UNITED STATES OF AMERICA

ENVIRONMENTAL PROTECTION AGENCY

CONTROL OF AIR POLLUTION FROM NEW MOTOR VEHICLES
PROPOSED HEAVY DUTY ENGINE AND VEHICLE STANDARDS
AND HIGHWAY DIESEL FUEL SULFUR CONTROL REQUIREMENTS
EPA PUBLIC DOCKET NO. A-99-06

PUBLIC HEARING

DENVER, COLORADO

June 29, 2000

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P R O C E E D I N G S

(10:00 a.m.)

MR. LONG: Good morning everyone. I'm Richard Long. I'm the Director of the Air and Radiation Program for the Regional Office here in Denver. It's my pleasure to welcome all of you to Denver today. For those of you who are coming from out of town, it's a pleasure that you were able to come in and participate in this process. We welcome your comments. It's important to the agency to get the breadth of comments that are represented by the different points of view from all of you. It is a very important serious process that we are engaged in, and we look forward to all of the various points of view and the constructive suggestions we're sure that we're going to hear today.

At this point, I will turn it over to Chris Grundler.

MR. GRUNDLER: Good morning on behalf of the Environmental Protection Agency. I want to also add my welcome to all of you for coming out to testify and provide us with comments on this critical proposal for improving our nation's air quality.

I'm the Deputy Director of the Office of Transportation and Air Quality, which has been working in this area, has developed this rule. I'm joined up here by my colleagues, in addition to Dick Long from our Denver office,

to my right is Chet France, who is the Director of our Assessment and Standards Division. To my left is Sam Napolitano from our Senior Science Advisor out of Washington, D.C., and Paul Machiele, who has been helping to lead this effort.

The proposal we are considering today was announced by Carol Browner, our Administrator, on May 17th, and published in the Federal Register on June the 2nd. We think this is a bold and historic proposal. Our goal is nothing short of making heavy duty trucks, on the road trucks, as clean as, or cleaner, as some cars are today. This is a challenging proposal and one that we think will improve our air quality dramatically.

This follows on the heel of our new program that we announced I think last December. The President announced it. It's known as the Tier 2 Proposal. This program dramatically increased the effectiveness of passenger vehicles and light duty trucks and SUVs, making them and the fuel they use, the gasoline they use, dramatically cleaner. We think this is the next step in our quest to make our air quality as clean as possible by dealing with diesel engines and diesel fuel.

This means that for the first time ever, heavy duty trucks and buses would be able to use the same kinds of pollution control devices that are used on today's cars after treatment devices, things like catalytic converters. Cars

have had these devices for the last 25 years. However, to make them work effectively, just like in cars, lead had to be removed from gasoline to allow those devices to work. For diesel engines, sulfur also has a similar sort of effect as lead did. It contaminates these after treatment devices and, thus, to get these diesel engines as clean as possible, we have to look at these systems just as we did the Tier 2 program as a system. And so we need to look at the sulfur effects on these after treatment devices and remove the sulfur.

This action will provide greatly improved air quality for all Americans. It will reduce smog causing nitrogen oxides from these vehicles by 95 per cent. It will reduce harmful particulate matter or soot by 90 per cent. This action is essentially the clean air equivalent of removing 13 million of today's trucks off the road.

As I mentioned, these trucks and buses are largely powered by diesel engines. Diesel engines are the work horse of today's economy. They're more durable and get higher fuel economy than gasoline engines. But they also tend to pollute more, and air pollution continues to be a major problem in the United States. Over 100 million people are exposed to unhealthy air, and will continue to do so without the kinds of reductions that would come from the proposed standards that we're going to talk about today.

We estimate that by the year 2007, heavy duty vehicles will account for about 30 per cent of the national mobile source nitrogen oxide emissions, and 14 per cent of the national mobile source particulate matter emissions. This pollution causes lung damage and respiratory damage, and there's increasing evidence that diesel exhaust may cause lung cancer in humans.

The proposed program we're going to talk about today would have a substantial impact on these emissions. Urban areas, which include many poor Americans, can be disproportionately impacted by diesel emissions, and they would receive badly needed benefits from this proposed program.

Let me give you some numbers. We're proposing a particulate matter emission standard for new heavy duty engines of .01 grams per brake horsepower-hour. This would take full effect in the 2007 model year. This represents a 90 per cent reduction from today's standards.

We're also proposing standards for NOx, nitrogen oxide emissions, of 0.2 grams per brake horsepower-hour. This would be a 95 per cent reduction from today's standards.

They will be phased in for diesel vehicles between 2007 and 2010, and gasoline vehicles would have to meet these standards by the year 2007.

To make the new diesel engine technologies work,

we're proposing to take most of the sulfur out of highway diesel fuel beginning in 2006, which is when we would expect to see these newer technology heavy duty engines showing up on our roads. Specifically, we're proposing that sulfur limits be established at 15 parts per million. This would be a 97 per cent cut from the current highway diesel fuel sulfur limit, which is at 500 parts per million.

We think this is a very cost effective proposal for our society. The low sulfur diesel fuel we estimate would be about 4 1/2 cents more per gallon. We estimate that vehicle costs would increase about $1,000 to $1,600, depending on the size of the vehicle.

We decided to design this program to include significant lead time for the introduction of both the cleaner fuel into the marketplace, and we also have proposed various phase-in schemes to provide additional flexibility so that we can transition to the new clean diesel fuel and reduce costs.

In addition, we have special considerations to accommodate small businesses and farmer cooperative refiners who have special considerations, and we've got flexibility and other assistance in the proposal to allow them to be able to continue to compete.

The proposed program also allows the phase-in of the new engine standards over four years, from 2007 to 2010.

This is the last of five public hearings that we've been holding on this proposal. We've been hearing from a wide variety of stakeholders across society with different perspectives, and we expect that's going to continue today.

Please keep in mind that this is not your only opportunity to comment. We'll also be providing an opportunity to provide written comments in addition to your oral comments, and the comment period will remain open for another 45 days, until August 14th.

We're conducting this hearing in accordance with Section 307(d)(5) of the Clean Air Act, which requires EPA to provide interested persons with an opportunity to provide oral presentation of data, views or arguments, in addition to an opportunity to write written statements.

I'm very happy to note that in the previous four sessions, we had a large number of people who came to provide testimony, and that's evident by the crowd today, and I think that is a tribute to your commitment to cleaning up the air and being involved in this process, and I congratulate you.

We do ask that you try to limit your testimony to ten minutes so that as many people as possible can make their points across. There's no penalty for finishing earlier if you can get to your point in less than ten minutes. But we're committed to staying here as long as it takes so that everyone can be heard.

We'll be conducting this hearing informally. We do have people in the front row. Lynn Zohaki and Byron Bunker, Colleen Zavaris from our Ann Arbor lab will be assisting you to let you know when your time limit is approaching. No bodily force will be used, I trust. But they have some efficient means to let you know that your time is approaching.

Also, if you could please write your name clearly on the cards provided so that we know who is speaking, and also introduce yourself and your organization.

From time to time, we may be asking clarifying questions, and I want to remind the witnesses that any false statement or false response to questions may be a violation of law.

If there are any members of the audience who wish to testify who have not already signed up, please submit your names out at the reception table. We'll make every effort to work you in. But because of the large number of witnesses that have already signed up, this hearing may go on into the evening hours. Given the list, we will probably work through lunch.

Finally, if you'd like a transcript of this proceeding, you should make arrangements directly with our court reporter during one of the breaks. The transcript will be available on our web page and in the public docket shortly

after we receive it from the reporter.

Any questions before we begin on logistics or otherwise?

(No response.)

MR. GRUNDLER: I also want to let people know we're very grateful that they are here. A couple of public officials will tour, the Mayor from the City of Boulder. Your Honor, thank you for joining us. And JoAnn Sorenson, who is a Commissioner from Clear Creek County, welcome.

I'd like to invite the first panel up to the table. I'm sorry, Mayor Toor and Commissioner Sorenson, why don't you come up and make your statements.

I apologize for any misunderstanding. We'd like the elected representatives to testify first, and then we'll bring the first panel up.

MAYOR TOOR: Good morning. My name is Will Toor, and I'm the Mayor of the City of Boulder. I'm here today to urge you to adopt tough new emissions standards for heavy duty trucks and buses as soon as possible, preferably before 2010. The City of Boulder also urges the EPA to require diesel sulfur levels for on-road and off-road vehicles, with a cap of no more than 15 parts per millions sulfur nationwide by 2006.

In addition, the EPA should take measures to ensure that big trucks are meeting the emission standards on the

roads, not just during the engine tests. Specifically, both in-use and on-board diagnostic equipment should be required for all heavy duty trucks by 2007. We should also increase the use of advanced technology vehicles such as hybrid electric buses or fuel cell trucks. The EPA should include a provision in the heavy duty rule that would provide incentives to introduce more of these cleaner, efficient diesel alternatives into the heavy duty fleet. These provisions are necessary to protect the public health. We ask that you include them in your final rule-making.

You have heard the statistics. More than 470,000 children and 226,000 elderly in Colorado are estimated to be at risk for lung disease or respiratory distress because of exposure to unhealthy levels of air pollutants. Colorado could save more than $240 million in health care costs each year if the state lowered its particulate pollution levels. This is not only the best decision for the public health and the environment, it's the best fiscal decision as well.

Numerous scientific studies have begun to link diesel exhaust to cancer. Nationally, heavy duty trucks and buses currently account for 27 per cent of the smog-forming nitrogen oxides and two-thirds of the particulate pollution emitted by all the vehicles on the road, even though they are only 2 per cent of the vehicles on the road. Big trucks and buses are among the largest pollution sources, yet the oil

industry and engine manufacturers have done little to curb this pollution. We must require drastic reductions in pollution from these large trucks and buses.

Cleaning up diesel fuel by 97 per cent will allow the EPA to cut smog-forming pollution by 95 per cent in 2007 and soot pollution by 90 per cent by 2007. However, the EPA is proposing to wait until 2010 to fully clean up smog-forming pollution from these vehicles, meaning that Americans will have to wait ten years before all new trucks are cleaned up. There should be no phase-in period for reductions in smog-forming pollution.

The City of Boulder has a strong record of supporting clean air, both through its environmental programs and our transportation programs and policies which encourage alternate modes of transportation. The proposed standards will result in significant air quality improvements that may not be feasible through alternative transportation and behavior change efforts. We welcome the efforts of the EPA, and look forward to continuing to work together on this and other issues.

Thanks for hosting this hearing.

MR. GRUNDLER: Thank you, Mr. Mayor. Commissioner?

MS. SORENSON: Good morning, and thank you for having the hearings here in Denver and giving us the opportunity to comment to you. I am from Clear Creek County,

which is located about 60 miles west of Denver on I-70, and I'm here speaking on behalf of all the Commissioners from Clear Creek County today.

As Commissioners, we view this issue of cleaning up diesel emissions from a couple of perspectives. One of them relates to our responsibility for public health in Clear Creek County, and the second relates to our sense of responsibility for water quality in Clear Creek.

We are particularly sensitive to the impacts of diesel emissions in our county because of the heavy truck and bus traffic on I-70. As some of you may know, I-70 and U.S. 40 travel the length of Clear Creek County and cut through all of our towns, Idaho Springs, Georgetown, Silver Plume, and Empire. According to the American Lung Association, national figures indicate that diesel vehicles account for only 2 per cent of the vehicles on the road, but they're responsible for a great deal more of the pollution.

We are concerned that our citizens and our environment are exposed to an even greater relative amount of pollution because of the heavy truck traffic on I-70. In a July, 1997 video traffic survey that was commissioned by the Colorado Department of Transportation, it was revealed that in our county, buses and trucks accounted for 5.9 per cent of the traffic, nearly three times the national average.

Also, according to the American Lung Association,

medical research shows that people who live within a mile of roadways with heavy truck traffic are more likely to have respiratory problems. They also tell us that diesel exhaust is responsible for 125,000 cases of cancer annually in the U.S.

Applying that information to Clear Creek County really caused us to raise our eyebrows. Virtually every citizen in our towns, and many in the unincorporated part of the county, live within a mile of I-70. And when I pulled the Colorado Department of Public Health and Environment 1997 figures on critical health issues for Colorado counties, I learned that Clear Creek County ranked fourth out of 63 counties for lung cancer as the cause of death. We ranked 14th out of 63 counties for pulmonary disease as a cause of death.

Now, I'm not a medical researcher and I can't tell you that these disease issues are directly related to diesel emissions, but the coincidence is striking and probably deserves further investigation. And it also indicates to us that we need to be urging you folks to go ahead and clean up some of these serious sources of pollution.

The other perspective from which we view this diesel emissions issue is that of the watershed protection. We, along with all the other municipal and county members of the Upper Clear Creek Watershed Association are committed to

improving the water quality of this creek, which provides water to hundreds of thousands of folks on Colorado's Front Range.

We are also committed to improving the overall quality of life in the watershed. To us, that means clean water and a healthy forest. Our citizens and we participate in costly efforts to achieve those ends, with numerous public and private partners. We believe that the polluters who travel I-70 in numbers that are triple the national average need to step up and do their part in this clean-up effort also.

For nearly 100 per cent of the distance through our county, I-70 and U.S. 40 parallel the creeks. For about a third of the distance, these highways cut through the Arapaho National Forest, and this is a very high elevation. We expect that the sulfur, nitrogen and carbon monoxide and particulate matter reductions that are anticipated because of these new regulations would have a positive effect on our watershed and forest.

We also join Boulder in urging you to move ahead with these new standards more quickly than the year 2010. We have found that through the CDOT surveys that traffic is projected to double every seven years on I-70, and with that kind of increase in pollution, we think we need to move as quickly as possible to implement new solutions to these

problems.

Thank you again for having the hearing here, and for allowing us to speak.

MR. GRUNDLER: Thank you very much. As public officials, I know how busy your schedules must be, and thank you for taking time out of those schedules to give us your perspective. It's very valuable.

At this time, I'd like to invite the first panel up, Vickie Patton, Gene Burden, Eric Skelton, Lisa Stegink, Beth Law, Jeryl Feeley--I'm sorry--Jeryl Feeley and Zakariah Feeley, and Bob Neufeld.

If you could write your names on the card, and also as you begin your testimony, to state your affiliation.

Ms. Patton, you may begin.

MS. PATTON: The Rocky Mountain Office of Environmental Defense greatly appreciates this opportunity to comment on EPA's proposed emission standards for large diesel trucks and buses, and the integrally related proposal for cleaner diesel fuel. We are testifying today on behalf of the approximately 300,000 members of our non-profit, non-partisan, non-governmental environmental organization that live in communities across the country that would benefit from dramatically cleaner, healthier air if EPA finalizes its proposed standards.

There is overwhelming public support for EPA's

action. A recent public opinion survey found that 87 per cent of the public, nearly nine out of ten people, agree that 18 wheeler trucks, buses and other big diesel vehicles should be required to use the best available pollution control technology even if it will impose higher costs.

We should recognize today the sentiments of those who can't be at this hearing, including the parents who must care for their children and provide for their families. The broad-based, public support for EPA's action by those who don't have the luxury to attend a midday, midweek public hearing must be counted.

The overwhelming public support for EPA's initiative is not at all surprising. Large diesel trucks and buses are obvious and ubiquitous polluters. The all too common and all too familiar exhaust that billows from these vehicles is harmful to our health and our environment. The adverse impacts occur from Denver, Albuquerque and Phoenix, to New York, Philadelphia and Atlanta, from the Adirondacks to the Rockies.

Diesel exhaust contains a variety of harmful pollutants that contribute to toxic air pollution in our neighborhoods, communities and cities; fine particles that lead to premature death and hospitalization; summertime smog; acidification of our forests, lakes and streams; the haze in our national parks and the "brown clouds" in our cities; and

eutrophication of coastal water bodies. Stated differently, the economic investments made in cutting the harmful pollution in diesel exhaust will reap tremendous, multi-faceted public health and environmental benefits.

We believe it is especially imperative that EPA finalize its proposed emission standard for diesel particulates without any backsliding, to protect communities in the West and across the country from the carcinogenic effects of diesel exhaust. Numerous public health studies show increase lung cancer risks of 20 to about 90 per cent from diesel exhaust. In addition, major state, national and international public health agencies have found that diesel exhaust or diesel particulates are a probable or known carcinogen.

