supply. An ethanol mandate will hinder refiners' ability to optimize the quality and volume of cleaner-burning gasoline. This will increase refining costs, and negatively impact both gasoline supplies and price. According to the California Energy Commission, the costs of substituting ethanol-blended gasoline in that state could increase refining production costs by up to 7 cents per gallon. One OFA member estimated that in California an MTBE ban, coupled with ethanol blending, reduces production volume by 8%.

What would this approach mean in real terms for the price of gasoline? Noted petroleum economist Phil Verleger puts it this way: removal of MTBE from the California market could push the retail price of gasoline to levels previously unseen across the United States. Research on price elasticity of gasoline—confirmed in over 300 studies—means that high prices in California will pull gasoline from the rest of the country, leaving everyone short of supply. This is the real potential price impact of eliminating MTBE in favor of ethanol in California.

The worst part about this dire scenario is that it is all avoidable. Some have argued that phasing out MTBE is necessary to maintain water quality. With all due respect, that appears to be an outdated view in light of the implementation and enforcement of the new underground storage tank requirements. A study in the March 2001 edition of *Soil, Sediment & Groundwater* indicates that the average MTBE concentrations in California have steadily declined over the 1995 to 1999 time period.

Regarding health impacts, a consensus has emerged. Reviews by scientific panels from the U.S. Government (the National Toxicology Program), state governments (such as California's own Carcinogenic Identification Committee), and even international health organizations (such as the World Health Organization's International Agency for Research on Cancer and, more recently, the European Community) all have declined to list MTBE as a human carcinogen.

Indeed, the Health Effects Institute, which chaired the EPA Blue Ribbon Panel, released a report only last week (June 15) based on three new, independent studies. HEI stated that "effects of MTBE exposure are likely to be no more, and may be less, than the effects seen in previous studies." Therefore, they concluded that "MTBE would be considered less likely to have adverse effects than previously thought."

Administrator Whitman, in denying the California waiver, stated that EPA was "committed to working with Congress to develop legislation that addresses concerns about MTBE, while maintaining the air quality and other benefits of the RFG program."

Administrator Whitman's concerns are well founded, because the air quality benefits of RFG with MTBE are significant. EPA has compiled data for the United States showing that Phase I RFG has surpassed the requirements of the Clean Air Act. An analysis of the Phase I RFG produced by refiners shows that the fuel reduces ozone-forming compounds, such as VOCs, by over 28 percent—that's 44 percent above the requirement of the law. Air toxics are reduced by approximately 30 percent—that's almost twice as much as required by law. Ambient air monitoring confirms that the RFG program is working. Testing shows that benzene levels have declined by 31 percent between 1994 and 1997.

So, how then to meet the Administrator's commitment of addressing water quality while not diminishing air quality? By supporting federal legislation to address the mechanism by which any component of gasoline reaches groundwater: underground storage. EPA's own Blue Ribbon Panel bluntly stated, "The major source of groundwater contamination appears to be releases from underground gasoline storage systems." Recently, OFA has had serious discussion with gasoline marketers and convenience-store owners on shared principles for achieving greater benefits from the UST program. We believe that a bipartisan, national consensus exists to regularize the allocation of resources from the underground storage fund and to target resources at the highest priority remediation needs. In this way, the broad energy supply and environmental benefits of the RFG program can be maintained in a cost-effective manner, while groundwater needs are simultaneously addressed. A variety of classical treatment processes and proven technologies are readily available. Furthermore, increasing evidence is being found and reported on the biological natural attenuation of MTBE in gasoline impacted water sources.

Further, we would hope that California will carefully re-examine its position regarding the status of MTBE, which represents about 11 percent of the volume of the state's gasoline. We would hope that new data on reduced levels of contamination coupled with even more targeted UST resources could give consumers in California and elsewhere clean air and clean water for the foreseeable future.

Thank you for this opportunity to testify. I look forward to working with the Committee on these difficult issues.

[Note: Additional material submitted with this statement has been retained in committee files.]

The CHAIRMAN. Thank you very much. Next is Mr. Robert Dinneen, who is the vice president of the Renewable Fuels Association. Go right ahead, please.

**STATEMENT OF ROBERT DINNEEN, VICE PRESIDENT,  
RENEWABLE FUELS ASSOCIATION**

Mr. DINNEEN. Thank you very much. Mr. Chairman and Senator Fitzgerald, I want to thank you very much for the opportunity to present testimony today at this hearing to discuss the gasoline price volatility situation in this country and EPA's recent decision denying California's request for waiver from the oxygen content requirement.

In the near term, we believe that ethanol supply is important as the Nation addresses gasoline price volatility by adding important supply to a tightly constrained market. In the long term, as the United States develops a more responsible and proactive energy policy, ethanol offers the promise of a stable, renewable energy supply.

First of all, I should note that the Renewable Fuels Association is the national trade association for the domestic ethanol industry. There are 56 ethanol production plants across the country, operating in 20 different States, including California and other places on the west coast. Last year, we produced about 1.6 billion gallons of ethanol. We have a capacity to produce over 2 billion gallons of ethanol today, and the industry continues to grow significantly, particularly among farmer-owned coops, as farmers attempt to receive the direct benefits of the value-added benefits of ethanol production.

I should also note that ethanol is sold in virtually every State in the country, and I wish Senator Kyl was here, because I would tell him that ethanol is not only used in Arizona, the State actually requires ethanol to be used in Arizona in terms of its government oxide program in the winter months.

Ethanol is also used extensively in Alaska. Several years ago, when Alaska had experienced some problems with MTBE, virtually all of the refiners in the State converted to ethanol. It has not been a challenge to get ethanol from the Midwest all the way down the Mississippi River and through the canal and passing California and waving as it goes by, and landing in Alaska. We can absolutely transport ethanol to any market in this country today.

With regard to the gasoline price volatility issue, which is a significant one, and the committee is very rightly looking at it, I would only add that we agree with the FTC's comments that the fundamental problem is a chronic lack of refining capacity in this country. Indeed, no refineries have been built in the last 25 years. Refiners have chosen to use capacity cushion to meet gasoline demand, operating at more than 95 percent of capacity. That creates significant problems whenever there are disruptions in production or supply.

There have been, however, 56 ethanol refineries built in the last 25 years. We have been adding supply to the U.S. motor fuel market, and we will continue to do so. We think we ought to be adding more, which is exactly why the Renewable Fuels Association is strongly supportive of legislation introduced a couple of weeks ago by Senators Hagel and Johnson, that will require increasing percentages of renewable fuels used in gasoline, 3 percent of the market by 2011, 5 percent of the market by 2016. That is an achievable

goal, and one that we think would be critical to having a more sustainable energy policy for our country.

We have heard a little bit about boutique fuels today. Indeed, I want to make a couple of comments. First of all, the Federal Government only requires two fuels, reformulated gasoline and conventional gasoline. The balkanization that has occurred in the U.S. fuel markets is a direct result of oil companies lobbying the States to have a clean fuel program that is not reformulated gasoline, because they have not wanted to use oxygenated fuels.

There is actually a memo that Senator Wyden referred to earlier today that specifically notes that eliminating the oxygen requirement would reduce gasoline supply. That has been the objective of the oil companies for quite sometime. It does not make any sense. The oxygen requirement was included for a number of different reasons, including security and fuel diversity, that continues to make sense today. Simply adding oxygen to gasoline does not make a boutique fuel. You have got conventional gasoline and you add oxygen to it, refiners are not doing anything different to that fuel blend.

Yesterday, Representative Blunt from Mississippi introduced legislation that would address the boutique fuel issue, because if you really want to address it, there is only one way, and that is to eliminate the States' authority to create these separate and distinct fuel programs.

I am not certain, quite frankly, that boutique fuels create gasoline price increases. They clearly exacerbate them when there are differences in supply and distribution, which has occurred at an ever-increasing rate lately, but to the extent that the Congress wants to look at boutique fuels, I think you need to look at the States' authority to create this balkanized system that is out there.

Now, I guess there are some questions about the California waiver, and I am glad that I am here to address it, because I think there has been a lot of information out there.

I would first of all like to commend the Environmental Protection Agency and the administration for deciding this issue on the basis of the law and the science. Everybody says this is a political decision that was made, as if all of a sudden the influence of the refiners on the Bush administration had just gone away. The fact of the matter is, the Bush administration had to make this decision based on what the Clean Air Act allowed them to do and the science that they had before them.

I would like to submit for the record, if you would, Mr. Chairman, the numerous studies that the Renewable Fuels Association and the Corn Growers and others have submitted to EPA supporting the scientific conclusion that the agency ultimately made.\* Ms. Fisher earlier today was absolutely right, the administration was prohibited from granting the waiver on the basis of water contamination or on the basis of supply. They could only grant the waiver upon a conclusion that there would be a negative impact on an air quality standard. That is not the conclusion that was supported by the facts.

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\*The studies have been retained in committee files.

Now, I would like to quote just for a moment from a grassroots environmental organization in California, who notes that the data clearly shows that the best way to protect California's air quality and the economy is to maintain the oxygen requirement. Another California environmental group, the Renewable Action Project, noted after the waiver was denied that this decision by the Bush administration will actually reduce more than 529,000 tons of carbon dioxide from the air, because ethanol use absolutely has a very positive impact on greenhouse gases.

Will there be enough supply? Mr. Chairman, Senator, yes, there will. The demand created by the California waiver is about 580, maybe 600 million gallons of ethanol. We produce 2 billion gallons of ethanol today, but there is 400 million of underutilized capacity. There are 34 expansions to existing facilities going on today, which will add another 235 million gallons. There are 11 plants under construction today that are going to add another 250 million gallons of production.

Mr. Chairman, I spoke at a conference yesterday where there were 700 people, and I asked them at one point if they would raise their hands if they knew of ethanol expansion plans that were going on. Mr. Chairman, every single hand in that audience went up.

Farmers are excited about the potential opportunities that will be created by the market. We are committed to satisfying the demand created in California and elsewhere, as other States look to reduce MTBE water contamination and try to address fuels issues.

The concerns about transportation and how we can get ethanol all the way from the Midwest, where all those ethanol plants are, to California, misses an important point. 90 percent of the MTBE used in California today is not produced in California. It is imported. It is imported from the gulf coast or, a lot of it, from Saudi Arabia.

Now, Mr. Chairman, I am sorry, but if it is easier to get MTBE from Saudi Arabia than it is to get ethanol from the Midwest, my geography is just awfully bad.

The CHAIRMAN. Let me just ask, MTBE can be transported by pipeline, ethanol cannot, is that right?

Mr. DINNEEN. Well, that is—ethanol is not. It can be. But the fact of the matter is, MTBE is not being shipped to California via pipeline today. There are not pipelines that go from the gulf coast to California that are in operation today. MTBE is being shipped to the State by vessel, because ethanol has twice the oxygen content of MTBE, we only need half as many vessels in order to supply the same amount of oxygen content.

But there is another advantage. MTBE is typically not shipped by rail car. Ethanol can be. We have got more avenues of transportation to get the product there. We do not have to go as far, and we do not have to use as much. There is absolutely no transportation problem associated with getting ethanol to the great State of California or any place else.

I have taken up a lot of time already, and maybe I will just close with something that Governor Jesse Ventura noted yesterday, who spoke just before me, and it is just such a good slogan, I have to

throw it out here just for you to ponder. Jesse Ventura, as only he can say, closed his comments with, ethanol kicks gas.

[The prepared statement of Mr. Dinneen follows:]

PREPARED STATEMENT OF ROBERT DINNEEN, VICE PRESIDENT,  
RENEWABLE FUELS ASSOCIATION

Mr. Chairman and Members of the Committee, I would like to thank you for the opportunity to provide comments on the rising cost of gasoline, and particularly the positive role that ethanol plays on stabilizing gasoline prices. The causes for the unacceptable volatility in gasoline markets are numerous, but the primary factors are crude oil prices and supply of finished gasoline. Ethanol as a gasoline-blending agent reduces the demand for crude oil and increases gasoline supply for a given refining capacity. In the near term, ethanol supply is important as the nation attempts to address these soaring gasoline prices. In long term, as the United States develops a more responsible and proactive energy policy, ethanol offers the promise of a stable, renewable energy supply.

The Renewable Fuels Association is the national trade association for the domestic ethanol industry, located in Washington, D.C. Our membership includes ethanol producers, gasoline marketers, farm organizations and state agencies dedicated to the continued expansion and promotion of fuel ethanol. Today's domestic ethanol industry consists of 56 production facilities located in 20 states with an annual production capacity of 2.1 billion gallons. In 2000, the U.S. ethanol industry produced a record 1.6 billion gallons of high quality, clean burning fuel ethanol. Production capacity continues to expand, particularly among farmer owned cooperatives, the fastest growing segment of our industry.

BACKGROUND

The United States has experienced severe price volatility in gasoline markets for more than a year. This price volatility has impacted both reformulated gasoline (RFG) markets and conventional gasoline, and has been the subject of numerous investigations. Because last year's price crisis occurred at a time of ample crude oil supplies, public officials questioned whether collusion or price gouging was the cause. A U.S. Federal Trade Commission report on the issue uncovered no such criminal activity, but did note "conscious, (but independent) choices by industry participants to engage in profit maximizing strategies." The FTC also pointed to the chronic lack of refining capacity in the U.S. as the principle reason for systemic price volatility in gasoline markets across the country.

When releasing the Commission's report on gasoline prices earlier this year, FTC Chairman Robert Pitofsky stated, "the underlying lack of U.S. refining capacity threatens similar price spikes in the future in the Midwest and elsewhere." Unfortunately, Mr. Pitofsky has proven to be prescient as gasoline prices spiked again this year.

Figure 1 (not shown) shows average crude oil, spot and U.S. retail gasoline prices<sup>1</sup> over the past four years. Generally, gasoline wholesale and retail prices track the price of crude oil. However, imposed on top of the general trend is an increased volatility in gasoline prices. During the spring of 2001, Gulf Coast spot wholesale (pretax) prices of gasoline were well over \$1.00 per gallon.<sup>2</sup> I would note that MTBE prices across the country have been near record levels for much of this year, topping \$1.60 per gallon.<sup>3</sup> Importantly, while gasoline prices have been rising, ethanol prices have remained fairly constant. Recent average net contract prices for ethanol have hovered between \$0.90 and \$1.00 per gallon. Indeed, ethanol is less expensive than gasoline in most markets across the country today and is helping to extend gasoline supplies and reduce consumer costs.