In 1988, the National Institute for occupational Safety and Health classified diesel exhaust as a "potential occupational carcinogen."

In 1989, the International Agency for Research on Cancer found that diesel exhaust is considered to be a "probable" human carcinogen.

In 1996, the World Health Organization found that human epidemiological data suggest that diesel exhaust is "probably carcinogenic."

The California EPA found that data have demonstrated that diesel exhaust is a carcinogen.

Last month, the Department of Health and Human Service's National Toxicology Program issued its 9th edition of its Report on Carcinogens, in which it classified diesel exhaust particulates as "reasonably anticipated to be a human carcinogen."

In March, 2000, local officials in Los Angeles completed one of the most comprehensive urban monitoring studies of toxic air pollution. The study found that emissions of diesel particulates are responsible for 70 per cent of the cancer risk associated with air pollution--70 per cent. Moreover, the study found that the greatest risk levels were in the south-central and east-central portions of Los Angeles that are highly populated by minorities and low income residents.

Based on this analysis, consortium of state and local Air Pollution Control officials estate that diesel particulates may be responsible for hundreds of cancers in Denver and other communities across the country. And just yesterday, the health Effects Institute, which is jointly funded by industry and EPA, released the result of a major epidemiological study of particulate health effects in 90 cities across the country, finding compelling correlations between increasing concentration of particulate matter, and premature death and hospitalizations.

In taking final action on its proposal, EPA must

issue the most stringent particulate emission standards feasible to help rid our communities of harmful, cancer-causing diesel exhaust.

While Environmental Defense applauds EPA's proposed cuts in NOx emissions from large trucks and buses, we're concerned about the proposed delay in implementing those standards. NOx emissions have increased more than 3 1/2 million tons since the advent of the modern Clean Air Act in 1970. In 1998, 24 1/2 million tons of NOx air pollution were emitted nationwide, approximately 400,000 tons in Colorado alone.

NOx pollution and its byproducts contribute to a variety of health and environmental problems in the western United States and across the country. NOx is one of the major contributors to ground-level smog in the Denver metropolitan area and other communities across the country. NOx contributes to fine particles that are breathed deep into the lungs. NOx is one of the major contributors to acidification of our forests, lakes and streams. Indeed, University of Colorado scientists believe that NOx pollution is likely contributing to nitrogen saturation in sensitive, high elevation ecosystems in the Rocky Mountains. In turn, large trucks and buses are one of the major contributors to NOx air pollution. EPA projects that large trucks and buses alone will soon comprise nearly one-third of the national NOx

air pollution from the transportation sector. If we are to protect the health of our children, the elderly and our sensitive ecosystems, we must cut the NOx air pollution from large diesel trucks and buses.

Unfortunately, EPA is proposing unacceptable delays in the implementation of the NOx emission standards. Instead of postponing the tremendous air quality benefits from cutting NOx, EPA should require diesel engines to achieve full compliance with the NOx emission standards by no later than 2007.

The linchpin of EPA's clean air initiative is its proposed 15 parts per million cap on the sulfur content of highway diesel fuel to be achieved in 2006. Cleaner fuel is a critical ingredient to achieve the tremendous clean air benefits that are possible under EPA's proposal by enabling state-of-the-air control technology. Like the engine manufacturers that must produce the clean engine technology, the oil refiners must do their share to produce cleaner fuel. Unfortunately, this critical dual system is under attack by the refiners that oppose EPA's clean air initiative.

We urge EPA to consider the facts, not the rhetoric of the refining industry, in taking final action on its low sulfur diesel proposal.

Fact Number 1: The suggestion by some refiners to relax the limit on sulfur to 50 parts per million instead of

15 would fundamentally undermine the air quality benefits that could be achieved from this program, by realizing only a small fraction of the air pollution reductions possible.

Fact Number 2: EPA's cost estimate of 4 to 5 cents per gallon to achieve a 15 part per million sulfur limit is eminently reasonable given the magnitude of the air quality benefits, and is entirely consistent with the findings of MathPro, a leading industry consulting firm.

Fact Number 3: A six year lead time to achieve EPA's low sulfur diesel standards standing alone provides tremendous compliance flexibility. In 1990, EPA issued the first phase of its low sulfur diesel initiative by requiring refiners to cut sulfur levels from approximately 2500 parts per million to 500. In that rulemaking, EPA generally allowed a three year lead time for compliance. Refineries complained then that this deadline was too tight. In the pending rulemaking, EPA has proposed to double the phase-in period to six years, but now that is not enough time. The bottom line according to the refining industry is that no time is a good time to produce cleaner diesel. If we let the refining industry dictate public policy, we would still have lead in our gasoline.

Fact Number 4: Producing low sulfur diesel is proven and is feasible. ARCO, which has recently merged with BP AMOCO, is voluntarily producing diesel fuel with a maximum

sulfur content of 15 parts per million in the Los Angeles area. In addition, Tosco, a large refinery, has vigorously supported EPA's action, stating that it is prepared to make the necessary investments to produce cleaner fuel for the American public. The voluntary initiative actually producing low sulfur diesel now in conjunction with the strong support from Tosco are very power evidence that EPA's proposal is feasible.

Fact Number 5: Other countries are already leading the way to low sulfur diesel. In 1991, Sweden instituted policies to facilitate low sulfur diesel, and by 1996, 85 per cent of its diesel fuel had a sulfur content of 10 parts per million or less. Like Sweden, Germany is putting in place measures to achieve a 10 part per million low sulfur diesel fuel level. In both Germany and Japan, progress toward producing low sulfur diesel has been based on joint agreements between the vehicle manufacturers and the oil marketers. In other words, big businesses in those countries are working together to deliver better emission standards for the public.

The final fact is that diesel prices are volatile over the short-term, but have decreased over the long-term. We have data from the Energy Information Administration that we'd like to just briefly present to you. We'll just present the first chart.

This long-term data which compiles monthly diesel prices from 1983 to the year 2000, and is adjusted for inflation, demonstrates that in any given month, in any given period of time, diesel prices may be high or they may be low. But what this very powerfully demonstrates is over the long-term, diesel prices have decreased.

During today's hearing, you will hear from major engine manufacturers that support EPA's action, from major automobile manufacturers that support EPA's action, from public officials that support EPA's action, and from parents and children that support EPA's action. Unfortunately, you will also hear the all too familiar rhetoric from the refining industry, the countless reasons they oppose EPA's clean air initiative. Heed the facts, not the rhetoric.

We, too, believe the EPA's proposal is bold and historic. Please issue your proposal without relaxing the strong measures you put in place.

MR. GRUNDLER: Thank you very much, Ms. Patton. Mr. Burden?

MR. BURDEN: Well, thank you for the opportunity to make some comments today. My name is Gene Burden. It's probably very appropriate that I'm following Vickie. I am with an oil company, and we are--the company is Tesoro Petroleum. We're a relatively small refinery with operations in Alaska, Washington state and Hawaii. We operate retail

distribution facilities in the Western States primarily.

The comments that--I'm going to limit my comments today to several operational issues that we think are important for consideration. But let me preface it by saying that we are supportive of efforts to reduce air pollution, and yet we are maintaining support for a 90 per cent reduction in diesel fuel sulfur levels to the 50 part per million that's been adopted by the European union.

I want to go through just a few of the issues that we see as important to our operations, and I think to the public, because we operate--or a refinery operates as a system similar to any other system, and impacts in one area can have impacts in other areas that we provide services to.

The biggest issue we see is in regards to the distribution system to our operations, and we think to other regional operations. We don't think that the Agency has done a thorough enough analysis of just what the distribution issues are going to be with this. We transport all grades of diesel fuel via pipeline, via tanker, various transportation sources, and the fuel will go through, say, pipelines that may have gasoline that with the new diesel standards on gasoline is 80 parts per million in 2006, jet fuel, jet fuel can have as high as 2000 parts per million, and the issue of contamination os the ultra low diesel is really a significant issue to our company.

We see a great increase in the amount of contamination of what we would start off sending as ultra low diesel, and then having to do something with that product once it's been contaminated. And this is a very real issue to us. And the alternatives to that are to put that into other market areas, off-road diesel or other areas, and attempt to get the value out of it in that process.

Now, EPA in your notice of proposed rulemaking, you asserted that something along the line of standard industry practices can avoid these product contaminations. But in our view, the current distribution system, at least regionally in the areas that we're familiar with, are going to require considerable additional infra-structure to accommodate yet another grade of diesel fuel.

We don't have adequate tankage of pipelines in our distribution system, and for those of you not familiar, many of our customers are small businesses that are distributors, we distribute our products. They don't have distribution facilities sufficient to add another level of product either. So that's culminated in our general concern about what are the implications to not only delivering the product, but to the whole consumer base for the distillate cut from the refinery.

One of the Agency's comments was that standard industry practices, if followed carefully, should be able to

virtually eliminate the potential contamination. That's on Page 275 of your notice of proposed rulemaking.

The "should be" and "virtually eliminate" when I read that, I thought, well, the Agency recognizes that there are certainly going to be situations where you're going to have contamination. Employing the best of practices, it's very difficult to move products with that range of sulfur. I think one of the papers I read equated 15 parts per million as equivalent to less than a teaspoon in an olympic size swimming pool. And if you put that in with a product that has hundreds times more, thousands times more sulfur, it's very easy to have that contaminated.

I guess sort of an aside issue in this is that under the terms of the proposed rule, at least as we read it, any failure to--any violation of exceeding the cap of 15 parts per million would be subject to prosecution under the Clean Air Act, which as I recall, is up to $27,500 per violation, as well as economic benefit. And I guess with EPA's acknowledgement of the fact that it should be able and virtually eliminate, we'd like to see more flexibility to address those situations, regardless of what the level is, to address those situations where there is an occasional amount over, say, the level is 15 or 50 or whatever you adopt, so that calls from our standpoint for an averaging approach for the standard that's finally adopted.

Another concern internally, our company is not a major oil company. We do not have oil exploration and production operations. We essentially buy our crude oil, refine it, and sell it. And the investments necessary to address this standard, or even the 50 part per million standard, are significant. We are faced with the prospect here of trying to start planning for this standard, assuming it's adopted this year, in advance of knowing what the standard is for off-road. And that might not seem to be a big deal to some folks, but our own lead time for the engineering, arranging construction and installation of the necessary facilities is close to four years.

So we have a real issue with that. We'd like to have some idea of what the off-road standards are going to be so that can be incorporated into the planning process. And that's one of the reasons we'd like to see those two go together and have an across the board coverage. Whatever the standard is for this and whatever the standard is for off-road, let us know what that is.

I think the other issue is yes, it does have a significant cost impact. But I'm not here on behalf of Tesoro to complain about the cost. The cost at 50 parts per million is substantial also. I think the additional operating cost and distribution system issues with that lower standard is really our major concern. The fact is we would

have to essentially produce 5 to 7 parts, maybe 8 parts per million sulfur in order to have a chance to hit 15 by the time we got it to the final end point.

And our point I guess also that we'd like to share, at least that we think might affect the customers in areas we serve, is that the effect of the proposed 15 part per million standard will likely not be limited just to consumer of on-road diesel. As I mentioned, the cuts that get contaminated go into other areas. There may be some geographic areas where it's not economic to produce more than one grade. And we think that that impact on all customers, that middle cut, that distillate cut, the home heating oil, jet fuel and off-road diesel, that impact has not really been given very much attention in the proceedings up to this point.

The issue of actions in other countries has been raised, and it may be just a difference in legal research, but the European union has adopted a standard that's effective in 2005 that goes to 50 parts per million. That applies to all EU countries. Sweden correctly is--they started with a city diesel program at 10. The effort in Germany is a--was an effort to obtain a tax credit for producers who produce 10 parts per million or less. It's not a move to a statewide standard, at least to my knowledge, as of when I researched that a month or so ago.

I think I'm running out of time here, so I may jump

just a little bit. There's also been a suggestion that there might be some phase-in of one level followed by another level. And at least from my company's standpoint, Tesoro's, that's really not a benefit to us, and we want you to know that, if that's viewed as a concession or an assist, it would not be. The time frames that we've seen for the transition from one to the other would preclude taking actions to meet one. We'd go ahead and go to the final level.

I guess in conclusion--is my time up? Okay, thank you.

MR. GRUNDLER: Thank you. I'd like to welcome Mr. Skelton, who's a partner EPA in administering the Clean Air Act, representing local government. Welcome.

MR. SKELTON: Good morning. My name is Eric Skelton. I'm the Director of the Spokane County Air Pollution Control Authority in Spokane, Washington. I'm also the immediate past president of ALAPCO, which is the Association of Local Air Pollution Control Officials, and I'm appearing this morning on behalf of ALAPCO, which represents my own agency, as well as approximately 165 other local air pollution control agencies across the country, and also on behalf of STAPPA, the State and Territorial Air Pollution Program Administrators, which represents the air pollution control agencies in the states and territories.

I also serve as Co-Chair of the STAPPA/ALAPCO

Mobile Sources and Fuels Committee. I'm pleased to have this opportunity to provide the associations' testimony on EPA's recent proposal to set more stringent standards for on-road heavy-duty engines and vehicles, and to reduce the level of sulfur in on-road diesel fuel.

On behalf of STAPPA and ALAPCO, I'd like to commend EPA for its continued leadership in reducing air pollution from the mobile source sector. Your final promulgation last December of the Tier 2 motor vehicle emission standards and a national low-sulfur gasoline program was a remarkable accomplishment that will benefit the entire country. This month's heavy-duty engine and low-sulfur diesel proposal is further demonstration of the agency's commitment to efficiently and cost-effectively reducing a wide variety of mobile source-related emissions to achieve meaningful improvements in air quality across the nation. We applaud this initiative and the systems approach, which addresses both the engine and its fuel upon which it is based.

And we're especially pleased that the proposed heavy-duty engine and diesel sulfur program reflects the key recommendations made by STAPPA and ALAPCO over the past year and a half.

As the officials with primary responsibility for achieving and maintaining clean, healthful air across the country, state and local air agencies are keenly aware of the

need to aggressively pursue emission reductions from the heavy-duty mobile source sector, which contributes substantially to a variety of air quality problems. As EPA acknowledges in this proposal, by 2007, when the proposed engine standards would take effect, on-road heavy-duty engines and vehicles will account for 29 per cent of mobile source NOx emissions and 14 per cent of mobile source PM emissions.

Under the control strategy being proposed here, by 2030, on-road heavy-duty vehicle NOx emissions would be reduced by 2.8 million tons and PM emissions by approximately 110,000 tons. These emission reductions, as well as others that the proposed rule would affect, will play a pivotal role in addressing an array of significant environmental problems that contribute to and pose health and welfare risks nationwide.

Because many heavy-duty vehicles travel back and forth across the country, their emissions are ubiquitous, and for this reason, regulation of the heavy-duty mobile source sector and of the fuels by these sources must be done on a national basis, as EPA has proposed.

In the coming weeks, STAPPA and ALAPCO will be providing comprehensive written comments on the complete proposal. Today, however, I would like to focus my comments on a few fundamental issues related to heavy-duty diesels and

their fuel.

The air pollution that comes from big diesel buses and trucks is not only among the most visible there is, it's also among the most offensive. What is worse, however, is that the noxious exhaust from heavy-duty diesels brings with it adverse health impacts that can be dire, posing a serious health threat to public health nationwide. And perhaps the greatest risk posed by heavy-duty diesels comes from their toxic emissions. Diesel exhaust contains over 40 chemicals that are listed by EPA and California as toxic air contaminants, known human carcinogens, probably human carcinogens, reproductive toxicants and endocrine disrupters. In 1998, California declared particulate emissions from diesel-fuel engines a toxic air contaminant, and this was based on data that supported links between diesel exposure and human cancer.

As has already been alluded to, last fall, the South Coast Air Quality Management District in Los Angeles, California released a draft final report, referred to as MATES-II, which included an analysis of the cancer risk in the region from exposure to diesel particulate. And based on this analysis, which estimated diesel particulate levels by using elemental carbon as a surrogate and applied a cancer potency factor determined by the state of California, South Coast concluded that of the cancer risk posed by air

pollution, 70 per cent is attributable to diesel particulate emissions, with mobile sources being the dominant contributor.