THE REASONS FOR HIGH FUEL PRICES

According to the recent FTC report of Midwest gasoline prices, there are several key reasons for the high gasoline prices. These may be divided into factors that directly impact the variable cost of production of gasoline and gasoline supply constraints.

<sup>1</sup> EIA

<sup>2</sup> [www.eia.doe.gov/emeu/international/gas2.html](http://www.eia.doe.gov/emeu/international/gas2.html)

<sup>3</sup> [www.eia.doe.gov/emeu/steo/pub/special/mtbecost.html](http://www.eia.doe.gov/emeu/steo/pub/special/mtbecost.html)

## VARIABLE COST

The price of gasoline is directly impacted by crude oil prices and taxes. In particular, every \$10 per barrel increase in the cost of crude raises the cost of production of gasoline by about 24 cents per gallon. State and federal gasoline taxes amount to about \$0.40. With crude costs averaging near \$25 per barrel, these two factors alone account for \$1.00 per gallon. Additional costs passed on to the consumer include refining, transportation, and marketing and, of course, an acceptable amount of profit.

## GASOLINE SUPPLY

The refining industry is also directly contributing to higher prices by how it is controlling the supply and distribution of gasoline. In terms of supply, refineries are operating at historically high rates of utilization, exceeding 95% on an annual basis. Refiners have limited investment in recent years, using much of their existing refining capacity cushion to meet increased gasoline demand. No new refineries have been built, many small refineries have been closed, and merger has lessened competition. Additionally, refiners are now practicing “just in time” distribution techniques to lower inventory costs. Furthermore, price volatility is exacerbated by low inventory because any upset in the system, such as protracted outages of refineries or pipelines.

## WHO ARE REFINERS BLAMING?

It is evident that the refining industry is currently enjoying record profits. The American Petroleum Institute<sup>4</sup> suggests that the reasons for higher prices are:

- High crude oil prices
- High refinery utilization
- Increasing demand for gasoline
- Boutique fuels

Refiners also argue that the oxygen requirement for reformulated fuels is an important factor and its elimination would lower the cost of production of gasoline.

It needs to be stressed that record profits are a result of record high sales margins, that is, the spread between price and cost. It is in the refiners interest to limit supply by discouraging the expansion of ethanol and other alternative fuels since less ethanol will mean a greater demand for both crude and refined products. This translates to higher prices for refined products, and greater income to the companies who produce and sell large quantities of crude oil.

Rather than blaming everything else for the high price of gasoline, refiners should reinvest some of their profits into expanding refining capacity and debottlenecking the distribution system.

## CONSUMER BENEFITS OF ETHANOL

Ethanol is blended directly into gasoline. Thus, using ethanol reduces gasoline prices two ways. First, to meet gasoline demand, less crude must be refined resulting in overall lower crude prices. Second, since ethanol is directly blended into gasoline, it increases the supply of finished gasoline for a given refining capacity. The quantity of ethanol produced today is equivalent to the gasoline production of a 180,000-barrel per day refinery.

But gasoline prices don't tell the whole story. Consumers also need to pay other costs resulting from the public health and environmental damage caused by the use of gasoline. Ethanol doesn't pollute the water like MTBE and BTX. Blending oxygenates reduces the need for aromatics to meet octane demand. EPA now lists not only benzene, but also other light aromatics including toluene, xylene and ethylbenzene as mobile source air toxics. Aromatics in gasoline are converted to benzene in the exhaust. Toluene, often cited by refiners as a preferred blending material for non-oxygenated RFG is more likely to produce benzene in the exhaust of motor vehicles than the mixed aromatics generally blended into gasoline. Additionally, a portion of the aromatics in gasoline exhaust and evaporative emissions is converted to cancer-forming diesel-like particulate. It is now recognized that aromatics are also converted to additional fine particulate in the air during the ozone forming process. Oxygenates reduce ozone, carbon monoxide and fine particulate pollution and can greatly reduce the cancer risk associated with motor vehicle emissions.

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<sup>4</sup> [www.api.org/consumer/61900gasolineoverview.htm](http://www.api.org/consumer/61900gasolineoverview.htm)

## ETHANOL SUPPLY

The nameplate capacity for ethanol production is currently 2.1 billion gallons per year. According to EIA, during the first 5 months of 2001, the ethanol industry production averaged 113,000 barrels per day or 1.732 billion gallons per year. Thus, the industry average stream factor is about 82.5%. The industry continues to add capacity. Thirty-four existing facilities are undergoing significant expansions today, adding an additional 235 million gallons of capacity, and another 11 plants, with a combined capacity of 250 million gallons, are currently under construction.

There is ample corn to greatly expand ethanol capacity. USDA has estimated that, in the shorter term, corn could be used to produce about 6 billion gallons per year of ethanol without shocking the system. DOE and USDA have projected that 10 billion or more gallons per year of ethanol could be produced from crop residues and dedicated biomass crops produced on idled land.

How much corn and biomass ethanol is actually produced is a function of market conditions and public policy. To greatly increase the supply of ethanol, there needs to be some market certainty. Recently, Senators Chuck Hagel (R-NE) and Tim Johnson (D-SD) introduced legislation, S. 1006, to expand domestic liquid fuel production by requiring that renewable fuels like ethanol and biodiesel supply an increasing percentage of the U.S. motor gasoline market. The bill requires that renewable fuels be used to meet 3% of the nation's fuel supply by 2011 and 5% of the transportation fuel supply by 2016. That's the equivalent of about 600,000 barrels per day of imported crude oil.

The Renewable Fuels Association is strongly supportive of S. 1006, and other similar renewable fuels requirements, and we commend the leadership of Senators Hagel and Johnson for advocating making such a dramatic step toward moving this country away from greater and greater imports of oil and toward a sustainable energy future for this country.

## BOUTIQUE FUELS

API collectively calls RFG with ethanol, RFG with MTBE, California oxygenated RFG, California non-oxygenated RFG, CO oxygenated gasoline, Minnesota oxygenated gasoline, Arizona and Nevada CBG, and various low RVP gasoline formulations all "Boutique Fuels". API leads one to believe that if all of these different fuels didn't exist, and the oxygen requirement was removed from RFG, the market would have more flexibility to maintain the supply of gasoline and gasoline prices would be lower. The truth is that the oxygen requirement and "boutique fuels" are not related.

In the U.S., very little oxygenated gasoline (Oxy) in non-RFG areas is produced with MTBE because ethanol is a much less expensive source of oxygen. Thus, essentially all CO gasoline and Minnesota gasoline contains ethanol. Generally, the ethanol must be refinery rack or terminal blended. To limit the number of blendstocks refiners must supply, the basic starting material for oxygenated gasoline is conventional gasoline. At the refinery rack, or the terminal, ethanol and other tempering blendstocks may be added to adjust the octane level and possibly the RVP as the gasoline is pumped to the retail delivery truck.

Thus, non-RFG oxygenated fuels really are not "Boutique fuels". The refiner does not need to make a different formulation for oxygenate. Instead oxyfuels are merely produced from non-oxygenated conventional gasoline by blending ethanol just prior to retail distribution.

The only true "boutique fuels" are the myriad of low-RVP gasoline programs that were advocated by the petroleum industry as alternatives to federal RFG. Simply removing the oxygen standard will not impact these programs at all. The Clean Air Act allows the states to create such programs, but EPA must approve the programs after considering the impacts of such non-air quality issues as price and supply. To date, EPA has not disapproved a single low-RVP state-imposed program on the basis of reduced gasoline fungibility.

It is important to note that "boutique fuels" are a profit center for refiners, allowing them to maximize production efficiencies in certain areas. But whenever there are disruptions in production or distribution, consumers pay the price because motor fuels are no longer fungible. Congress should look at this issue closely, and remove the state's authority to further balkanize gasoline markets. Yesterday, Representative Roy Blunt (R-MO) introduced bi-partisan legislation to reduce the number of boutique fuels while preserving air quality. The RFA supports this effort and encourage the Committee to look closely at this issue.



## THE CALIFORNIA OXYGEN CONTENT WAIVER

After more than two years of study, the U.S. Environmental Protection Agency denied a request by the State of California to be exempted from the requirement to use oxygenates in the reformulated gasoline program. The Administration is to be commended for deciding this issue on the basis of the law and science, and not bending to the political pressure of California and the petroleum industry that sought a waiver because of unsubstantiated fears related to supply and price. The fact is the Clean Air Act does not allow waivers to be granted on the basis of MTBE water contamination, or supply. The only basis upon which the Agency could have granted a waiver is upon a demonstration that the use of oxygenates will prevent or interfere with a National Ambient Air Quality Standard (NAAQS). That demonstration was simply not made.

As noted by Bluewater Network, a grass roots environmental group in California, "the data clearly shows that the best way to protect California's air quality—and the economy—is to maintain the oxygen requirement." Another California environmental coalition, the Renewable Action Project concluded using ethanol in place of MTBE in California as a result of the waiver denial will reduce statewide carbon emissions by over 529,000 tons.

As a consequence of the decision, approximately 600 million gallons of ethanol will be needed to meet the state's oxygen requirements beginning in 2003. This will provide an important value-added market for farmers. USDA estimates each 100 million bushels of corn increases the price of a bushel of corn 3-5 cents. Thus, this decision will increase the price of corn between 10-15 cents, adding more than \$1 billion to the depressed farm economy.

It is critically important to recognize that if the waiver had been granted, and ethanol not used in California, refiners would have to replace 11% of the state's gasoline supply with other petroleum products. MathPro<sup>5</sup> estimated the cost of production of California Phase 2 gasoline oxygenated with MTBE, and California Phase 3 gasoline with ethanol and no oxygenate. The analysis was set in a timeframe that allowed substantial capital investment to optimize the refineries for the type of gasoline being produced. MathPro concluded that the cost of gasoline produced with ethanol could be slightly more or slightly less than the cost of non-oxygenated gasoline. Gasoline cost will increase whether ethanol is used or not because the environmental specification for Phase 3 gasoline is more difficult to meet than the specification for Phase 2 gasoline. In fact, an important conclusion in the MathPro analysis is that without ethanol, refiners would have to import a substantial quantity of finished California RFG to satisfy demand. Such an outside reliance on a large quantity of gasoline supply would certainly put California gasoline prices in jeopardy.

Approximately 90% of the MTBE currently used in California is imported. The decision to deny the oxygen waiver request, and to create such a significant market for ethanol in the state will encourage significant oxygenate production in the state over time. The California Energy Commission estimates that as much as 400 million gallons of ethanol can be produced from agricultural waste products in the state, including rice straw. As noted by the Institute for Local Self-Reliance, "the President's decision may well spur California to develop a homegrown transportation fuel industry based on its well-known leadership in the biotechnology and bioengineering fields."

In sum, denying the California waiver request was the right decision for air quality, farm economies and California consumers. It will preserve the air quality benefits of oxygenates, extend California's fuel supply and reduce gasoline prices, and encourage the development of a California bio-based renewable ethanol industry.

## ETHANOL CAN MEET THE CALIFORNIA DEMAND

As noted above, the U.S. ethanol industry has a current production capacity of 2.1 billion gallons. But the industry is growing at a record pace. In anticipation of the California market, 34 existing ethanol plants are undergoing expansion and eleven new plants are under construction. As a result, the ethanol industry expects to have an additional 300 million gallons of production capacity on line by the end of this year. But there are numerous additional ethanol plants planned and awaiting financing. The denial of the California waiver will allow many of those plants to move forward.

The RFA is currently working with the California Energy Commission on a comprehensive survey of the ethanol industry to evaluate potential production capacity.

<sup>5</sup> MathPro, Inc. "Analysis of California Phase 3 Standards", California Energy Commission, December 7, 1999.

Finally, while the 90% of the MTBE used in California is now imported via vessel only, ethanol will be moved to California by both vessel and rail, providing a greater degree of flexibility to refiners. Moreover, because only half as much ethanol will be needed to meet the oxygen content requirement, only half as many vessels would be needed for ethanol. Refiners plan to utilize the existing MTBE transportation and storage infrastructure and to upgrade their rail unloading capabilities. There will be ample ethanol available at an acceptable price in California.

#### CONCLUSION

The problems causing chronic price volatility in the nation's gasoline market are systemic, and will not be resolved quickly or easily. In many cases, refiners must be convinced to put aside "profit maximizing strategies" and act in the consumers' interest. First, refinery production capacity must be increased significantly. Second, inventories of refined products must be increased to accommodate unanticipated disruptions in production or distribution, averting short-term supply shortages. Third, the ability of the states to create unique regional fuel specifications must be limited. Federal RFG should become the only clean fuel program allowed, eliminating the so-called boutique fuels and promoting increased fungibility. Finally, Congress should adopt the Hagel/Johnson renewable fuels standard in an aggressive national energy policy that promotes the increased production and use of ethanol and biodiesel to extend gasoline supplies and reduce consumer gasoline costs.

Thank you.

The CHAIRMAN. I can see that is a new opportunity for the bumper sticker industry.

[Laughter.]

The CHAIRMAN. Mr. Keese, William J. Keese, who is the chairman of the California Energy Commission, we very much appreciate you coming and testifying at the hearing as well. Why don't you go right ahead.

#### **STATEMENT OF WILLIAM J. KEESE, CHAIRMAN, CALIFORNIA ENERGY COMMISSION**

Mr. KEESE. Thank you, Mr. Chairman, Senator Fitzgerald. California faces the most intractable air pollution problem in the Nation, and as you are aware, significant energy challenges, too. Over 90 percent of all Californians live in areas that do not meet State or Federal air quality standards established to protect public health. In addition, California faces a very delicate balance between existing refining capacity and growing consumption of petroleum products. As you have heard, we have our own RFG. It is the single most effective tool to combat summertime smog in California. It provides 50 percent greater NO<sub>x</sub> reductions than Federal standards, so it is with extreme disappointment that we learned that the US EPA decided to deny California's request for a waiver from the Federal oxygen requirement.

The information provided by the California Air Resources Board provides ample evidence that granting a waiver will reduce both oxidates of nitrogen and toxic emissions, and that the impact of increases in carbon monoxide on ozone will be more than compensated for by reductions in volatile organic compounds. I believe that is what we have heard from EPA today.