STAPPA and ALAPCO congratulate EPA for responding to a serious environmental problem with an equally serious strategy that establishes rigorous emission standards for on-road heavy-duty diesels and a commensurately low cap on sulfur and diesel fuel, all within a time frame that will allow us to reap the benefits of this program beginning with the 2007 model year. Although there are several aspects of the proposal with which we have concerns, and we will offer recommendations to address these in our written comments, the fact remains that the key components of this proposal are rock solid and we support them.

With respect to the emission standards, we strongly endorse the levels EPA has proposed, a particulate matter standard of .01 grams per brake horsepower-hour and a NOx standard of .2 grams per brake horsepower-hour, which are 90 and 95 per cent cleaner than today's standards, respectively. However, although we are very pleased that the PM standard will take full effect in 2007, we have concerns regarding the four year phase-in period proposed for the NOx standard, and we will offer further discussion of this in our written comments.

Inextricably linked to the proposed engine

standards is the issue of low-sulfur diesel fuel. The ability of heavy-duty diesels to comply with stringent engine standards that EPA has appropriately proposed is directly dependent on the timely, nationwide availability of diesel fuel with ultra-low levels of sulfur. Without such fuels, the technologies capable of achieving such low emission standards will be rendered inoperable. For this reason, STAPPA and ALAPCO vigorously supported the proposed 15 parts per million cap on sulfur in diesel fuel to take full effect across the country in mid-2006, with no phase-in. This provision of the proposal is absolutely essential, while an even lower cap may prove to be necessary; it is crucial that the final rule include a fully effective cap of no higher than 15 parts per million by mid-2006.

We are concerns that over the course of this rulemaking, EPA will be pressured to go to a higher cap on sulfur. If this is the case, then other states may be forced to follow the leads of California and Texas, adopting their own fuel standards in order to meet their air quality goals. This patchwork approach would be less desirable than a uniform national cap. We, therefore, urge EPA to hold the line at 15 parts per million, as proposed.

Finally, while non-road diesel engines are not addressed by this proposal, STAPPA and ALAPCO view the control of non-road diesels to be as critical as the control

of on-road diesels. Further, we firmly believe that the technological advances that will occur in order to meet future, more stringent on-road heavy-duty diesel standards will carry over to non-road equipment, but only if very low sulfur diesel fuel is available for this sector as well. We are extremely concerned, however, that EPA may not be proceeding as quickly or aggressively as necessary to develop non-road diesel engine and fuel programs that are commensurate with the enormous contribution non-road diesels make to air pollution. More must be done.

To this end, STAPPA and ALAPCO urge EPA to accelerate its program development strategies for non-road diesel engines and fuels, so that we can more effectively reduce the huge air quality and public health problems posed by these sources as well. We recommend that EPA adopt engine standards and a sulfur cap for non-road heavy-duty diesels and fuel that are equivalent for those for on-road heavy-duty diesels, and in the same time frame. And this may alleviate some of those contamination and multi-grade concerns that were alluded to earlier. We urge the agency to use the 2001 non-road technology review as an opportunity to significantly strengthen the non-road diesel control program.

In conclusion, I thank you for this opportunity to provide our associations' comments on this important rulemaking. We applaud EPA for seizing the opportunity to

take another enormous step towards cleaning up the mobile source sector and achieving our nation's clean air goals. We commend your leadership in developing a technologically, economically and environmentally credible approach for addressing on-road heavy-duty diesel engines and fuels, and preserving the framework that you have proposed is imperative to the viability of this program. And, moreover, to the efforts of states and localities across the country to achieve and sustain clean, healthful air. Without it, we cannot succeed.

In the coming weeks, we will more thoroughly analyze the proposal and provide written comments to you, and we look forward to working closely with EPA as it continues to refine this extremely important program. On behalf of our associations, I offer to you our continued cooperation and partnership as you move ahead.

MR. GRUNDLER: Thank you very much, Mr. Skelton.

Next, Ms. Stegink.

MS. STEGINK: Good morning. My name is Lisa Stegink and I'm here today on behalf of the Engine Manufacturers Association. Among EMA's members are the principal manufacturers of the truck and bus engines covered by today's proposal.

As we sit here today, we are on the cusp, the critical turning point, of something spectacular. We have

within our grasp the potential to dramatically reduce the emissions of the most fuel efficient, reliable and durable source of motive power available today and the backbone of our nation's transportation and delivery system. The diesel engine can be as clean, if not cleaner, than any other power source. It is capable of meeting emission standards significantly below today's levels. And let me remind everyone that the emissions from today's diesel engines already have been reduced by over 90 per cent. Yet we recognize that much more can and should be done.

The key, of course, is to greatly reduce the sulfur content of diesel fuel. Future reductions in diesel engine emissions are going to require much more than new engine designs and technologies. As EPA appropriately recognizes, future emission reductions require a systems approach involving the engine, after-treatment and fuel. In a sense, the future of clean, low emitting trucks and buses rests on a three-legged stool. And the stool will fall without all three legs in place. One of those legs, fuel quality, enables the technologies necessary to make the other two legs stand.

Without removing essentially all sulfur from diesel fuel, advanced NOx after-treatment devices will not be feasible; advanced PM after-treatment will be poisoned; and engines will be exposed to excessive wear, increased

maintenance costs, and impaired durability. We cannot emphasize enough the critical importance of ultra-low sulfur fuel. It enables substantial NOx and PM emission reductions; it provides direct PM emission reductions; and it provides benefits not just from new engines, but from the entire fleet of diesel fueled vehicles. Improved diesel fuel also has a role in responding to potential health effects concerns. Ultra low sulfur fuel lowers the total mass of particulate from the entire fleet and enables the use of known after-treatment technologies, such as oxidation catalysts and catalyzed particulate filters, which can reduce the organic and carbonaceous components of PM emissions, can reduce hydrocarbon emissions and enable technologies to reduce NOx which, in turn, will reduce secondary PM.

We applaud EPA for recognizing the critical role of fuel sulfur. We strongly support the need for a uniform, nationwide low sulfur fuel standard with a hard cap on sulfur content. Regional differences in sulfur content will not allow the systems approach necessary to meet EPA's very stringent NOx and PM emission levels. Further, a hard cap on sulfur is critical. Averages simply will not work. They are difficult and impractical to enforce. Moreover, the engine and after-treatment legs of the stool must be assured of never being exposed to high sulfur fuel.

In our view, 15 ppm does not go far enough. And,

fuel improvements shouldn't only be limited to trucks and buses. Non-road fuels also must be improved. We are aware of the various arguments raised by the oil industry against improving fuel quality. They don't want to reduce sulfur to 15 ppm, let alone to lower levels. Nationwide ultra low sulfur fuel can and must be achieved, and it can be done cost effectively without undue economic harm to either the oil industry or to the trucking industry, the users of both our engines and the oil industry's fuel. We will provide detailed comments on the need for ultra low sulfur fuel in our written submission.

So today, we are enthusiastic, excited and hopeful about the future of the diesel engine and our industry's ability to produce reliable, durable, fuel efficient, high performing diesel engines that also are as clean or cleaner than any other power source. There are issues which will require a great deal of work by manufacturers and the Agency, but it is no longer a question of if. Give us fuel improvements, sufficient time, compliance flexibility, and testing certainty, and tremendous emission reduction can be achieved.

Thank you.

MR. GRUNDLER: Thank you. Ms. Law, welcome.

MS. LAW: Good morning. My name is Beth Law, and I'm the Vice-President for Law and Environmental Affairs at

the American Trucking Associations. We appreciate the opportunity to appear at this public hearing to present our views regarding the United States Environmental Protection Agency's new proposed highway diesel fuel and engine standards. ATA will file more detailed written comments on the proposed standards before the close of the comment period.

ATA is the national trucking association for the trucking industry, representing more than 2,500 motor carrier companies of every type and class in the country. Some of those trucking companies are multi-billion dollar companies whose names you know. Most of the trucking industry, however, is composed of small businesses whose livelihood can be dramatically impacted by new regulatory requirements. According to the Department of Transportation, almost 50 per cent of motor carriers have only one truck, and fully 95 per cent of motor carriers, almost 395,000 of them, have 20 or fewer trucks.

As the national representative of the trucking industry, ATA is thus vitally interested in matters affecting the trucking fleet, including the regulation of diesel fuel and diesel engines. In this regard, the membership of ATA, like other Americans, supports EPA's overall objectives of cleaner air and protecting the environment. ATA support a national low sulfur diesel fuel standard. Mandating one

diesel fuel nationwide for on-road and off-road engines and vehicles would advance those objectives. ATA approaches this rule from the perspective of its longstanding commitment to cleaner air. For example, we supported the switch to cleaner burning low-sulfur diesel fuel in 1993, a move not shared by other major users of diesel fuel, such as trains, construction equipment and agricultural equipment. Since that time, we also have supported new standards and measures that have reduced average diesel engine emissions to approximately one-tenth of what they were ten years ago. The trucking industry supports responsible regulation that will lower emissions.

At the same time, in pursuing those objectives, we believe the government should base its efforts on sound science, technology that has been tested in real life situations, public safety and the needs of the American economy.

In order to provide some context for our comments, I would like to briefly describe the critical role the trucking industry plays in our national livelihood.

The trucking industry is a vital part of the United States' economy, representing about 5 per cent of the nation's gross domestic product and providing employment for almost 10 million people in jobs that directly relate to trucking. Trucking represents over 80 per cent of the

freight transportation market in the United States, and transports practically every type of product and raw material used in the economy.

As the predominant mode by which United States consumers receive virtually all of their goods, the trucking industry also has significant influence on the cost of finished goods and raw materials in the economy. Over 70 per cent of all communities in the United States rely exclusively on trucks to deliver all of their food, clothing, medicine, and other consumer goods. In sum, the nation's trucking industry provides the essential transportation resources, infra-structure and services that are necessary to sustain the growing economy that benefits all Americans.

The proposed rule would mandate restrictions in emissions of nitrogen oxides, a key ozone precursor, and hydrocarbons from trucks and buses by 95 per cent from current levels. Particulate matter emissions from these sources similarly face a mandated reduction of 90 per cent from current levels. EPA proposes to achieve these reductions by establishing new exhaust emission standards for heavy-duty on-road engines and vehicles through the introduction of advanced, high-efficiency engine after-treatment and emission control devices.

A key concern the proposed rule raises is the fact that it discriminates against on-road sources. Despite the

fact that they are a major source of emission concerns, off-road diesel sources, trains, boats, construction equipment, agricultural equipment, and stationary diesel sources, will not be subject to these same engine emission reduction and fuel usage requirements. Instead, EPA has singled out diesel-fueled truck for tighter restrictions. EPA's decision to focus on on-road diesel emission sources and exclude off-road users is unjustified. Indeed, EPA did not even attempt to justify it. EPA simply said they "plan to initiate action in the future to formulate thoughtful proposals covering both non-road diesel fuel and engines." EPA should initiate a thoughtful proposal now and cover off-road diesel emission sources.

This exclusion not only raises obvious issues of fairness, but also promises to create an inconsistent, balkanized regulatory scheme governing diesel fuel and diesel engines. This inconsistent environment will create confusion and complicate delivery, management and use of the low sulfur fuel that is critical to the success of this proposal.

The proposed rule's emission targets will be feasible only through the use of very low sulfur fuel that is compatible with the contemplated emissions control device. Absent the availability of such fuel, there appears to be no dispute that the treatment technology envisioned by the proposed rule, NOx adsorbers, PM traps, and selective

catalytic reduction devices, would be rendered ineffective in actual operational scenarios. EPA admits the proposed emission reduction standard represents an ambitious target for the emissions control technology, and that the application of this technology presents significant challenges. Nonetheless, these yet to be developed technological fixes form the linchpin of the proposed emission reduction targets. The regulatory fate of an industry critical to the economic well being of the United States economy is thus being premised on unproven, uncertain and effectively unknown technological advances.

An addition problem is whether the country's pipeline system will be able to deliver the 15 parts per million low sulfur diesel fuel. Assuming that this is possible, the next question is whether, in the time provided, the separate distribution, storage, handling and retail facilities necessary to support both low sulfur and higher sulfur diesel fuel demands can be readied.

Fuel costs are another concern for the trucking industry. While EPA projects increased fuel costs of four cents per gallon as a result of the proposed rule, petroleum industry studies indicate that production costs will be substantially higher. Moreover, as recent dramatic price increases for reformulated gasoline in the Midwest have demonstrated, regulatory restrictions can drive fuel costs

far beyond EPA estimates. Our concern is that further increases in already high diesel fuel prices, or a reduction in the supply, could have a deleterious impact on the trucking industry and on its ability to deliver the food, medicines, and other consumer goods on which we all rely.

If sufficient quantities of low sulfur fuel are not available in 2006 and the additional infra-structure is not in place to support it, this proposed rule puts our fuel supply at risk. For the oil and transmission companies, this may simply mean that they cannot sell as much product as they would like in 2006, or that they will have to pass costs on to end users. For the end users in the trucking industry, however, it means idle trucks, undelivered shipments, unusable equipment, and loss of livelihood.

EPA's cost calculations largely ignore the unique impact of such considerations on the trucking industry. Trucking is a very competitive and marginally profitable industry that is less able to pass along or effectively absorb these costs without some adverse economic impacts to its overall health and stability. Profit margins in the trucking industry are very slim, averaging in the 1 to 4 per cent range, meaning that a small change in the cost of fuel can have a dramatic impact on the viability of a trucking business.

EPA's figures claim that the increase in cost of a

new truck as a result of the rule will be $2,768. EPA also estimates a $3,362 increase in the life cycle operating cost of a new truck, for a total cost increase per truck of $6,230. However, the required technological fixes are admittedly still on the drawing board and not in widespread use. As such, there could be significant maintenance and cost issues associated with the standards that simply are not capable of being evaluated and addressed, or perhaps even identified at this time.

The trucking industry shares the goals of a strong economy and a better environment for all Americans. We are committed to responsible environmental regulation. The rule that EPA has proposed has worthwhile objectives, but remains flawed, particularly because of the balkanized regulatory regime for diesel fuel and emission standards it would create. Half-measures which exclude other major users of diesel fuel such as trains, construction equipment, and agricultural equipment and do not mandate one national low sulfur diesel fuel will not be sufficient to achieve our shared goal of cleaner air. A national low sulfur diesel fuel standard should be just that; uniform in application to on-road and off-road engines and vehicles and uniform across the country. In addition, EPA needs to revisit those portions of the rule that are premised almost entirely on assumptions regarding cost, feasibility, technological

advances and the ability of the fuel and trucking industry to achieve unproven operational and maintenance mandates.

In closing, let me reiterate that ATA remains committed to improving the quality of the air that the public breathes and we are prepared to work with Congress, the public, and the EPA to achieve that objective as it relates to diesel fuel and diesel engine emission standards.

We appreciate the opportunity to express our views. Thank you.

MR. GRUNDLER: Thank you, Ms. Law. Now I'd like to welcome Jeryl and Zakariah Feeley.

MS. FEELEY: Hi. My name is Dr. Jeryl Feeley, and my son will introduce himself, and I have the dubious distinction of being here and able to represent three populations affected by diesel exhaust. As a health care provider, I can represent health care providers and the research that indicates that without distinction, indeed, diesel exhaust causes health care morbidity and mortality.

MR. GRUNDLER: Dr. Feeley, could you move the microphone a little bit closer so people in the back can hear?

MS. FEELEY: In addition, I can represent the point of view of myself, being a severe asthmatic, and having to deal with the effects of air pollution on my own health. But more importantly to my point of view, and to my heart, is my

ability to represent what it's like to have two children who have lung disease and who are every day impacted by air pollution.

Based on that information, I can tell you as a researcher and a health care provider, that research continues to indicate that there are direct correlations between lung disease, lung morbidity and lung mortality based on the particulate matter, the ozone resulting in diesel exhaust, and the carcinogenic emissions associated with diesel exhaust.

We have research that indicates there's an increase in the risk to adults exposed to diesel exhaust occupationally that increases chronic obstructive pulmonary disease, increases the likelihood of developing lung cancer. Research indicates not only for people currently suffering from lung disease, but from people with normal lung function, that exposure to diesel exhaust can cause a decrease in lung function and a decrease in the lifetime expectancy of individuals.