Granting the waiver will clearly assist California in reducing ozone levels and attaining the Federal ambient air quality standard. Furthermore, CARB's analysis shows that a waiver would result in lower emissions of toxic air pollutants, and a decrease in fine particulate pollution. Unless we reverse EPA's denial of California's request, it will result in higher levels of ozone and particulate pollution and greater exposure to toxic air pollutants.

Now I would like to discuss briefly some of our economic consequences that have been hit on by other speakers. California consumers will pay at least an additional \$450 million per year for gasoline, in addition to the air and water quality penalties we take because of the denial of the waiver. Increased probability of supply disruptions and resulting price spikes will equate to even greater cost impacts for California consumers, due to the loss of flexibility associated with the denial of a waiver.

According to the analysis by my staff, a temporary of shortage of ethanol during the year 2003 could result in price spikes of up to 50 cents per gallon for periods like to exist for 3 to 4 weeks. The cost to California from such a spike would be another \$660 million.

If California refiners are unable to obtain adequate supplies of ethanol, or experience problems with specialized refinery equipment that is needed to create the different type of gasoline to blend with ethanol, refiners will be unable to switch to another oxygenate, and not be allowed to produce nonoxygenated gasoline.

We have had a bad experience, I should say I guess we are having a bad experience with a shortage of an energy commodity in California today. With EPA's inaction on our waiver, we are headed towards dependence on another singular energy commodity.

Finally, the real challenge in avoiding supply disruptions and price spikes will be a reliable delivery infrastructure for ethanol to ensure adequate deliveries, both where it is needed and when it is needed. It is clear that the vast majority of the ethanol will come from the Midwest, where the distribution to either coast will be, at best, complex and difficult.

Locally, no analysis has shown that California can be self-sufficient in ethanol production at a reasonable cost. Regionally, there are many questions about the availability of tank cars and the marine vessels needed to transport the volumes needed for California.

I would like to give a brief discussion here on the proliferation of fuel specifications, or boutique fuels. A national fuel standard would create a gasoline that could be sold in any market in the country. Various regions in the United States have experience dramatic price spikes for a period of time when supplies of fuel were temporarily constrained.

One of the reasons that prices increase so quickly is because fuel suppliers from adjacent markets could not be used to cover the shortfall. Instead, adequate supplies had to be obtained from more distant locations. A national fuel standard would ensure that this situation was not repeated. If California reformulated gas specifications were adopted throughout the Nation, air quality benefits would be maintained and actually increased.

We know that this approach would come at a cost to refiners and consumers. It is also likely that refinery capacity would decline because some refiners will be unwilling to make the necessary investments, or be unable to obtain the financing to modify their facilities. Decreased refinery capacity, coupled with increasing fuel demand, would require additional imports of finished gasoline and blending components. Foreign sources of these types of refined products are currently not readily available, and can be expensive.

Finally, if other regions of the country eliminate the use of MTBE, or an ethanol mandate is legislated for all gasoline in the

Nation, supplies of ethanol could be inadequate. California alone will require up to 50 percent of current U.S. ethanol capacity. These additional demands for other uses will cause ethanol prices to be even higher, increase the probability that supplies of ethanol will be inadequate, and cause fuel prices to rise.

In conclusion, now is the time to establish a transportation fuel policy that will preserve and enhance the environmental and public health advancements we have made, while protecting consumers from unreasonable price volatility and fuel shortages. Providing California a waiver from the Federal oxygenate requirement would provide the flexibility to meet our mutual environmental and public health mandates without sacrificing consumers to shortages of supply and outrageous costs. Establishing a national fuel specification could expand these benefits to all consumers, regardless of where they live.

I appreciate this opportunity, and I have submitted my formal comments for the record. Thank you.

[The prepared statement of Mr. Keese follows:]

PREPARED STATEMENT OF WILLIAM J. KEESE, CHAIRMAN,  
CALIFORNIA ENERGY COMMISSION

INTRODUCTION

Mr. Chairman and members of the Committee, thank you for the opportunity to testify today before the United State's Senate Committee on Energy and Natural Resources regarding these important issues.

During my presentation, I ask that the Committee keep in mind that California faces the most intractable air pollution problems in the nation and energy challenges. Over 90 percent of all Californians live in areas that do not meet state or federal air quality standards established to protect public health. In addition, California faces a very delicate balance between existing refining capacity and growing consumption of petroleum products. This Congress is in a unique position to establish policy relating to motor vehicle fuels that would help to ensure that California, and other areas in the nation not meeting air quality standards, can achieve clean air.

Today, I will focus largely on the recent denial by the U.S. EPA of California's request for a waiver from the federal oxygenate mandate and the significant negative consequences this action will have on California's gasoline refining and marketing industries and air quality.

BACKGROUND

Before I start, I want to provide some background.

- California consumes about 15 billion gallons of gasoline per year or about a truck and trailer load every 20 seconds. This is about 11 percent of the total amount of gasoline consumed in the United States. By 2003, demand is expected to increase to 15.8 billion gallons.
- California has its own reformulated gasoline (RFG) program. This program provides about 50 percent more reduction in vehicle emissions of oxides of nitrogen, about 10 percent more reduction in toxics emission and about the same VOC emission reduction as the federal RFG program.
- To obtain these benefits, Californians pay, on average, a little more than 5 cents per gallon for their gasoline compared to federal reformulated gasoline. For this price, ozone-forming emissions from motor vehicles are reduced by about 15 percent and risks from toxics emitted by vehicles are reduced by 40 percent. No other program can provide these types of emission reductions in the near term.
- Since the implementation of the California reformulated gasoline program in 1996, the population in the South Coast has increased by over 10 percent while the number of days exceeding the federal air quality standard for ozone has been reduce by nearly 50 percent. While there have been other emission reduction programs during this time, the California reformulated gasoline program was one of the most significant.

- Refiners have been able to supply California Reformulated Gasoline (CaRFG) at the volumes needed and at an acceptable cost because of the flexibility built into the California program.
- Just as important, California's fuel program has allowed vehicle manufacturers to design pollution control technologies that meet California's aggressive vehicle emission requirements. This would not be possible without the quality of gasoline supplied in California. Vehicle manufacturers have repeatedly testified to this at numerous meetings in California.

#### OXYGEN REQUIREMENTS IN GASOLINE

Because of federal law, about 70 percent of the gasoline sold in California is required to contain an oxygenate. By 2003, this requirement will expand to 80 percent of the State's gasoline. As is the case for most federal RFG, most California RFG produced for use in areas subject to the federal oxygenate requirements use methyl tertiary-butyl ether (MTBE) as the oxygenate. In areas of California where gasoline is only subject to California RFG requirements, refiners are free to market gasoline without MTBE with no loss in air quality benefits. In the San Francisco Bay Area, a non-federal RFG area, more than 50 percent of the gasoline marketed is oxygenate free.

As is the case for most federal RFG, California RFG is produced today using MTBE to supply the oxygen required by the federal oxygen mandate for RFG. However, MTBE use has resulted in ground water contamination. MTBE, with its unpleasant taste and odor characteristics, can render ground water unsuitable for drinking. In California, a number of drinking water wells, most notably in the Lake Tahoe and Santa Monica areas, have been closed because of MTBE contamination; similar conditions exist in the Northeast.

In response to these concerns, Governor Davis took action to eliminate the use of MTBE in California gasoline. Governor Davis also requested a waiver from the federal oxygen requirement to facilitate this phase-out and to gain additional air quality benefits from our California RFG program. Without a waiver, MTBE cannot be phased out until the necessary refinery modifications; blending infrastructure and supplies of ethanol are in place.

#### ENVIRONMENTAL CONSEQUENCES OF DENYING THE WAIVER

It is with extreme disappointment that we learned that the U.S. EPA decided to deny California's request for a waiver from the federal oxygen requirement. The emissions benefits of a waiver have been fully demonstrated in materials submitted to the U.S. EPA. Furthermore, additional supporting materials were provided in numerous meetings and phone conferences over the more than two years that U. S. EPA has considered California's waiver request.

The information provided by the California Air Resources Board (CARB) provides ample evidence that granting a waiver will reduce both oxides of nitrogen and toxics emissions, and that the impact of increases in carbon monoxide (CO) on ozone will be more than compensated for by reductions in volatile organic compounds (VOC). Granting the waiver will clearly assist California in reducing ozone levels and attaining the federal ambient air quality standard. Furthermore, CARB's analysis shows that a waiver would result in lower emissions of toxic air pollutants from gasoline combustion and evaporation and a decrease in the nitrate portion of fine particulate pollution (PM10). Finally, CARB's analysis shows that even with a waiver, the wintertime oxygen requirement in the Los Angeles area would be maintained, thereby preventing CO increases and ensuring reductions needed to attain and maintain that standard.

Numerous independent investigators have undertaken studies to assess the need for oxygenates in gasoline. These investigations include a University of California study; the U.S. EPA Blue Ribbon Panel on the use of oxygenates in gasoline, and a National Academy of Science study. Overall, these groups found that the use of oxygenates bears little benefit in improving ozone levels. They also found that the use of oxygenates is not needed to preserve the benefits of California's RFG Program. A NESCAUM study concluded the same for the northeastern states. Thomas Skinner, Director of the Illinois Environmental Protection Agency, was quoted in the Chicago Tribune as saying, "From a strictly environmental standpoint, ethanol is a wash." In CARB's submittals to U.S. EPA on this topic, the agency made a very strong technical case for California RFG without the oxygenate requirement.

In summary, CARB disagrees with U.S. EPA's conclusion that the effect of a waiver on VOC emissions is uncertain, and that California has not made a satisfactory demonstration that the waiver would result in an overall reduction in the emissions of ozone forming pollutants from the California vehicle fleet. California state law re-

quires that the adoption of the California Phase 3 reformulated gasoline regulations not result in an increase in emissions. The only uncertainty is how large the benefit for California will be; not whether there will be a benefit. Unless reversed, U.S. EPA's denial of California's request will result in higher levels of ozone and PM10 and greater exposure to toxic air pollutants. And, unfortunately, it will deny refiners the opportunity to immediately replace MTBE with an oxygen-free gasoline, creating even a greater risk for California's water supply to be contaminated with MTBE.

#### ECONOMIC CONSEQUENCES OF DENYING THE WAIVER

Now I will discuss some of the economic consequences of denying California an oxygenate waiver.

California consumers will pay at least an additional \$450 million per year for gasoline, in addition to the air and water quality improvement opportunities lost because of the denial of the waiver. These opportunities will be lost because refiners lose flexibility in their production of RFG and must use ethanol in every gallon of gasoline sold throughout most areas of California.

Increased probability of supply disruptions and resulting price spikes will equate to even greater cost impacts for California consumers due to the loss of flexibility to refiners associated with the denial of the waiver. Our distribution system will require refiners to use ethanol in virtually every gallon of gasoline sold throughout the State. If California refiners are unable to obtain adequate supplies of ethanol or experience problems with specialized refinery equipment that is needed to create the different type of gasoline that is blended with ethanol, then refiners will be unable to switch to another oxygenate and not be allowed to produce non-oxygenated gasoline. Also, the need to use ethanol limits the blendstocks that can be used to produce complying gasoline. Today, with non-oxygenated RFG, the main criteria for acceptable blendstocks are low sulfur content. With the mandated use of ethanol, acceptable blendstocks will have to have both low volatility and low sulfur content. This further reduces refiners' flexibility and increases the likelihood for shortages of oxygenated gasoline, thereby increasing cost to the consumer.

According to analyses by my staff at the California Energy Commission, a temporary shortage of ethanol could result in price spikes of up to 50 cents per gallon for periods of 3 to 4 weeks. By 2003, a 50 cent price spike lasting four weeks will cost California consumers an additional \$660 million. California has experienced a number of price spikes over the last several years ranging from 10 to 50 cents per gallon. These price spikes were attributed to a tightening of gasoline supplies due to major unplanned refinery outages.

Even these impacts are probably underestimated because they don't consider what will happen if both California and the northeastern states need ethanol. The increased demand on the ethanol supply would nearly double from a minimum of 715 million gallons per year for the California market to over 1.3 billion gallons of ethanol per year for the national market.

Finally, the real challenge in avoiding supply disruptions and price spikes will be a reliable delivery infrastructure for ethanol, to ensure adequate deliveries, both where it is needed and when it is needed. It is clear that the vast majority of this ethanol will have to come from the Midwest where the distribution to either coast will be, at best, complex and difficult. Locally, no analysis has shown that California can be self-sufficient in ethanol production at a reasonable cost. Regionally, there are many questions about the availability of railroad tank cars and the marine vessels needed to transport the volumes needed for California and the Northeast.

We are hopeful that U.S. EPA will reconsider its denial of the California waiver and we are committed to continue working with the U.S. EPA to address any technical concerns it may have.

#### PROLIFERATION OF FUEL FORMULATIONS

I will now briefly comment on the national situation, where the number of gasoline formulations is contributing to supply distribution problems and price volatility. I believe it is in the nation's interest to minimize the number of fuel formulations. This facilitates the distribution of gasoline and makes production more efficient as long as it is done in a manner that preserves the emission benefits of the specialized blends.

Examination of the gasoline formulations currently being marketed indicates that the dominant formulations are federal RFG, California RFG, and a mixture of others. Outside of the federal and California RFG areas, in addition to the national sulfur standard of 30 parts per million, appropriate uniform standards could be established for volatility, benzene content, and a drivability index (a function of the temperatures at which certain fractions of the gasoline evaporates). A correctly estab-

lished drivability index would result in vehicle performance improving and emissions being reduced.

These four specifications together could provide a gasoline that would preserve the environmental benefits that various states have established outside of the RFG areas and provide gasoline that would meet the minimum needs of the automotive industry for the foreseeable future. Although this approach would decrease some of the distribution issues that arise, the three different types of gasoline in use under this scenario would still not be completely interchangeable across all the markets.

A national fuel standard would create a gasoline that could be sold in any market of the country. Various regions of the United States have experienced dramatic price spikes during periods of time when supplies of fuel were temporarily constrained. One of the reasons that prices increased so quickly is because fuel supplies from adjacent markets could not be used to cover the shortfall. Instead, adequate supplies had to be obtained from more distant locations. A national fuel standard would ensure that this situation was not repeated. If California RFG specifications were adopted throughout the nation, air quality benefits would be maintained and actually increased.