More importantly to me, the research clearly indicates that the diesel exhaust initiates bronchial hyper-responsiveness, or what we would call an asthma attack. Across this country, the federal government has acknowledged that we are almost in an epidemic with the increased diagnosis of asthma, particularly for children under the ages

of four and five where the diagnosis of asthma rises logarithmically and there's no explanation why.

We do know that indoor and outdoor air pollution contribute to the morbidity and mortality of children with asthma, and adults with asthma. And as we wait each and every day for a cure for asthma and better improved treatment, more and more children in our country and adults are being diagnosed with asthma.

Not only is this dear to my heart because my own children have asthma, but I have the opportunity and the privilege to work with multiple patients of lung disease in the state of Colorado. I have had the opportunity to work with children from a public health perspective, and help educate their teachers, their parents on how to help them live with this disease. I've also had the opportunity to work with adults who are learning to live with a disease that they've only now become diagnosed with and haven't had to deal with for their entire lives.

Each day in this state alone, and across the country, 10 to 20 per cent of children and 10 to 20 per cent of adults in this population suffer from asthma. And we can talk about the effects and the costs associated with the diesel policy that's being proposed here today, and I'd like to remind you of the costs for every parent, for every patient with a lung disease.

An inhaler that people use to just rescue their airways known as a bronchodilator can cost anywhere from $15 to $25 per inhaler. That's not a monthly cost. It's a per inhaler cost. The protective medications that we give these children run anywhere from $50 to $100 per canister, and it depends on how often they have to use that medication. I can speak on behalf of myself that I am fortunate to have health care insurance for my children, so I only pay a co-pay. But as we know, also an epidemic in this country is the people, particularly children in this country, who are uninsured and cannot afford these medications. That would explain the increase in ER utilization for children with asthma and the increase in hospitalizations, because the only time they can seek health care without insurance is in a crisis situation.

In addition, I'd like you to consider the costs of hospitalizations, the costs of emergency room visits, and the costs every single day to the quality of lives to people with lung disease. I know from my own perspective, I can tell you it's frustrating to do the best I can to care for my health and to know that there are things that I have no external control over, such as diesel exhaust. I can tell you as a mother how frustrating it is to do everything I possibly can for my child to protect him, and inevitably, just like on the drive here today, if I get stuck at a stop light behind a diesel truck, and with an RTD bus on the side of the car,

there's absolutely nothing I can do to protect my child. I can give him his medications in the morning, every night, just like I'm supposed to, but I cannot control air pollution, and that's why we need people to help us control what we cannot for our children.

We carry an inhaler in our car for my son. Every car that he is frequently involved in being transported in also has an inhaler in it, because we never know when he will be exposed to something that will make him ill. I encourage multitudes of patients to do the same thing, because we don't know what it will do to their airways when they're travelling to and from locations if they are exposed to diesel exhaust.

Research indicates so clearly that diesel exhaust exacerbates asthma. The medications that are trying to be approved through the FDA for utilization and efficacy in the treatment of asthma consider how well they protect the airways to noxious air pollutants.

When we consider the fact of the 90 to 97 per cent differential in the sulfur content, 97 per cent is an absolute minimum because it's the only thing that makes the protective equipment efficacious. And if we don't want to make it 97 per cent, it does nothing for the people with lung disease.

I'd also like to say we all see the diesel exhaust and we can see the beautiful visual aids where we can watch

the pollution come out of the trucks. First of all, the black stuff that we see in the air is not what causes the problems in the airways. Diesel exhaust is known to make small--or fine particles that are so small that they're incredibly efficient and being deposited directly into the airways and, thus, their impact on lung function is much, much more profound.

What we don't see is the children like my son, or the children in the emergency rooms, or the adults with lung disease, and how this impacts their lives. We don't have pretty visuals to show you what it's like every time a child on a school bus has to use an inhaler, or in some cases, doesn't have access to their inhaler, and so later that night, their parents take them to the emergency room.

I'd also like you to consider the--to us as adults in this room, and especially as business and financially sound people, we consider the impact of five to seven years in implementing this plan. I'd like to put that in the perspective of the life of a child. My son is ten years old and my other son is three. By the time this is in effect, this bill is in effect as it stands, my son will be preparing to graduate for college. He will have spent his lifetime in an air polluted environment. My other son will be getting ready to go into high school and, again, he will have spent his entire life exposed to these chemicals. It is not their

choice to have lung disease. It is not their choice to suffer from asthma, and it is not their choice to be exposed to diesel exhaust, but it's not something as a parent or as a health care provider I can protect them from.

I would also like to say that there's statistical evidence that it increases not only increase in morbidity or mortality, asthma is the leading cause of school absence, and there is research to indicate that school absences, hospitalizations and ER visits are higher in schools among children--for children with asthma in schools that are close to major highways, again, a direct correlation.

And then I would like to say when we talk about particulate matter and the analogy of a teaspoon of chemicals in a swimming pool, the airways can tell the difference. The airways don't know whether we're compromising on the parts per billion. All they know is what irritates them. And it's a chemical physiological reaction, whether we can see it or detect it or not.

And in conclusion, before I introduce my son, I'd like to say my children are fortunate because they have a health care provider for a mother, and so they have benefits in life living with their asthma that many children don't. And yet despite those benefits, my children still suffer on a daily basis, still visit a physician, still take medications that side effects are detrimental to them, but it is

important to breathe every day, so it's a cost benefit analysis from my mother perspective. But I'd also like to say that there are children that are not as fortunate as mine. And then I'd like to say publicly that I'd like to thank my son for his courage for being here today.

MR. FEELEY: Good morning. My name is Zakariah Feeley and I'm ten years old. I'll be turning eleven on Sunday. I have asthma since I was a baby. My little brother has asthma too. He is three. I've learned to control my asthma and diesel trucks make me have trouble breathing. And the sooner you fix this problem the better I breathe, and I'm glad my--I'm glad that my mom can help me whenever I'm having trouble breathing. And I ask you to please clean up the air that me and my mom and my little brother breathe.

Thank you.

MR. GRUNDLER: Thank you, Dr. Feeley, and your brave son for reminding us what this is all about.

Mr. Neufeld?

MR. NEUFELD: Well, I must say it's an honor and a privilege and no small challenge to present the views of a refining company behind Zakariah. However, he's a very well behaved young man for ten years old. I can hardly sit here long enough to listen to all of this stuff, and he's done an admirable job. I hope I can come behind you on another panel, Zakariah.

My name is Bob Neufeld. I am the Vice-President of Environment and Governmental Relations for Wyoming Refining Company. We are a small company. We employ less than 100 people. Our only significant asset is a 12,500 barrel per day refinery in Newcastle, Wyoming. We are the largest single employer, private employer, in Newcastle, and we provide probably more than 50 per cent of the motor fuel supplies for our area of Eastern Wyoming and the Black Hills region of South Dakota. We are currently a 90 per cent supplier of jet fuel for Ellsworth Air Force Base in Rapid City, South Dakota. I think I can safely say that our employees, the economy of Newcastle, Wyoming, the customers and motorists and consumers in Eastern Wyoming and Western South Dakota and Ellsworth Air Force Base continue--depend on our continued existence, if not for their supply, but for our competitive presence to keep the costs of their fuels down and within reason.

I want to start out by saying that Wyoming Refining Company has fundamental support for the goals of this rule. I would not be fooling anybody to suggest that we are an eleemosynary institution with charitable motives. We simply believe that any rule that's capable of reducing the NOx contributions of heavy duty diesel from 15 per cent of national emissions today to 3 per cent or less in 2030, while doubling the vehicles miles travelled from those vehicles, is

going to help us keep the internal combustion engine around for a long, long time in terms of its utility and its economic benefits for American society, and we see that as being in our long-term enlightened self-interest.

However, we're not sure that you've got the implementation of the goal quite correct in this rule. In the Tier 2 gasoline sulfur rule, EPA stated, and I quote, "Not all refineries would be able to comply with the proposed standards in the time period provided." And then recognized that by proposing what was called the geographic phase-in area, and special relaxed implementation schedule for small refiners.

The current diesel rule, however, proposes one compliance state for all refiners, and super-imposes that compliance state and construction schedule on top of the gasoline phase-in and compliance schedule. We think you got it right the first time, and not the second time.

In the context of our company, I'd like to explain what that means. We have a history in the last five years of particularly poor financial performance, and in fact in 1998 and 1999, we reported losses. Things got to the point where, believe it or not, as recently as January of this year, if we had closed operations, we would have reduced our losses by a million dollars a month.

Seeing the handwriting on the wall, we decided we

needed to either to do something about it, and that something was to put in a new fluid catalytic cracker at our refinery to increase the efficiency of our gasoline and diesel production. Well, that project is under construction and well on its way, but in February of this year, we had to close on a loan that leaves us with the business realities of moving forward.

There are about four things, or five things, that that loan and our business reality reflect for us in terms of this rule. First, because that loan is existing, and it was given to us by the only bank in the country that would even loan us money, there was only one bank in the entire country that would loan us money, and this was on a project that's going to provide a significant, or project to provide a significant economic return, no bank loan will loan our company additional money for any other project, particularly projects that do not return a profit to our bottom line, because there's no increased income to repay that loan until our existing loan is either refinanced or paid off.

Second, as a result, we must either finance most of the gasoline and the diesel desulfurization projects out of projected cash flow increases from this new project, or we must refinance our current debt in a manner that allows us to finance both the diesel project and the gasoline project.

Third, the option of cash financing is highly

unlikely. We are limited in our diesel project to a capital expenditure rate of a million dollars a year by the loan agreement. For the gasoline project, we are limited by a provision that requires us to spend 50 per cent of our cash flows into early retirement of our debt.

Furthermore, we think that early retirement of our debt is probably, in terms of the long-run, a better solution for the longevity of our company. Establishing a good debt retirement record, in light of our past financial performance, is imperative in order to be able to refinance our loan and go on and finance the capital for these diesel and gasoline projects.

Fourth, assuming that we can in fact establish a good debt repayment record over the next three or four or five years, our first opportunity to refinance our current loan and obtain new capital for the new projects is mid-2005, or the first half of 2005. What that means is is that in order to--that leaves us only twelve months, which is really not enough time, to meet the 2006 implementation schedule for the diesel rule. We would need to start planning in mid-2003, and probably start construction in mid to late 2004 to meet the 2006 deadline. That requires having the financing in place in order to do it.

In light of that, we offer these observations. One, in order to spread out the construction schedule, I'm

not sure if everybody here is aware, but in terms of providing the high pressure compressors that will be needed for low sulfur diesel--providing that equipment. You don't walk into their showroom and just pull it off the shelf. You've got to place your orders years in advance, and two manufacturers are not going to be able to meet the demand of the entire refining industry in the United States in that time frame. We think that there should be at least three years between diesel compliance and gasoline compliance for small refiners.

Second option in terms of timing, we think that EPA should seriously consider--and I find myself amazed at even agreeing just a little bit with my acquaintance down at the end of the table, Vickie Patton, from the Environmental Defense Fund, but it amazes me how often we land almost in the same position--that there should be simultaneous compliance with diesel refiners and with the NOx controls on the vehicles. That is, they should all be brought on simultaneously in the same year. We think we can achieve essentially the same emission goals of this rule if the vehicles are all brought in in the year 2008, and the fuel is compliant in year 2008.

With respect to the sulfur level, we adhere to the industry position of 50 parts per million, but we also believe that our industry trade groups may be as successful

in achieving 50 parts per million as they were in achieving 150 parts per million on gasoline. Recognizing that, we think any amount of flexibility above 15 parts per million is useful. EPA's example of 15 parts per million average, 20 parts per million cap, in the rule is instructive. The emission benefits are almost exactly the same as the 15 part per million cap, and it illustrates that we should try to explore moving that level up as much as possible.

To the degree that it poses uncertainty on the emission control industry, the vehicle manufacturing industry, we think that's where the uncertainty ought to be. Once we put our concrete and steel in the ground, there's not much that we can do to respond to things like upsets from our power suppliers that make our compressors run lower, or a leak in our heat exchanger that takes high sulfur diesel and runs it across the heat exchanger into low sulfur diesel. Whereas, the vehicle emission control industry on a yearly basis can evolve and improve and even retrofit the equipment on its products. And so we think the uncertainty is better placed there than with the refining industry.

I'm going to skip part of my presentation and go directly to the end. If you could put the overhead on?

I am personally convinced that in PADD IV, which is the petroleum distribution region--and I apologize for the air bubbles in my slide--the petroleum distribution region in

which we live, probably as many as three, perhaps four refineries are going to close unless something is done to change the compliance schedule for this rule.

What we have done here is we took advantage of Amoco Corporation's magnanimous closure of a refinery in Casper, Wyoming in 1991. I'm not sure why they closed it, but we went back to 1987 and looked at prices in Billings, Casper and Rapid City, South Dakota at major terminals in our market for gasoline, and compared them to prices in PADD III, which are not affected by Casper, the Casper closure. And what we found was that the spread between the two regions increased by over 6 cents a gallon after the Amoco Casper refinery closed.

We think that that's an expensive thing for people to be playing with, that EPA could in fact be playing with fire in terms of forcing refinery closures, and that it's expensive. Clean air is something we all need, but sometimes we wonder whether or not you can't have it all, and if you induce the necessary costs and force refinery closures, you're forcing consumers to pay money that could in fact be spent on better health care and better nutrition.

Thank you.

MR. GRUNDLER: Thank you, Mr. Neufeld. Questions?

MR. FRANCE: Ms. Law, just a question of clarification. In your testimony--as you know, I don't know

how many hearings you've been to, but we've been provided a lot of testimony from engine manufacturers and suppliers of after-treatment that there's a great deal of optimism, if not confidence, if given the right fuel, that the technology will be there. And, in fact, one manufacturer will be commercializing traps, offering them for sale as early as next year. You make a comment in your testimony that the technology is unproven, uncertain. I'm curious what that's based on, those statements.

MS. LAW: Well, it's based on the fact that at least in the United States, there has not been significant mass production, certainly for diesel trucks, of this technology.

MR. FRANCE: Okay. And, again, I mean it's sort of--and we don't need to get into it now, but in your written comments, that sort of conflicts with the feedback that we're getting and the fact that as early as next year, you're going to have mass produced commercialization of traps, for example. And, again, if you would in your written comments, follow up with any clarification on those points, okay?

MS. LAW: We can certainly do that.

MR. FRANCE: Thank you very much.

MR. GRUNDLER: I think we are going to hear later on from a representative of the manufacturers of after-treatment devices, and perhaps they could also shed some

light on that point.

I want to thank the first panel for their time and their commitment to participate in this hearing today. The comments will be well considered.

At this time, I'd like to invite our second panel up. Dr. Paul Berger will be speaking first, followed by Rich Kassel, Dr. Avner, Lea Purvis, Matthew Gill, and Gina Porreco.

Also, I'd like to invite John Fox up at this time. He was not scheduled. We'll try to fit Mr. Fox in before 12:00. I know he's got a commitment.

Dr. Berger, why don't you begin.

DR. BERGER: Okay. I'm a family practitioner in Boulder, Colorado, and I've been asked to talk about some of the medical and medical/personal issues here. Some of this is repetitive. I won't talk about statistics because I think we've seen the statistics.

I see the studies in my journals on a monthly basis, studies that have shown that increased pollution causes exacerbations of people's asthma and emphysema symptoms. So I'm just going to tell you some of the stories from my clinic and from my family.

On the high pollution days in the Front Range, I definitely do see more people suffering from their asthma and emphysema. I have to give out more medications. More people

get admitted to the ICU and are put on ventilators or put on IV steroids. And these medications have side effects, as Dr. Feeley was talking about earlier. And Dr. Avner may speak to it as well.

The IV steroids can cause hallucinations. They decrease skin thickness and skin health. My wife asked me to add that it causes anxiety and insomnia. Some of the other medications do as well. And if we can reduce the need for these medications, then of course we'll reduce the need-- we'll reduce the side effects. So I wanted to tell you what it's like to wake up in the middle of the night with your wife basically slowly suffocating.

It's very disturbing to be woken up several times in the night during these high pollution days and have your spouse puffing on the inhaler. She can't lay down because it's harder to breathe laying down. And I guess I just wanted to say that, you know, there are a lot of people who have tried to deny the importance of pollution to save a few cents, and I think that the increased costs of these improvements that we've been talking about will just get passed on to the consumer, and I think we've had other statistics show that we'll actually save money in terms of health care if we spend the smaller amount of money now in creating these improvements in the industry.

So, in summary, I just wanted to say that I think

that this is the least we can do. I think we should have done this 20 years ago or 30 years ago. We've known these effects for this long, and if we do improve the emissions of all our vehicles, I think this is just the start, this is the smallest thing that we can do at this time, and if we do make these small improvements now, then we will see less human suffering.

Thank you.

MR. GRUNDLER: Thank you, Dr. Berger. Mr. Kassel?

MR. KASSEL: Thank you very much. My name is Richard Kassel and I'm a senior attorney with the Natural Resources Defense Council, a national environmental advocacy organization. At NRDC, I coordinate the Dump Dirty Diesels Campaign, which is a local, regional and even national effort to clean up the nation's diesel trucks and buses. On behalf of our more than 400,000 members, I thank you for your proposal. I also thank you for the opportunity to talk to you today about it.

NRDC has been working to clean up diesel emissions since the mid-1970s, at about the same time as we were spear-heading the national campaign to eliminate lead from the nation's gasoline supply. The connection between the lead campaign then and today's proposal is an important one. Just as lead in gasoline was the barrier to cleaner cars in the 1970s, today's high sulfur levels in diesel fuel is the

barrier to cleaner diesel buses and trucks today.

Your proposal, when finalized, will mean cleaner air and better health for everybody, emission reductions that will be the equivalent of removing the pollution from 13 million of today's trucks from the roads, without actually removing a single truck.

Every Coloradan, and more than 120 million Americans who currently live in areas that don't meet EPA's health standards for smog and soot, will benefit from the emission reductions from this proposal.

Now, the reasons for our long-standing concerns about diesel emissions are clear. Today's diesel engines emit high quantities of asthma attack inducing and toxic particles, smog forming nitrogen oxides, and more than 40 chemicals that have been listed either as hazardous air pollutants by EPA or Congress, or as toxic air contaminants by California.

We have more information on these health impacts in our written comments, and of course others have spoken very eloquently already. But I'd like to just touch on two issues.

We are particularly concerned about the growing incidence of asthma in our communities, as well as the growing associations that are being made by public health agencies around the world, between diesel and cancer.

A word or two about asthma. A recent study estimated that asthma cases will double by 2020, affecting roughly one out of every five American families. Now, nobody knows what causes asthma, but numerous studies have shown associations between diesel's particulates and asthma attacks, hospitalizations for emergencies, and other indicators.

As a nation, we must attack the triggers of asthma attacks. Even though we don't know yet what is the actual cause of the asthma itself, there's an analogy here to the early debates about tobacco and cancer. In the mid 1960s, nobody knew, and before, nobody knew what the causal link was between tobacco and cancer, but it was important for government to begin to act because of the associations that had already been shown.

Now, some may argue that we don't need to act yet because of the failure to show--to establish a causal link between diesel's particulates and asthma itself. But it would have been terribly wrong to not act in the 1960s based on what we knew about tobacco and the associations with cancer. Likewise, it would be terribly wrong to not apply the same precautionary principle today when we see what's happening with asthma rates.

Now, a word on cancer. Many agencies around the world, in this country as well, have found links between

diesel's exhaust and cancer, probable carcinogen, likely carcinogen, different words are used. I'll say here that the evidence is pointing in a clear direction, and I encourage EPA to finish its work and its own conclusions about the cancer links between diesel and cancer. According to the National Association of State and Local Air Pollution officials, and we heard from them before, roughly 125,000 potential lifetime cancers could result from today's levels of diesel exhaust. That includes more than 1,200 cancers in Denver, more than 1,500 in Phoenix, and roughly 650 in Salt Lake City. So I'd like to talk about the rule very briefly.

As we testified in New York and in Los Angeles, we strongly, strongly, strongly support the proposed national cap of 15 parts per million sulfur in mid 2006. Likewise, we'd oppose any sulfur level with a cap above 15 parts per million. Here's why, and I go back to the lead analogy. Just as a small amount of lead in gasoline would poison or disable a catalytic converter in cars, a small amount of sulfur in diesel can disable some of the most promising particulate and NOx controls, including NOx adsorbers and some of the most advanced particulate filters and traps.

In other words, the oil industry's suggestion of a 90 per cent cut to 50 parts per million as the cap sounds reasonable to casual observers of the proposal. To somebody who first hears about this proposal in a 60 second story on

the evening news, the industry sounds pretty good. They're proposing a 90 per cent cap. But that 90 per cent cap would render the particulate levels and the NOx levels that you've proposed unachievable.

Under the oil industry proposal, the most promising particulate traps would be likely to suffer high failure rates, leaving oxidation catalysts that yield much smaller particulate emission reductions as the most likely after-treatment technology that would make it through the certification process. SCR would be the most likely NOx after-treatment that's used. Now, while SCR certainly seems capable of very significant emission reductions, relying on it nationally would also mean that we're relying on the implementation of a national urea infra-structure which would cost billions of dollars to install and operate. Only the near-elimination of sulfur would create a fuel supply that's clean enough to adequately support NOx adsorbers and the other of the most promising particulate and NOx emission controls that are most likely to meet the 2007 levels.

So the second step after sulfur, is of course EPA needs to slash levels of particulates, nitrogen oxides, and the other emissions from diesel trucks and buses, and your proposal does that. We strongly support all of the new proposed emission standards. However, as we discuss in depth in our written testimony, we urge you to eliminate the NOx

phase-in.

There are some other important pieces I'd just like to touch on very quickly. EPA also needs to adopt strong blue sky standards for advanced technology vehicles, to provide guidance to states and fleets that are trying to go beyond the mandatory minimums of your proposal, and it needs to develop a comprehensive end-use compliance and enforcement mechanism to make sure trucks on the road are as clean as they are on a certification test.

I'd like to use my last three minutes to respond to some of the arguments that have been put forth by the oil industry and its allies.

Predictably, some of the same companies that fought unleaded gasoline in the 1970s are lining up to fight against the reduction of sulfur today. We've heard now in five different hearings similar arguments, and it's clear that the oil industry is fighting against cleaner air and improved public health when you really look at what they're saying.

The evening news of the past two weeks shows clearly that the oil industry is playing straight out of the old play book, trying to scare the American public that environmental regulations will drive fuel prices beyond their reach, even when the evidence shows demonstrably that these regulations actually play only a minor role in the fuel price at the pump. Because they can't win on the science, the oil

industry and its allies are making three arguments, poverty, the U.S. economy, and delay. I'll touch on each of them.

First, poverty. Oil companies are saying they can't afford the $3 to $4 billion that it will cost to implement this proposal, the low sulfur diesel part of it, nationwide by 2006. Now, given that America's largest oil companies reported nearly $12 billion in profits in just the first quarter of this year, we think that an investment in cleaner fuel is actually an extremely reasonable cost of continuing an extremely profitable and record-setting business.

Second, U.S. economy. It's estimated that the rules could add up to 4 cents to the price of a gallon of diesel fuel. I'd just like to note that BP Amoco will be selling 15 parts per million diesel fuel in California next year, and they say that there will be a 5 cent incremental cost, with no benefits of economy of scale that would come with a national roll-out. A recent poll found that 85 per cent of the American public would be willing to pay the incremental cost.

And, finally, delay. Some opponents are veiling their opposition by asking you to slow down the process, that we shouldn't rush to judgment on diesels this year. They seem to want it both ways. They want to be perceived as supporting the environmental goals of the proposal. They

want to be perceived as wanting to see the end of the era of dirty diesels, but they're unwilling to commit to actually meeting the goals that could accomplish this on the time frame that you've laid out.

It's critically important that EPA hold the line against these kinds of arguments. And if I could just take one sentence, I just want to note that there are industry representatives here today, and all week, the past two weeks, that have shown that industry isn't monolithic in its opposition to the proposal. EMA, MECA, the Alliance of Automobile Manufacturers, California Trucking Association, TOSCO, BP Amoco, International, and others.

Thank you.

MR. GRUNDLER: Thank you, Mr. Kassel. Mr. Fox, would you go next? I understand you've got a time constraint.

MR. FOX: Thank you for the opportunity to speak today. My name is John Fox. I am here to urge you to adopt the toughest possible standards to reduce pollution from heavy-duty vehicles. Here in Colorado, smog sends more than 150,000 people to emergency rooms each year, and causes more than 6 million asthma attacks. Making matters worse, a study by local air pollution control officials estimates that diesel exhaust is responsible for 125,000 cases of cancer in the U.S.

In order to protect the public health, we must require drastic reductions in pollution from these large trucks and buses as soon as possible. I was, therefore, disappointed to learn that the EPA has proposed waiting until 2010 to fully clean up smog forming pollution from trucks and buses.

In addition, because high sulfur fuel will poison the new diesel clean-up technologies, we must ensure that all diesel fuel is fully cleaned up and readily available before the trucks are required to clean up.

Specifically, I urge you to first of all reduce diesel sulfur levels to more than 15 ppm nationwide for both on and off-road diesels nationwide by 2006. Secondly, clean up all big trucks and buses at least 90 per cent by 2007. And, third, ensure that big trucks are meeting the emission standards on the roads, not just during the engine tests.

Finally, I urge you to increase the use of diesel alternatives, such as electric and fuel cell buses. These measures are critical to the protection of public health and the environment. I hope you seriously consider them in your final decision making.

Thank you.

MR. GRUNDLER: Thank you, Mr. Fox. Dr. Avner?

DR. AVNER: Thank you very much. Thank you for inviting me to participate in testimony on behalf of the

advocates for cleaner air and lower visible and non-visible pollutants that are responsible for a great deal of discomfort in this country.

I am a board certified pediatrician, a board certified allergist, immunologist, with a specialty in asthma, and have been in practice for 28 years. I serve as president and CEO of Colorado Allergy and Asthma Centers, which has hopefully served this community during that time. We take care of literally thousands of people with respiratory illness. Sitting in this room right now, one in four of you has upper airway problems that require some kind of attention each year. And of those of you with those problems, half of you will have or do have asthma.

As a fairly significant piece of information, when we land people on the moon, we slow down the speed of light. We accomplish scientific miracles, such as charting the human genenome, and at the same time, are rather primitive in our consumption and utilization of energy sources that provide, at least in terms of asthma and associated diseases, a cost, both direct and indirect, in excess of $12 billion a year. That is for every man, woman and child in this country, approximately $50, in contrast to $25 or $30 a year for those who have cars for the fuel price increase that this is going to distribute, according to the numbers I've just listened to.

Right now, as somebody has alluded to earlier, asthma in particular, but related diseases to asthma and chronic obstructive pulmonary diseases such as emphysema and chronic bronchitis, are the most common cause of emergency room visits in this country. In Colorado and at Children's Hospital, it's the most common causes for visitations. It's the most common cause for absenteeism from work and from school. And absenteeism of children also means absenteeism of parents, which prescribes an enormous indirect cost.

I think our country has put the emphasis on the wrong syllable sometimes. Rather than considering health care, I think we've been dealing with disease care, and this hearing, in my opinion, is one of the important hearings that develops a stand and a position for health care. Disease care is much, much more expensive than preventive maintenance. There are numbers of public reports, for example, that show preventive education has a kick-back ratio of $7 for every $1 spent in keeping a person living a healthier lifestyle.

The hydrocarbons that are not visible, the non-methylated hydrocarbons, sulfur products, even the carbon monoxide which is one of the important, yet not mentioned, byproducts of diesel fuel, and less clean non-diesel fuels, have a major impact not only in respiratory disease, but there are a number of published studies that can show that

mentation, cognition, the ability to make decisions, to recognize danger, to abstract, are affected tremendously by parts, for example, in excess of 6 parts per million. Carbon monoxide at some of the cross-streets in Colorado, or in Denver in particular, exceed 25 parts per million during rush hour. These are dangerous thing for our community.

I think we are in a crisis really, and it is not a matter of just jobs. It's a matter of public health. It's a matter of public concern. It's a matter of state of well being to keep our citizens functional, creative, at work in imaginative jobs that can solve some of the health care and crisis problems that we deal with every day. You need not be in practice very long to know that the days when you see lots of truck traffic, lots of diesel fuels working in your community, people who live and work at jobs that approximate positionally those kinds of activities, get sick, and they get sick and it's an expensive, painful, almost frightening condition.

People do die of these diseases, and we're dying more frequently now than we ever have before. From the early Eighties to the mid Nineties, for example, just asthma alone has increased by about 60 per cent in its incidence. Those of us who deal with the condition are convinced that air pollution is a major contributor to this, and it's going to take some courage, some imagination on the part of people who

are trying to direct their efforts and energies and resources at cleaning the environment to change this.

But it has an economic impact that's far greater than what we have heard in terms of the cost of fuel and some jobs, which certainly would be affected. But I think we need to sit back and imagine that there would be new jobs created by a newer industry, by an evolved industry to provide a better quality of life for people, at least as it has to do with respiratory disease. And I would appeal to the EPA to enact consciously very black and white ground rules, and not be swayed by emotional matters that have nothing to do, or very little to do with the health of our community and our citizens.

MR. GRUNDLER: Thank you very much, Doctor. Ms. Purvis?

MS. PURVIS: I would like to welcome you to Denver today. I think it's a fairly clear day, without much haze, and it makes it very hard probably for a day like today to imagine the infamous Denver brown cloud. That's a kind of environment where we've got heavy pollution. It's typically on a week day. There's thousands of commuters that are adding to the inversion layer. And at the American Lung Association, the phone rings and lung disease patients call from all around the state to tell us what the eye can already see. I can't breathe today. Stay inside, they say.

In Colorado alone, we've got 25,000 adults with emphysema. We have 140,000 adults with asthma. And if you add to these numbers another 393,000 adults with acute and chronic bronchitis, you then begin to realize that breathing is a conscious struggle for over a half a million adults in Colorado alone.

If you want to take this in personal statistics, and then take into account the children of Colorado, there are 67,000 that have diagnosed asthma. A child with lung disease can tell you the effects of poor air quality. It hurts. The tissues and the walls of the airways become irritated, inflamed and swollen. Breathing capacity is diminished and the body shuts down in defense.

We need three things to live. We need fuel, water and air. The first two, we can go for days without. But for air, just hold your breath and see what it is that we take for granted, and so lightly.

The industry will request minimum standards. There will be an effort to push back time frames, and negotiated compromises will be sought. But for the hidden half a million, for those who are on oxygen, asthma medications and suffering with chronic lung disease, there is no compromise for being able to breathe.

Thank you.

MR. GRUNDLER: Thank you, Ms. Purvis. Matthew

Gill?

MR. GILL: First, I want to thank those individuals who have afforded me the opportunity to speak today. My name is Matthew Gill, and I am an asthmatic, an environmentalist, and have been personally affected by the fatal results of diesel fuel.

I'm asking you to adopt a common sense approach to cleaning up heavy trucks and buses. Nationwide, 40,000 people die prematurely each year from breathing soot pollution. A study by state regulators has exposed that diesel soot emissions are responsible for 125,000 cancer cases alone, just here in the United States. Here in Colorado, smog sends more than 150,000 people to emergency rooms and causes 6 million asthma attacks each year alone.

While I experience the difficulty of living with asthma, I've also been personally and fatally affected by the fact diesel can have upon an asthmatic individual. A couple of years ago, my friend and I, who was--he was not aware that he had asthma, started out the day perfectly fine, and we actually went into downtown Denver. As the day went on, we were constantly confronted with diesel trucks, cars, et cetera. He started to become short of breath. I didn't really think much of it, but he was saying that his chest hurt and that he felt very short of breath. Eventually, he stopped breathing, and the result was that he died of an

asthma attack. He did not know he had asthma, and when you watch almost one of your best friends suffocate to death, you don't have much sympathy for special interests and for just simply wanting to make a buck.

I'm sorry, I just can't sympathize with that. Maybe I'm not a businessman, or maybe I don't fully understand a businessman's mentality. But all I can say is that I simply don't understand how someone could put profits above the everyday individual, the effects upon the environment, and especially those living with health effects that often result in death.

You have a choice and you can make it today. I don't even understand why we're here. The technology is available to clean up these trucks, to save lives, and to prevent the environment from having further destruction in the future. Perhaps it's not going to--perhaps you're not going to make quite as many profits. But when it comes to saving lives, saving the environment, I believe that you should make the appropriate choice, and look really into your heart and say what's more important to you.