Both approaches would come at a cost to refiners and consumers. It is also likely that refinery capacity would decline because some refiners will be unwilling to make the necessary investments or unable to obtain the financing to modify their facilities. Decreased refinery capacity, coupled with increasing fuel demand would require additional imports of finished gasoline and blending components. Foreign sources of these types of refined products are currently not readily available and can be expensive.

Finally, if other regions of the country eliminate the use of MTBE or an ethanol mandate is legislated for all gasoline in the nation, supplies of ethanol could be inadequate. California alone will require up to 50 percent of current U.S. ethanol capacity. These additional demands for other uses will cause ethanol prices to be even higher, increase the probability that supplies of ethanol will be inadequate and cause fuel prices to rise.

#### CONCLUSION

In conclusion, now is the time to establish a transportation fuel policy that will preserve and enhance the environmental and public health advancements we have made while protecting consumers from unreasonable price volatility and fuel shortages. Providing California a waiver from the Federal oxygenate requirement would provide the flexibility to meet our mutual environmental and public health mandates without sacrificing consumers to shortages in supply and outrageous costs. Establishing a national fuel specification could expand these benefits to all consumers regardless of where they live. I appreciate the opportunity to appear before you today.

The CHAIRMAN. Thank you very much. Let me thank all of you on this panel. Let me ask just a very few questions, and then ask if Senator Fitzgerald has some questions. Mr. Segal, as I understand your testimony, it is in disagreement with Mr. Keese on some of the issues, particularly on supply and difficulties in doing the necessary transportation.

Mr. SEGAL. I am shocked.

The CHAIRMAN. Could you just give us your view? We seem to have a real difference of opinion here as to whether or not we are going to see supply problems and price increases as a result of the decisions to eliminate MTBE and deny the waiver on the oxygenate requirement.

Mr. SEGAL. Yes, sir. I am in the uncomfortable position of having to disagree with the Renewable Fuels Association, but I will try and do my best. Essentially, there are 300,000 barrels a day of MTBE consumed, but because MTBE is clean octane, it allows another 100,000—its footprint in the fuel pool is actually about 400,000 a day.

Now, of that amount, we supply all of California, we supply all of the Northeast, we supply all of the Midwest south of St. Louis. They have the upper Midwest. So you have to believe, and Senator

Fitzgerald, you have to believe that capacity that is barely adequate to satisfy the Upper Midwest is suddenly going to magically appear in all corners of the Nation in adequate amounts to supply the market. Let me tell you why that is not going to happen.

Your question, Mr. Chairman, was exactly right regarding transportation by pipeline. What happens is, if you blend ethanol into gasoline and then place that resulting mix, which is what we are talking about here, into a gasoline pipeline, it dewateres and evaporates. It cannot be used, pipeline transportation cannot be effectively used.

One of the most efficient ways of transporting ethanol, that was described by Mr. Dinneen, is actually barge traffic, which does, indeed, flow through the Midwest. Somewhat problematic, however, is the fact that the Upper Mississippi is frozen for 4 months of the year. It is not an adequate approach to try and get this ethanol fuel supply to market.

Further, Mr. Dinneen's own statement shows you just how difficult it would be to conform the market. He is exactly right, there is some MTBE that comes in from Saudi Arabia, and despite the fact that section 211 of the Clean Air Act allows open competition between MTBE and ethanol, ethanol from the relatively close Midwest cannot compete even with MTBE from around the world.

Now, this is not because of some kind of cabal, or allergic reaction to ethanol. It is because it cannot compete on a cost-effective and availability basis, and most MTBE, Mr. Chairman, is, of course, a domestic resource. In fact, the State of New Mexico, as you probably know, is the number 3 source in the United States of natural gas liquids, which is the primary feedstock for the production of MTBE.

So we would definitely call MTBE an important domestic resource of the United States that is easy to transport, cost-effective, and is the cleanest part of RFG. Any alternative formulation of RFG is made cleaner by the addition of MTBE, and on the transportation side, there is no way that you could possibly believe that there would be sufficient capacity expansion for ethanol, nor could you overcome the transportation or logistical needs to get it to the markets in the four corners of the United States.

The CHAIRMAN. Let me ask if Mr. Keese has any comment, and then I will give Mr. Dinneen an opportunity to respond to the salacious—

[Laughter.]

Mr. KEESE. Senator Bingaman, I would like to mention that I served on Governor Davis' MTBE task force. We made the difficult decision that we had to ban it. We set a time line of the end of 2002, January 2003, and we set that time line as an aggressive timetable when we could possibly do it. We immediately applied to EPA for a waiver, as you have heard, 2 years ago, because we needed an immediate decision if we were going to make our aggressive timetable of the end of 2002.

We cannot afford to develop a parallel delivery system for product in California. We are going to have one delivery system, and what we see here is that we are being totally tied into one fuel method. We like ethanol. We believe ethanol use in California is the only way we will meet our octane requirements over the next



few years, but if we are tied to just that one fuel, and converting our whole system over to that one fuel, we do not know how in the world we can make it by the end of 2002.

The CHAIRMAN. In light of the decision by EPA to deny your waiver, are you going to revisit the date on which California will ban MTBE? It would seem to make a lot of sense, based on what you just said.

Mr. SEGAL. We are researching all alternatives at this time.

The CHAIRMAN. Mr. Dinneen, did you have any comment?

Mr. DINNEEN. Oh, one or two, Mr. Chairman. Mr. Segal is a friend, and a worthy advocate for MTBE, and a worthy adversary for us. He is not, however, an expert on ethanol supply and logistics.

The fact of the matter is, ethanol has no problem getting product out of the Midwest 12 months of the year. The time when ethanol demand is greatest is in the winter months, when we have got to supply places like Anchorage, Alaska, Denver, Colorado, and Missoula, Montana, that require ethanol for carbon monoxide programs. We have never, ever missed a shipment or created any kind of a supply disruption.

His comments about the price-competitiveness of MTBE versus ethanol are interesting, but maybe a little bit misleading. The fact of the matter is, petroleum companies produce MTBE, the petroleum feedstocks, but when looked at from a gallon basis, the cost of MTBE today is about \$1.65 per gallon. The cost of ethanol on that basis is between 90 and \$1, and you only need half as much of it, again, in order to meet the oxygen requirements.

You can take a look at prices today in certain markets and make some comparisons for yourself. In Los Angeles, which is an MTBE reformulated gasoline market, the price of reformulated gasoline is \$1.97. In Chicago today, an ethanol RFG, it is \$1.76. Interestingly, and I hope the State of California is keeping track of this, the highest priced gasoline in the country today is in San Francisco, which has no oxygen. Their price today is about \$2.13.

Now, there are a lot of factors that go into gasoline pricing, there is no question about that, but when looked at in terms of relative oxygenate economics, I think they do tell an interesting tale.

The CHAIRMAN. I believe Mr. Segal was anxious to make a comment, if you wanted to make a comment, then Senator Fitzgerald has a question.

Mr. SEGAL. Just one brief point. I wanted to agree with something Bob just said, which is that it does take half the volume of ethanol to achieve the same amount of oxygen that you would have in MTBE. Sir, that is a vice, not a virtue. Let me explain why.

Ethanol has 40 percent—because it has more oxygen in it—yes, it has more oxygen in ethanol, which is also why ethanol has 40 percent of the Btu content of MTBE, so even if you could supply an equivalent amount of ethanol, or enough ethanol to satisfy the California oxygen requirement, you still lost volume, significant amounts of volume of gasoline.