When you look back upon your life, are you going to want to say no, I wanted to protect my own special interest, and I wanted to see for the profits, or are you going to say no, I was courageous and I took a step forward and I decided to protect the lives of everyone, as well as the environment?

And so I don't even understand why we're here today. It just seems so simple to me.

Thank you.

MR. GRUNDLER: Thank you, Mr. Gill. Ms. Porreco?

MS. PORRECO: That's tough to follow. A lot of what you've already heard today, I am going to repeat, but I think it's important to constantly repeat that dangerous health effect that diesel exhaust and heavy duty trucks and buses can cause.

My name is Gina Porreco. I'm with the Clean Air Network. We represent over 180 environmental and public health organizations throughout the nation, and we thank you for giving us the opportunity to speak here today.

Exhaust from heavy-duty engines contributes to smog-forming, particulate and toxic emissions, sending hundreds of thousands of Americans to the hospital each year. We commend the EPA for proposing a stringent rule for heavy-duty engines and diesel fuel, but feel parts of the proposal need to be strengthened in order to fully protect public health in a timely manner.

Scientists, government officials and citizens have known for years that the thick black smoke spewing from tailpipes of trucks and buses is dangerous to human health, but little has been done to clean up diesel engines over the past 30 years. Now EPA has an opportunity to set the

tightest standards possible for diesel fuel and big dirty trucks and buses.

As you've heard before, there are over 40 substances in diesel fuel that are listed as hazardous air pollutants, including potential and known carcinogenic substances, such as benzene, formaldehyde and arsenic. Over 30 scientific studies link diesel exhaust to cancer. The U.S. Department of Health and Human Services has recently concluded for the first time particulate matter from diesel exhaust appears likely to cause cancer in humans. Also, as you have heard, a study done by the State and Territorial Air Pollution Program Administrators and Association of Local Air Pollution Control Officials estimates that diesel particulate pollution is responsible for 125,000 cancers.

In addition, according to recent scientific studies, experts have estimated that particulate pollution may cause 1 per cent, or 10,000 heart disease deaths nationwide per year. These particulates also aggravate asthma, they cause difficult and painful breathing. In 1998, diesel exhaust contributed to over 68 per cent of the fine particulate pollution from mobile sources nationwide.

Another pollutant emitted from diesel tailpipes, nitrogen oxide, contributes to smog, also known as ground-level ozone. Smog pollution is pervasive in the U.S. It causes respiratory and pulmonary disease, increased

susceptibility to bacterial infections, aggravation of asthma, shortness of breath and many other ailments. In the eastern U.S., smog sends an estimated 53,000 people to the hospital, 159,000 to the emergency room, and triggers over 6 million asthma attacks each summer.

Although trucks and buses are among the biggest pollution sources, the oil industry and engine manufacturers have done very little to curb diesel exhaust. Therefore, we urge EPA to finalize the heavy-duty engine rule and diesel fuel largely as proposed, while strengthening key elements.

Specifically, we urge EPA to reduce NOx and PM from heavy-duty trucks and buses. Engine manufacturers have the technology to cut smog-forming pollution by 95 per cent and soot pollution by 90 per cent. However, the EPA is proposing a phase-in period to clean up NOx from heavy-duty engines. Waiting until 2010 to fully implement smog-forming pollution from these vehicles would continue to put Americans at risk for serious air pollution-related illnesses. Due to slow fleet turnover and the lengthy seven year lead-in time to integrate new technologies, the engine manufacturers should not have to wait ten years to clean up these engines. For these reasons, there should be no phase-in period for reductions of smog-forming pollution. Clean technology for NOx and PM should be phased in completely by 2007.

Second, EPA needs to place a cap on sulfur in

diesel fuel at 15 parts per million. Current diesel technology that can produce low NOx and PM emitting engines depends on clean diesel fuel. For this reason, EPA must require refiners to reduce levels to 15 parts per million nationwide. As you've heard, in the same way that lead poisons a car's catalytic converter, sulfur in diesel fuel destroys advanced technology, thereby making emissions reductions nearly impossible. There is no room to palter on this issue. A cap of anything more than 15 parts per million will not be sufficient to run cleaner engines.

Third, require in-use and on-board testing for heavy-duty truck. For years, trucks ran much dirtier on the road than when they were initially built. Testing engine emissions in the lab does not necessarily ensure that the engine is meeting these standards throughout its lifetime. In fact, engine makers have cheated on their emissions tests in the past, producing an extra 1.3 million tons of smog-forming pollution each year from trucks on the road. EPA cannot continue letting the engine and oil industries cheat the American public out of clean air. It is critical that EPA takes measures to ensure that trucks and buses meet the emission standards while in use. Specifically, both in-use and on-board diagnostic equipment should be required for all heavy-duty trucks by 2007.

Finally, EPA should provide a provision in the

heavy-duty rule that would provide incentives for clean, alternative heavy-duty trucks and buses. Advanced technologies, including electric, hybrids and fuel cells, will pave the way for more energy efficient, zero-emitting trucks and buses. As clean technology becomes available, there needs to be a commitment on the federal level to push for this advanced technology. We should not continue relying on age-old, polluting engines in the 21st Century.

As smog-forming pollution from cars has decreased 42 per cent in the past 30 years, pollution from heavy-duty trucks and buses has increased 60 per cent. Likewise, as particulate matter from cars has decreased 75 per cent, coarse particulate matter, also known as PM-10, from diesel exhaust has increased 12 per cent. This is a serious problem that needs to be addressed immediately. Again, I urge EPA to provide the strongest standards for heavy-duty engines and diesel fuel. We can no longer hold our breath waiting for cleaner air.

Thank you.

MR. GRUNDLER: Thank you, Ms. Porreco. And I want to thank the panel again for taking the time to participate in this very important public process, and in particular, Mr. Gill for having the courage to share your story.

Thank you.

We're trying to accommodate a number of people's

flight schedules, so we're making--trying to work people in. I'd ask Ms. Douglas, Greg Dana, Jerry Faudel, Brian Whalen, Bob Elliott, John Bunyak, Bill Frick and Stanley DeVore to come up. I'm not sure if we have enough chairs, but I know that Ms. Douglas and Mr. Dana will be departing right after their presentation. So people can fill in.

I also want to remind people to fill out the name cards so people know who's speaking.

And we'll begin with Ms. Douglas as soon as you're ready, if she's still here.

I think we lost Jennifer Douglas, so Mr. Dana, if you'd like to begin? You may begin, Mr. Dana.

MR. DANA: Good afternoon. My name is Gregory Dana. I'm vice-president of Environmental Affairs at the Alliance of Automobile Manufacturers. The Alliance is a coalition of 13 car and light-truck manufacturers. We sell more than 90 per cent of the vehicles sold in this country. The Alliance members are in the transportation business, and our interest in this rulemaking is to preserve diesel engines as a transportation option for the light-duty market.

As EPA recognizes, diesel engines have inherent advantages with higher fuel economy, lower greenhouse gas emissions and lower evaporative and CO emissions. Diesel is one of the key technologies for our future.

Our members are working hard to advance the state

of art and fuel efficient diesel engines so they'll meet the Tier 2 standards adopted last year. But the most critical factor in this is the quality of the fuel. That is why we applaud EPA for taking this crucial first step towards enabling the next generation of diesel technology.

We think there are a bunch of things right with this proposal. First, EPA has treated the vehicle and fuel as a system for both the existing and future diesel fleet. This perspective is essential for today's sophisticated vehicles. Second, EPA proposed to dramatically reduce sulfur to enable the new after-treatment technology. Numerous research programs are showing how clean diesel can be. Recent bus demonstration programs have diesel buses with after-treatment control and clean diesel fuel as clean or cleaner than buses running on compressed natural gas.

Third, EPA proposed to introduce the new fuel on a nationwide basis with a common deadline and very limited exceptions. This approach is necessary to prevent any high sulfur fuel from contaminating the sensitive new after-treatment systems that will be used.

Fourth, EPA proposed introducing the cleaner fuel before the new after-treatment technology must be used on heavy-duty vehicles, and prior to the interim light-duty--excuse me--prior to the light-duty Tier 2 standards expiring with the 2007 model year.

To accept the new cap leads to early introduction of near zero sulfur fuel will encourage auto makers and suppliers to continue investing in this light-duty option.

In some ways, the proposal hasn't gone far enough, in our view. As much of a stretch as the Tier 2 standards will be for gasoline vehicle, they'll be even more so for diesel engines. A fundamental problem, as EPA recognizes, is getting the vehicle systems to meet both NOx and PM emission standards at the same time.

Sulfur free is the level that will allow diesel vehicles to operate at their cleanest throughout their useful life. That is why auto makers and engine manufacturers from around the world have endorsed this level and have recently updated a worldwide fuel charter which we have submitted for the record, and which is also available on our website.

The charter defines sulfur free as between 5 and 10 ppm, to be defined further as more data become available. But in this country, the stringent emission standards justify adopting the lower limit. The Manufacturers of Emission Controls Association also continues to recommend 4 ppm, not withstanding its support for the 15 ppm cap. Many people assume that the 15 ppm cap will lead to an average sulfur level of about 7 ppm, with most of the fuel having less than 10 ppm due to expected refiner compliance margins.

We are not certain of this outcome. Rather, we

expect refiners to learn how to shrink their compliance margins. A combination of these factors could lead to more fuel above 10 ppm, or even above 15 ppm, than expected. And sulfur levels in this range will seriously poison the new after-treatment control devices.

In addition to sulfur, EPA should also adjust other fuel properties, as recommended in the charter, especially cetane, aromatics and distillation. We will discuss these issues further in our written comments.

We think 5 ppm fuel is doable, and it's a goal that we should all strive for. After all, refiners are making very low sulfur fuel today in Sweden and elsewhere. Other countries are moving quickly to ultra low sulfur fuels. Just last year, Germany adopted a tax initiative program to encourage fuels of less than 10 ppm sulfur by 2003. In May, the EU announced its intention to pursue this course for all of Europe.

The key point is that refiners know how to make the clean diesel fuel. Proper incentives and market demand will bring this fuel to market even faster than public estimates predict. We urge EPA to focus on its incentive package to encourage the marketplace to make the new cleaner fuel widely available as soon as possible.

We have come a long way in the debate over sulfur. Just two years ago, auto makers petitioned EPA to reduce

sulfur in gasoline to California levels, or lower. Today, everyone accepts the critical role that sulfur plays in our national environmental policy. The issue is no longer whether to reduce sulfur. It is not that even near zero sulfur fuels will eventually be needed. Rather, it is when will they be available to enable the new technology.

For our part, Alliance members want to bring advanced technologies, such as a turbocharged direct injection engine and hybrid electric diesel vehicles, to the point where they can operate cleanly and meet consumer needs. The proposed 15 ppm cap on diesel fuel sulfur is a very strong step toward providing the incentive to continue investing in diesel technology. Diesel fuel quality on a par with the World-Wide Fuel Charter, however, will actually make this technology one of our key options for the future.

Thank you.

MR. GRUNDLER: Thank you, Mr. Dana. Mr. Faudel, welcome.

MR. FAUDEL: Thank you. Thank you very much.

Thank you for the opportunity for allowing me to provide these comments. I don't think anyone can argue with the need to control, better control emissions from heavy-duty diesels. I think we're all in agreement there.

I am vice-president of Corporate Relations for Frontier Oil Corporation. We own and operate a small

refinery in Cheyenne, Wyoming and another in eastern Kansas. with only approximately 700 employees, Frontier Oil is one of the 22 small business refiners identified by the agency as subject to the provisions and protections of the Small Business Regulatory Enforcement and Fairness Act, or SBREFA.

Frontier is also the only small business refiner that supplies gasoline and diesel fuel to the Denver market and, consequently, competition to the majors.

These small refiners that we are group of very much appreciate your formal acknowledgement that complying with a dramatically reduced diesel sulfur standard will cost small business refiners such as Frontier as much as 50 per cent more on a per gallon basis than it will cost a large oil company. We also very much appreciate your efforts, through the SBREFA process, to find possible ways to partially offset these disproportionate costs to our small businesses. We have a long way to go and unless this rulemaking process can be extended, and I understand that may be difficult, a very short time to get there if the small business refiners are to survive and have a fighting chance to continue to provide some competition in the transportation fuels market.

The SBREFA Panel that was convened this last fall to find some flexibility for small business within this proposal met a much more difficult task than was encountered in the agency's recent successful Tier 2 gasoline sulfur

regulatory development. And, Paul, I sympathize with you. It was a difficult process. Unlike the passenger vehicle engine controls of Tier 2, the proposed heavy duty diesel engine emission control systems as endorsed by the agency seem to be paradoxically and impractically fragile, allowing for absolutely no flexibility in a diesel sulfur standard. In addition, the affected small business refining community is more numerous and widespread and much more varied than it was in Tier 2.

Small business refiners that will be adversely impacted by this rule include those small refiners in California who have already been driven out of the gasoline manufacturing business by the costly California gasoline regulations, but can still make and sell diesel fuel.

The small Native American-owned refiner in Alaska that is pioneering a unique biodesulfurization process for diesel fuel, and that process may not be able to meet such a very low standard on such a tight time frame.

Small business refiners that have historically made predominantly off-road diesel and who soon may face a disintegration of their prime market if off-spec on-road diesel is dumped to the off-road market by large oil companies.

We have a small business agricultural co-op refinery that uniquely serves the needs of the farmers in the

Midwest, and a number of small business refiners like Frontier who still manufacture both gasoline and diesel fuel, and who may now fact the potentially debilitating costs of having to make simultaneous modifications of their facilities to meet these two expensive new gasoline and diesel sulfur standards at nearly the same time.

In the preamble to the proposed rule, you have asked for comments on a number of programs that may help small businesses comply with this regulation. With the exception of the suggestion that small refiners enjoy a higher final on-road diesel standard than the rest of the industry, my approach to each of the programs suggested is yes, we need that and we need more.

If we must accept that the best the heavy-duty engine manufacturers can do to meet their emission limits is to design fragile emission control systems that suffer from nearly complete fuel sulfur intolerance, then the agency has correctly concluded that relief for small business refiners must be found not in the diesel sulfur standard itself, but in other related areas that may act to confound a small refiner's ability to comply or survive. Frontier, therefore, believes that it is necessary to allow small business refiners to choose any or all of the potentially useful accommodations identified below so that all of us have the best possible chance of survival and to remain competitive.

We further do not believe that any of these small business refiner accommodations will in any way diminish the environmental benefits of an ultra low sulfur diesel rule. And, unfortunately, neither can we guarantee that by promulgating these provisions, that all of us will remain in business. These recommendations are as follows:

Number 1. Small business refiners need the ability to continue to manufacture and sell on-road diesel meeting the current 500 part per million standard for as long as there is a market for that fuel, and without a commensurate requirement for small refiners to manufacture the new, ultra low sulfur diesel, or for their customer stations to carry it. And all that means is as the new engines are phased in, the new controls are phased in, there will be a need, a market for that 500 part per million fuel. We would like to have that market preserved for small refiners to the best extent possible.

The EPA must take some steps to protect the off-road diesel market from damage through the dumping of off-spec on-road diesel to the off-road market by large refiners. What may very well happen is a lot of the diesel fuel that is currently going to on-road will not be cost effective to bring that fuel down to new on-road standard, and it will end up in the off-road market that is the bread and butter for a lot of the small refiners, and that market will be destroyed.

Small business refiners who manufacture both gasoline and diesel fuel must be granted an automatic four year extension of all Tier 2 gasoline sulfur requirements without suffering the uncertainty of a hardship provision application and approval process. The costs associated with modification of a refiner for these two requirements, the gasoline and diesel fuel requirements, are astronomical. We need to have those spread out a little bit. The only rule that has any flexibility with it is the gasoline rule. So what we're asking is for a little bit more flexibility on the gasoline side to allow us to comply with the diesel side.

Small business refiners need the EPA's help in endorsing and obtaining economic assistance, possibly through income or excise tax credits or loan guarantees, so that small businesses can better afford to absorb the 50 per cent greater costs of compliance the agency has estimated we will incur. I was very heartened to hear the first speaker here talk about what's been done in Europe in the way of tax credits, tax incentives for the industry. I think that's something that is very valuable and allows Europe to do that. We haven't looked at that, I don't believe, enough here in the States.

It's unfortunate the agency was not given adequate time to ensure that this rule was technologically sound and economically practical when it was proposed. And it's likely

that due to the rush to promulgate before the end of this election year, much of this rulemaking will have to be revisited in future years in order to preserve the economic stability in the fuels marketplace. But regardless of the outcome, and irrespective of the final diesel sulfur standard, small business refiners like Frontier must obtain the accommodations described above if we are to continue to play a competitive role in that marketplace.

Thank you again for consideration of these comments. I would like to reserve the opportunity to supplement our presentation in writing before the end of the comment period.

MR. GRUNDLER: Thank you, Mr. Faudel. Mr. Whalen, welcome.

MR. WHALEN: Thank you.

My name is Brian Whalen. I am vice-president of Public Affairs for International Truck and Engine Corporation, which as many of you know, was formerly known as Navistar. I'm here today on behalf of Patrick Charbonneau, vice-president of Engine Engineering at International, to discuss EPA's proposed model year 2007 emission standards for heavy-duty engines, as well as the agency's proposed on-road diesel fuel quality requirements.

At the outset, International commends EPA for its landmark proposal to address heavy-duty engine emissions

through a systems approach involving both fuel quality and engine technology. There is no question that diesel engine technology is making dramatic strides in emissions control. As we know, the availability of ultra low sulfur clean diesel fuel is a prerequisite towards meeting the challenging new emission standards beginning in 2007. With clean diesel fuel, we can count on the advanced NOx and PM after-treatment technologies needed to achieve unprecedented emissions reductions. For that reason, we are pleased that EPA is mandating fuel which will enable these advanced technologies to be used on all heavy-duty engines.

International is investing hundreds of millions of dollars in the development of new technologies for all the markets where our engines are sold. We are reinventing all of our engine lines through revolutionary engine redesign and the development of advanced after-treatment technologies. Our technological breakthroughs will allow us to achieve unparalleled emissions reductions. Indeed, we are developing green diesel technology that with, with clean fuel, has already demonstrated the capabilities of particulate filter technology to reduce hydrocarbon and PM emissions to levels that are at or below EPA's proposed standards.

In that regard, it is important to note that progressive oil companies already are making 15 ppm diesel fuel commercially available. These oil companies have earned

recognition and our applause for their efforts to bring clean diesel fuel to the marketplace early. With this ultra clean diesel fuel available so soon, International will commercialize its green diesel engine technology next year and, thus, achieve EPA's proposed model year 2007 hydrocarbon and PM emission standards six years ahead of schedule. This is just one example of the impressive environmental benefits that accrue from a systems approach involving both clean fuel and clean engine technologies.

I also commend the Agency for its willingness to phase-in the proposed NOx standards. We strongly support a NOx phase-in approach, which underscores the challenges facing industry in meeting NOx control targets. EPA's proposal goes far in addressing these technological challenges, but we believe that even more can be done without compromising important environmental objectives. In that regard, I am pleased to say that International, along with the Engine Manufacturers Association, soon will be presenting EPA a new NOx phase-in proposal.

Under this proposal, there would be a single NOx emission standard for all engines in 2007. The NOx standard in 2007 would be significantly below the NOx standard applying to model year 2006 engines. Then, in 2010, the NOx standard would be stepped down to a new and significantly tighter NOx standard. Importantly, this proposal will meet,

and perhaps exceed, the Agency's NOx reductions in this rulemaking, while at the same time, providing manufacturers with needed flexibility to meet those targets. For these reasons, we believe that the Agency will find this proposal to be a win-win for consumers and the environment alike, and look forward to discussing it in greater detail.

In closing, I wish to reiterate International's strong support for EPA's proposal to reduce diesel fuel sulfur levels, which will enable the use of NOx and PM after-treatment technologies needed to achieve the Agency's emission reduction objectives. We look forward to discussing in our written comments these and other technical details of EPA's proposed rule. I thank you for giving me the opportunity to present International's views today, and would be happy to answer any questions you may have concerning my testimony.

MR. GRUNDLER: Thank you very much, Mr. Whalen. Mr. Elliott?

MR. ELLIOTT: Thank you, Mr. Chairman, and members of this hearing. My name is Bob Elliott, and I'm a third generation farmer from Alliance, Nebraska, and I am here today speaking as an elected director of Cenex Harvest States Cooperatives, our regional cooperative, and as a member of my local cooperative, and as an individual farmer.

Cenex Harvest States Cooperatives is one of only

four cooperatives in petroleum refining. We have a small refinery in Montana and majority ownership of a small refinery in Kansas. Cooperatives are uniquely accountable in the petroleum business in that the customer is also the owner. Farmers have invested heavily in the cooperative petroleum operations to help assure reliable and affordable fuel supplies. Cooperatives supply about 40 per cent of on-farm fuel use, and are the only remaining suppliers in many rural communities.

Underlying concerns because of the seasonal spikes by agriculture to produce our food is one of the reasons in the 1930s we formed these cooperatives, and why we continue a significant investment in the petroleum industry, even though we're really wanting to use investment funds to improve prices on the farm. These seasonal spikes at harvest and planting time, we feel like in remote rural locations, probably are not economically viable for the private companies to meet those demands, and that has been an underlying concern of the farm community.

I'm also a local co-op member, one of 1,000 local co-ops that own petroleum tankage and will have to bear the costs of any new tankage requirements. I'm a family farmer, one of the 325,000 member-owners in the Cenex Harvest States system who could bear both the costs imposed on our regional and local cooperatives, and personal costs if increased

tankage is required on the farm.

One might wonder why a farmer is here today to express concerns about EPA's proposed rule for on-road diesel. Many, including key people in the federal agencies, believed until recently that agriculture would not be affected by this on-road standard. The fact of the matter is that this on-road proposal adversely impacts agriculture in a number of ways.

First, we are concerned that the ultra low standard for sulfur in diesel fuel will increase the threat of supply disruptions in rural America. Agriculture's fuel supply cannot be placed at risk.

And I would add the cost in food safety by delaying any harvest of a wheat crop by just a few days and additional rainfall and mold that can grow on that crop are an additional health risk that we just don't consider when we don't look at the whole picture.

Second, most of the off-highway diesel fuel in rural America will be forced to the new highway standard because much of the diesel storage system, particularly in rural markets served by our cooperatives, is capable of adequately handling only one sulfur level per grade of diesel fuel, which will be determined by the new standard for highway diesel. And any mandate or option for two on-highway, low sulfur diesel fuels would impose major and

unacceptable costs on local cooperatives, or force locals to choose which customers to lose because they cannot afford the extra tankage.

Third, these limitations mean that our farmer-owned refineries will be forced to go to the ultra low, on-road standard even though most of our market is for farm uses. This will be extremely costly and is based on technology not yet proven valid or reliable for the industry.

Fourth, diesel fuel costs for farmers and rural America will increase 10 cents or more per gallon, with higher price spikes in the event of tight supplies or disruptions.

And, fifth, cooperative investments involve farmers' money, and we don't know how we'll be able to afford it, especially during difficult times like the farmers are now experiencing. Any costs incurred by co-ops, especially regulatory requirements, are borne by farmers as a heavy penalty.

I have three examples. It is extremely difficult for us to generate the necessary capital for large expenditures to meet the proposed requirements. As co-ops are prohibited from issuing stock in equity markets, during these difficult times, it is particularly difficult for us to borrow funds.

Farmers will receive little return on these

expenditures, and it will consume scarce funds desperately needed for investments in projects to improve farm income.

In the end, farmers bear the burden, both through higher diesel fuel costs as customers, and through reduced patronage from their co-ops as owners.

Agriculture's concern is widespread and growing, as demonstrated by the agriculture letter containing nearly 30 organization signatures that I am submitting for the record, and it is attached to the back of my presentation. I am also submitting the position statement of the National Council of Farmer Cooperatives, which we endorse. Concern is widespread and growing throughout the United States, as evidenced by this list I am submitted of nearly 300 organizations nationwide that have signed this letter that will be sent to every member of Congress.

Farmer cooperative representatives have been working with EPA, and we appreciate the Agency's recognition of the unique structure and challenges of farmer-owned cooperative refineries, as well as possible compliance flexibility options. However, we believe the proposal goes too far too fast, and has failed to consider the major real-world impacts on agriculture and rural America. This is why Cenex Harvest States Cooperatives recommends that the rule be withdrawn and reconsidered.

We urge that EPA and USDA join together to study

and address potential impacts of EPA's proposal on the availability and cost of diesel fuel for farmers and rural America, as well as the effects on performance of agricultural equipment, and to do so before any diesel rule is finalized. In 1985, the EPA and USDA took similar action for unleaded gasoline because Congress directed them to do so by law.

I have a copy of the section of the law that could provide you guidance in moving forward on this issue. We hope EPA and USDA will undertake similar actions without waiting for Congress. It was important enough for gasoline in 1985, and it should be even more so for diesel in 2000. Farmers are critically dependent on diesel fuel.

If EPA decides to go forward with this rule, Cenex Harvest States Cooperatives recommends that any final rule include the following basic elements: a sulfur cap of 50 parts per million, no phase-in or requirement of two low sulfur diesel fuels, maximum compliance flexibility for cooperative refiners, and support for financial assistance to refiner cooperatives.

In closing and in fairness to farmers and rural America, I must ask these questions, and I hope you'll address them in the next published version of this rule.

Why can't this proposed rule be withdrawn and reconsidered? Why is rural America paying so much to go to

the 15 parts per million since air quality problems are in a few cities? Why haven't EPA and USDA done another joint study like they did on leaded gasoline in 1985, and study the impact of ultra low sulfur diesel on agricultural machinery? And why has EPA failed to release a cost benefit analysis for the proposal that would look at economic impacts on rural America?

Thank you for consideration.

MR. GRUNDLER: Thank you, Mr. Elliott. Mr. Bunyak?

MR. BUNYAK: Chair and member of the hearing panel, I am John Bunyak of the National Park Service Air Resources Division. I'm grateful for the opportunity to speak to you today concerning your proposed regulations calling for reduced tailpipe emissions from heavy-duty engines and vehicles, as well as reduced sulfur content of diesel fuel.

The National Park system includes parks and historic sites in every state in both urban and rural locations. I've attached a system-wide map to my written testimony.

We have the responsibility to protect and preserve the resources and values of these sites for future generations. The need to reduce air pollution effects on these resources is why we support the EPA in its proposal.

Even considering the general trend towards improving air quality, many areas likely to include lands

administered by the National Park Service will not attain the national ambient air quality standards in 2007, despite continued implementation of the national low emission vehicle program, Tier 2 requirements, regional transport programs, and other air pollution controls.

In addition, areas that are in attainment will need further programs to ensure that continued economic growth does not degrade air quality. This is especially true to protect the extraordinary natural scenic and cultural resources found in our national park system. Even at levels well below those established to protect human health, air pollutants degrade these resources. Visibility impairment is the most ubiquitous air pollution related problem in our national parks. Although visibility degradation is more severe in the East, significant visibility impairment also has been documented in Western national parks in relatively remote locations.

Even small amounts of fine particles in the air degrade our ability to see the spectacular panoramic scenery of Western national parks. Because they are so effective at absorbing light, particles formed by diesel combustion are two to three times more effective at impairing visibility than particles formed by other pollution sources. Steady and continuing reductions of all types of air pollutants will be needed to restore natural visibility conditions in our

specially protected areas.

Researchers have also documented air pollution effects on biological and aquatic resources. Ozone injures native hardwoods and coniferous trees in parks across the U.S. This can lead to changes in plant community structure.

Another concern is acidic deposition of nitrogen and sulfur compounds which affect water chemistry, which in turn affects algae, fish, submerged vegetation, amphibian and aquatic communities. Acidic deposition and particulate matter are also a concern for effects on historic monuments. Similar to ozone, acidic deposition effects on park resources occurs nationally, including areas of the Rocky Mountains, Cascade Range, the Sierra Nevada Range, Upland areas of the Eastern U.S., Eastern Coastal areas.

We have observed acidification of streams in both Shennandoah and Great Smokey Mountain National Parks. National measures such as a correct proposed rule are needed to protect the natural wonders of our parks for future generations. The emissions from motor vehicles include many pollutants, such as organic compounds, carbon monoxide, sulfur oxides, nitrogen oxides, and particulate matter.

In addition, through atmospheric processes, organic compounds and nitrogen oxides combine to form ozone, or smog. Similar atmospheric processes turn gaseous sulfur oxides and nitrogen oxides and organic compounds into fine particulate

matter. This fine particulate matter is a health concern, and even in areas with low concentrations of particulate matters, can also contribute to visibility impairment.

The National Park Service has a long history of tracking air quality and visibility effects on the lands it administers. While some areas are improving, others have had increases in pollution, such as ozone and nitrate deposition. In addition, all areas monitored for visibility show frequent regional haze impairment. Regional haze rules announced last year by EPA also call for states to establish programs to improve visibility in many of our parks, especially here in the West.

Emissions from heavy-duty motor vehicles, including sulfur related compounds, are part of the multi-source, multi-pollutant mix that impairs regional visibility. The National Park Service endorses EPA's proposal to substantially reduce emissions from heavy-duty diesel engines. Given the increase in sales and use of diesel vehicles, the proposed measures are cost effective and will be needed to help attain and maintain health standards in many areas, to make reasonable progress in addressing regional visibility impairment nationwide.

This national approach is important for visibility and other air quality related concerns, even in areas of the West where ambient measurements are generally below current

national ambient air quality standards. The National Park Service participated in the Grand Canyon Visibility Transport Commission from 1991 to 1996, and continues to work with the Western States and Tribes through their formation of the Western Regional Air Partnership to address visibility concerns across the region.

The Grand Canyon Visibility Transport Commission was composed of the governors of eight western states, Arizona, California, Colorado, New Mexico, Nevada, Oregon, Utah and Wyoming, and leaders of the Pueblo, Yakima, the Hopi Tribe, the Wallapi (phonetic) Tribe, the Navajo Nation, the Columbia River Inter-tribal Fish Commission, and representatives from the EPA, National Park Service, U.S. Fish and Wildlife Service, and the U.S. Forest Service. The Commission was formed to guide EPA in developing strategies to improve visibility in the desert southwest.

The Commission's recommendations, which were endorsed by the majority of governors, highlighted the need to address mobile source emissions and the need for broader application of cleaner fuels as part of a multi-source regional strategy to improve impaired visibility. The National Park Service still endorses the Commission's recommendations, and feels that EPA with this proposal is following through on the Commission's approach of addressing future regional mobile source concerns.

While the issues of current diesel engine emissions are the thrust of EPA's proposal, reduction of sulfur in diesel fuel is a key element to future air quality progress. A national sulfur limit is desirable because lower sulfur fuels are needed to permit the future development of vehicle technology that will result in significant reduction in overall emissions and fuel consumption. Such technology is now being developed, such as direct injection engines, may be more sensitive to sulfur than current vehicles. These technologies can tolerate very little sulfur in order to limit the production of other unwanted pollutants.

Therefore, sulfur removal is not only important to maintain the emission control potential of current vehicles, but is being highlighted by many as an important new technology enabler for the future. Reducing the sulfur content of diesel fuel would reduce the emissions from the current fleet of heavy duty vehicles, reduce sulfur dioxide and sulfate emissions from all new and old diesel vehicles, and potentially enable advanced low emissions and significantly more fuel efficient vehicles.

In summary, the National Park Service feels that with the time frame contemplated for the proposed standards, there will be an air quality need for emission reductions nationwide. The control technology exists today to reduce diesel emissions. The cost effectiveness of the technologies

for addressing vehicle emissions and the reductions in diesel sulfur is within the range of other available control strategies.

We urge EPA to promulgate the proposed rule and require a national implementation of schedule. We intend to provide written comments on this proposal highlighting more information on the air quality concerns of the National Park Service during the public comment period.

Thank you for this opportunity today to comment on your proposed rule. This concludes my statement.

MR. GRUNDLER: Thank you, Mr. Bunyak. Mr. Frick?

MR. FRICK: Good afternoon. My name is Bill Frick. I'm the vice-president for Industry Operations at the American Petroleum Institute. I also serve as general counsel. API represents the oil and gas industry, all facets. We have over 400 members who participate in all segments of the industry, exploration, production, refining, marketing, distribution.