And remember, as Ms. Fisher said, there are several reasons why there is an oxygenate standard. Part of it is to make sure there is oxygen in the fuel for combustion purposes, control of VOC's, but part of it is to make sure there is adequate energy sup-

ply, so even if Bob is correct, it only takes, quote, half as much, you had better come up with the additional percentage volume that is lost.

The CHAIRMAN. Let me let Senator Fitzgerald ask his question.

Senator FITZGERALD. Well, I would like to ask Mr. Keese, following up along the line that Mr. Segal was talking about, if you are not using ethanol and you ban MTBE, you are going to have to make up that volume, and I think even the California Energy Commission, their own report concluded that a complete ban on all oxygenates would result in the greatest average cost increase of gasoline.

So I mean, does California not recognize that it would be a problem if you were to lose the 11 percent of your volume that you are now getting from MTBE and even, say, 5 percent additional volume that you are getting from ethanol? That would drive up your cost, would it not?

Mr. KEESE. Clearly, we recognize that that is a problem. As we heard earlier, we have 13 refineries in California. Most of them are landlocked. There is an inability to expand them for that reason and for air reasons. There just has not been much talk about expansion.

We will lose the 11 percent if we get ethanol as the sole substitute. We are probably down 5 or 6 percent in supply already, and that will have to be imported from somewhere to pick up the slack, so yes, that is one of the reasons that we had hoped that we had 4 years to go and settle this issue.

We wanted to know which path, so we could guide our oil refineries in how to get to the deadline. We have now unfortunately—we were highly optimistic that we were going to be granted this waiver. As you have heard, the draft suggested we would get this waiver. As you have heard, at the last minute there was some question about whether commingling this product might cause a problem somewhere.

That was an issue that during our discussions, I believe, was considered virtually irrelevant to the discussion. We were talking about more serious things when EPA's staff visited Sacramento, when California's staff visited EPA. That was not a major issue.

Senator FITZGERALD. If you had been granted that waiver, it would have driven your gasoline prices even higher, because you would have had to make up for the lost volume by virtue of the loss of oxygenate.

Mr. KEESE. Senator, I believe you have indicated familiarity with our study. Our study indicated that we would use a huge amount of ethanol in California in the short-term and the next 10 years to meet the octane demands of the California market, but we would have had flexibility.

Now, our hands are going to be tied if we choose to go this route and can only sell gasoline that has ethanol in it, with no option whatsoever, under any circumstances.

Senator FITZGERALD. Well, eventually, where would you have gotten your octane when you—say, 10 years from now?

Mr. KEESE. Alcolytes and oxygen—I am sorry, we would not need oxygen. We would have gotten our octane through alcolytes.

Senator FITZGERALD. And what can you tell me about that substance? Do we know anything about it?

Mr. KEESE. It is a petroleum product. It requires more refining. It would have had to be imported in the short term.

Senator FITZGERALD. Mr. Dinneen, would you want to comment on those alcolytes?

Mr. DINNEEN. Absolutely, Senator. I was going to get to that very point, because I think it gets back to the comment that Mr. Segal was making about volume a moment ago.

First of all, I want to just stress the fact that the worst volume situation is nonoxygenated gasoline. You use 11 percent volume. That would have the worst impact on volume and price to consumers.

Now, Mr. Segal is right, if you have ethanol, you have still got a volume gap that you have to make up, and we believe the way the refiners are contemplating making the adjustment, making the fuels meet the standards, is by using alcolyte, which is a product that Mr. Segal's companies are likely going to begin to make, because units that are currently producing MTBE, MTBE is produced by reacting ethanol with isobutylene. It can begin producing alcolyte.

The State of California—the California Energy Commission was one of the leaders in pulling this together several months ago—had an ethanol and alcolyte conference, and indeed, the discussion was that ethanol and alcolyte would make up the volume, and that there were synergies between the two products in terms of the distillation properties and their octane benefits that made it a great fit for California.

I mean, I appreciate the fact that the CEC is now thinking that there is all this uncertainty, but I would suggest that the uncertainty was created by the waiver request that they filed. The ethanol industry was equally confident that the waiver would be denied, and while it was difficult, we have gone on to make sure that we built the capacity to meet the demand that is going to be created in California, and I am proud of my companies for having done that, because I am absolutely confident that we will do so.

Senator FITZGERALD. Mr. Keese, do you care to comment whether California, now that the waiver has been denied, will they continue the timeline on their ban on MTBE?

Mr. KEESE. We have an active study to reconsider all our options.

Senator FITZGERALD. Why would you reconsider that time line now? I mean, nothing has changed, no new information has come out to suggest that MTBE all of a sudden is not a problem for our drinking water. It clearly is, is it not?

Mr. KEESE. Clearly, we are now being forced into a position—we had felt that we can deliver a product that meets California, that meets all Federal standards, and solves both our water and our air problem. Now we are being forced to juxtapose one against the other. It is a very unfortunate choice that we have, but we will have to look at that choice.

Senator FITZGERALD. All right. I appreciate all of you having the opportunity to testify, and thank you very much. I have no further questions, Mr. Chairman.

The CHAIRMAN. I think the testimony has been very useful. Thank you all again for being here. That is the end of the hearing. [Whereupon, at 12:30 p.m., the hearing was adjourned.]

[Subsequent to the hearing, the following letter was received for the record:]

EXXONMOBIL REFINING & SUPPLY COMPANY,  
Fairfax, VA, June 29, 2001.

Hon. Jeff Bingaman,  
Chairman, Energy and Natural Resources Committee, Hart Senate Office Building,  
Washington, DC.

DEAR CHAIRMAN BINGAMAN: We respectfully disagree with the conclusions in Senator Wyden's recent report and comments regarding the oil industry. In a significant decision, the California Supreme Court on June 14 ruled 7-0 to dismiss antitrust allegations against major petroleum refiners operating on the West Coast. The judgment states that there is no evidence of anti-competitive or improper behavior and cleared the industry of any wrongdoing. The court refuted charges that major oil companies attempted to drive smaller refiners out of business or that they manipulated supplies of CARB gasoline.

This judgment was based on extensive discovery, including a review of over 500,000 documents. The allegations repeated in the Senator's report were considered and rejected by the court. We consider this ruling to be comprehensive and definitive.

In addition, earlier this year the FTC voted 4-0 to close a three-year investigation of West Coast gasoline marketing practices after finding that oil companies did in fact follow all antitrust laws in marketing gasoline. These most recent findings join a lengthy list of past government investigations—at least one every two years since 1973—that have ultimately exonerated major gasoline suppliers.

Allegations that Mobil attempted to illegally influence the CARB market were also thoroughly considered by the California Supreme Court and rejected. Comments in the Mobil memo refer to the company's objection to one refiner's request for an exemption from an environmental requirement to produce cleaner-burning fuel. This exemption would have created an unfair playing field, allowing refiners who had not made the investments necessary to produce cleaner-burning fuels to sell environmentally unfriendly gasoline in the Los Angeles market, which required lower-emissions fuels.

ExxonMobil stands by our ethical business practices, and we take strong exception to Senator Wyden's allegations of impropriety.

Sincerely,

D.H. DAIGLE,  
Director, Americas Region.