We appreciate the opportunity to participate in this hearing. I hope that we can provide some industry perspective on the rulemaking and add some facts to this discussion.

I want to make several points. We have a written submission, but I'd like to focus on five things this afternoon. First of all, the industry is supporting sulfur

reduction. When EPA began talking about rulemaking, we looked at the issues and we came forward and proposed a 90 per cent reduction, which EPA said they wanted to achieve, and we said we can do that. So sulfur levels are coming down.

The issue we're grappling with here this morning and in this rulemaking is how far and how fast, which hinges on things like what is technologically feasible both in terms of the emissions devices on the vehicles, as well as what physically can be done at refineries, which gets to my second point.

One of the problems we have in dealing with this is in fact because we are working so hard, spending so much to actually clean up a lot of fuels, it is not just diesel that is on the table here. In considering how far and how fast, you have to look at the fact and take into consideration that the industry is facing a serious daunting challenge at its refineries. This rule cannot be viewed in isolation. You've got to look at other changes in the fuel system.

Currently, we have already created, are reformulating gasoline one and two, which was just introduced. We have rulemaking to reduce gasoline sulfur. This would be diesel sulfur. We have a number of boutique fuels that individual areas of the country have said they want on top of the basic reformulated. MTBE reductions are

probably coming down soon. There are attendant costs and strains to the system. If we use ethanol to replace MTBE, we're required to have the oxygenates. There will be an air toxics rulemaking. There are new source review challenges and other issues.

All of these affect the constituents of fuel, the amounts that can be produced at the refinery. In the end, we still have to have fuels that work, so these are important issues. A patchwork of fuels is particularly challenging. It's not just three grades of gasoline, as I said. We have at least ten different areas with different fuel formulations, which puts a strain on all parts of the chain, production, transportation and marketing.

In addition, making these changes that we are talking about doing soaks up capital in a segment with a very low return on capital. It is a challenge even to find and deploy the resources to install the equipment to make these changes. Those of you who go up 270 and see refineries, you know these are not simple facilities. We simply can't turn a valve and make these changes. It's going to take a lot of hard work and a lot of time.

Also, adding to these different fuels, it complicates the logistics to handle the more complex processing and the movement of multiple products. An NPC study, the National Petroleum Council, which is a government

organization which involves the oil industry, reports to the Secretary of Energy, DOE and EPA participated in it, just issued a report on refining capacity. And it said, and I quote, "The NPC concludes that the refining and distribution industry will be significantly challenged to meet the increasing domestic light petroleum product demand with substantial changes in fuel quality, specifications recently promulgated and currently being considered. The timing and size of the necessary refinery and distribution investments to reduce sulfur in gasoline and diesel, eliminate MTBE and make other product specification changes, such as reducing toxic emissions from vehicles, are unprecedented in the petroleum industry."

And the effect of all this is to take out enormous flexibility out of the system, and we're beginning to see some of the effects now. It was ironic that the day we had the LA hearings, USA Today had a report on the issues in the Midwest, talks about the oil industry has little margin for error. That is one of the major concerns we have. It's not resistance to removing it, but we do have issues to ensure that we continue to maintain supplies and can avoid problems like this. I think EPA in executing its authority under the Clean Air Act needs to take into consideration these kinds of issues.

A third point which comes up is that this is not an

issue that 15 ppm cannot be met. It's been noted that individual companies are making it--whether we can provide the supplies that the consuming public needs. Our cost figures are different from EPA's. We think it's going to be closer to $8 billion on top of the cost of gasoline sulfur reductions. This is twice what the industry proposal of 50 ppm would make.

It is not a straight line investment. It's going to have--to go between 50 and 15 has a substantially disproportionate higher cost. There will simply be some companies that will choose not to make that. Their return on investment will not allow them to do it.

Again, referring to the NPC study, they indicated in terms of the system that "there is a significant risk of inadequate supplies should on-highway diesel sulfur levels below 50 ppm be mandated."

So, again, the effect may be that some refineries may be at the margin will choose not to make it, and that has to be taken into consideration. There are already fewer refineries available to make these products, much fewer than in previous years. They are larger. They can make more product, but they are more distant from markets, which makes it very important that we take into consideration transportation and the additional logistics.

The fourth point I would like to make is that this

particularly severe level that EPA has proposed is being imposed to accommodate unproven automotive technology. At this point, we don't know it will work. It's been talked about this morning. There's a lot of people that commented about whether this information will work--whether some of the technology that's out there will work. But I think we do not have in practice, as one major engine manufacturer has stated at a previous hearing of EPA, we have not seen in practice vehicles that are controlling both NOx and PM at the same time.

They stated that this is a monumental challenge, and that the technology that EPA desires to use is still basically in the lab. Any suggestion that it's available now is unfounded. In fact, they stated that we have no proof of the reliability, durability, useful life, practicability or costs. So this is not merely something we can wish would happen. There's some serious and time consuming issues that have to be done.

Finally, to do this on the desire to make light-duty diesels available, when we don't know if there's even going to be a market for that, is a speculative change that we think is an enormous cost that would be imposed on the country without knowing that you really need to do that.

The final point is it really is not necessarily from an air pollution standpoint to reduce sulfur this low.

We will be getting down, as we've talked about, we will be reducing the levels with the emission control devices that are out there and available. There will be very reduced levels from the vehicles. And in the total emissions inventories, we're going to have made significant progress; that these extreme levels simply are not needed.

So, in summary, my points are we are prepared to implement a 90 per cent reduction. That will be very difficult given all our other challenges. This proposal presents a significant risk of shortfall in some areas if implemented to the levels EPA wants. It really is not necessary from the technology standpoint, and the air quality benefits are virtually the same.

This industry has an excellent reputation and takes great pride in providing high quality products that are available and work. We do not want to endanger that performance that the public expects and demands by unrealistic expectations in these regulations.

Thank you.

MR. GRUNDLER: Thank you, Mr. Frick. Mr. Bertelsen?

MR. BERTELSEN: Good afternoon. My name is Bruce Bertelsen, and I'm the Executive Director of the Manufacturers of Emission Controls Associations. MECA is pleased to present testimony today in support of EPA's

proposal.

We believe an important opportunity exists to significantly further reduce emissions from highway heavy-duty diesel engines by utilizing an engineered systems approach that incorporates and combines advanced engine designs, advanced emission control technology, and very low sulfur diesel fuel. EPA's regulatory initiative recognizes the importance of promoting this systems type approach, and the Agency's proposal constitutes a carefully crafted and balanced program. If the program is finalized, it will result in substantial cost-effective emission reductions. Indeed, EPA's initiative will bring about the age of the truly clean diesel engine.

MECA is a non-profit association made up of the world's leading manufacturers of motor vehicle emission controls. MECA member companies have over 30 years of experience and a proven track record in developing and commercializing exhaust control technologies for motor vehicles.

Today, I will briefly summarize MECA's position on EPA's proposal. We plan to submit more detailed written comments before the close of the comment period.

I would like to focus on two items today. First is the issue of the technological feasibility of the heavy-duty diesel standards, and secondly, the critical need for very

low sulfur diesel fuel to meet those standards.

With regard to the technological feasibility, we believe the emission standards proposed for highway heavy-duty diesel powered engines can be achieved in a cost-effective manner within the lead time provided, if low sulfur diesel fuel is available.

EPA, in its proposal, identified two primary candidate technologies for meeting these proposed emission limits; catalyst based diesel particulate filters for PM control and NOx adsorber technology for NOx control. Catalyst based diesel particulate filters are commercially available today. The only remaining engineering effort is to optimize the filter system for the specific engine to which it will be applied. Worldwide, over 20,000 PM filters have been equipped on diesel engines in a wide variety of applications. The control performance efficiency and the durability of these filter systems has been demonstrated. Catalyst based diesel particulate filters used on engines operated on low sulfur diesel fuel can achieve PM and toxic hydrocarbon reductions well in excess of 90 per cent.

In one of the earlier panels, a comment was made regarding the serious health consequences of ultra fine particulates. Testing has shown that with the diesel particulate filter, 99 per cent plus of the carbon based ultra fine particles can be eliminated.

Indeed, when very low sulfur diesel fuel is utilized, the particulate emission levels are almost unmeasurable. Where diesel fuel containing a less than 10 ppm sulfur level have been used, filter technology has demonstrated impressive durability. In some applications, filters have continued to provide excellent PM removal after up to 600,000 kilometers of vehicle operation.

Development and optimization of NOx adsorber technology is progressing at a very rapid rate, and our members fully except that with the availability of very low sulfur fuel, this technology will be commercialized in 2007 for diesel engines.

Indeed, the prospect that EPA will require very low sulfur diesel fuel in the 2006 time frame has already stimulated an increased commitment to bring this technology forward in diesel engine applications. Our members see no barriers to this technology, provided very low sulfur fuel is available. Rather, the challenges are engineering in nature. They are making the substantial financial investment in this technology because they believe it will be commercially available.

I had the opportunity to participate in several of the hearings over the course of the last two weeks, and we've heard terms like unproven technology, uncertain technology, we may not be able to meet the standards, we won't be able to

meet the standards. These types of descriptions are not new. We've heard similar comments over the year with regard to other mobile source emission reduction initiatives. When Congress adopted the original automobile standards in 1970, when EPA proposed and adopted the first set of standards for heavy-duty engines NOx and PM controls, when Congress adopted the Tier 1 standards for light-duty vehicles, when California adopted the LAV program. But in every instance--in every instance, the technology was developed. It was a cooperative effort between the emission control manufacturers and the vehicle and engine manufacturers, and the fuel industry played an important role in providing the necessary fuel. But the target was met.

And the reason it was met was because in each one of these situations, specific, firm standards were put in place, and an adequate lead time to develop the technology was provided. And that's exactly what EPA has done with this proposal.

Indeed, I think we are in a stronger position today than we were with regard to some of the earlier initiatives that I mentioned, because we have a clear technological path to getting to a point where we can meet those standards.

As I mentioned, filter technology is commercially available today. You heard from a previous witness that that technology will be commercially offered next year, provided

that 15 ppm sulfur fuel is used. With regard to NOx adsorber technology, we know what the technology challenges are, and we will meet those challenges.

So I think there is a very clear justification for the very positive statements you've heard, not only from emission control manufacturers, but from a number of engine manufacturers as well.

With regard to the level of sulfur fuel that is needed to meet these standards, we continue to recommend that EPA adopt a sulfur cap of 5 ppm, but we also believe that with a 15 ppm cap, emission strategies can be developed to meet the proposed emission limits. Specifically, with a 15 ppm cap, our members are extremely confident that catalyst based filter technologies will be designed to help meet the PM levels of 0.01, and a NOx standard of .2. At levels above 15 ppm sulfur, we doubt these standards can be met.

We believe that the oil industry's proposal to provide a 50 ppm sulfur diesel fuel is sincere. But unfortunately, it's not enough to get us to the ultimate goal of the truly clean diesel engine. And I believe if we do not move forward with this initiative now, we're only postponing the inevitable, and we'll have to revisit the issue.

There's been some discussion about activities in Europe, and I think what we are seeing very clearly is increased interest in promoting and bringing about the

utilization of fuel with a sulfur level no higher than 10 ppm. And I think that really is the direction for the future.

In closing, I want to thank the Agency again for the opportunity to provide testimony, and commend you on a truly remarkable proposal. I also want to indicate for our industry that if these standards are adopted, and if the very low sulfur fuel, the 15 ppm sulfur fuel, is available, we're prepared to do our part to ensure that these standards are met, and the objective of a truly clean diesel is met.

Thank you very much.

MR. GRUNDLER: Thank you, Mr. Bertelsen. Our last witness, I'd like to welcome Mr. DeVore.

MR. DEVORE: Thank you. Good afternoon. My name is Stan DeVore. I'm a Freightliner Trucks dealer from Casper, Wyoming. I'm here today as a Chairman of the American Truck Dealers Line Representative Committee. And for those who don't know, American Truck Dealers is a division of the National Automobile Dealers Association, and it represents over 1,900 independent franchised truck dealers who sell new and used motor trucks, tractors, and trailers, and who also engage in the service, repair and parts sales for these same vehicles. The majority of our dealers are small businesses, as defined by the Small Business Administration.

Now ATD absolutely endorses EPA's proposal to reduce by 90 per cent or more the smog and soot causing emissions generated by heavy-duty engines. However, these new standards, appropriately enabled by a low sulfur diesel fuel, must first of all be achievable, and further, they must not negatively impact on powertrain performance or availability.

This proposal, however laudable as it may appear, raises several important issues for us truck dealers. We dealers and our customers become very alert whenever new standards are proposed that may result in significant powertrain-related changes. So to be successful, any new emissions reduction technologies must offer similar or improved powertrain performance characteristics at a reasonable, not lower, cost.

Engine manufacturers who fail to achieve these goals simply risk reduced sales because some customers will elect to operate their older vehicles longer. So the longer the older trucks and engines are kept in service, the longer your new emission reduction benefits will be deferred. So understand that any significant number of delayed purchases could be devastating to dealers as well as having devastating effects on the broader economy.

Simply put, if EPA's standards are too strict, they risk forcing technology before its time. Such was the case

in the last Seventies and early Eighties when EPA's technology-forcing regulations contributed to the introduction of a number of light-duty vehicles with substandard drivability, durability, reliability, fuel economy, and other performance-related characteristics. Perhaps the "not to exceed" issue faced by diesel engine manufacturers striving to meet 2002-2204 standards is an example of the real life limitations that can arise if and when emission standards are imposed too strictly or in too soon a fashion. Truck dealerships, the majority of whom are small individual or family owned businesses, will consider any new standards that would undermine the products we sell, lease, service or maintain to be unacceptable.

I imagine that the engine, emissions component, and chassis manufacturers have already let you know whenever they will be able to build compliant products within the proposal's time frames for the many varied engine and vehicle combinations we deliver to our customers. No matter what reasonable standards and achievable timetables ultimately are agreed to, the final rule should include a careful, periodic technological progress report and review designed to ensure emission reduction goals are actually being achieved without compromising the engine drivability, reliability, durability or fuel economy performance attributes demanded by the marketplace.

EPA has stated that its proposal reflects an appropriate systems approach to heavy-duty diesel emissions. Now, given that heavy-duty diesel engines will almost certainly need to be equipped with complex after-treatment technologies, such as adsorption catalysts and particulate traps, the simultaneous production and distribution of a single very low sulfur diesel fuel will be absolutely critical. As with EPA's recently finalized Tier 2 emission standard for light-duty vehicles, low sulfur diesel fuel will be the essential enabler of these new emission control technologies. ATD leaves it to others to suggest appropriate diesel fuel caps--correction--diesel sulfur caps and averages. I ask only that when evaluating these suggestions, EPA carefully consider the significant customer satisfaction issues that are certain to be involved.

With the introduction of heavy-duty on-board diagnostic equipment and in-use emissions testing, truck operators will risk experiencing self-induced emission systems false-positive failures. If this happens, the bottom line is our customers will be irate, even in situations where our technicians end up installing new catalysts at no charge under warrant. Down time, Ladies and Gentlemen, can be very, very costly.

The low sulfur diesel fuel that is so essential to EPA's proposal must not be forced into the marketplace too

soon or at too high a price. In my neck of the woods, the truckers travel very long distances and fuel prices can make or break their business. Moreover, our small refiners, particularly in the mountain states, may be especially impacted by a low sulfur diesel fuel mandate. Adequate lead time is essential given the fuel price sensitivity of the trucking industry and the economic burdens refineries may incur. However, since this new fuel must be readily available before new powertrains are introduced, its realistic availability may well be the driving force of the final rule's deadlines and phase-ins.

All other things being equal, the sooner a single low sulfur diesel fuel is introduced, the better. Please understand, I'm in no way suggesting a phase-in or any scenario involving more than one diesel fuel in the marketplace. While it's not essential for existing 2004 on-highway heavy-duty engine emission standards, low sulfur diesel fuel will certainly result in major emissions benefits for those engines and for engines used in off-highway vehicles, construction equipment, and railroad locomotives.

Moreover, low sulfur diesel fuel will help enable the introduction of clean and efficient light-duty diesels, engines that could play an important role in the achievement of significant short-term fuel economy increases. In other words, if we don't have the fuel, your program isn't going to

work. Perhaps an EPA devised credit scheme recognizing the extra air quality benefits of low sulfur diesel fuel would be an incentive for early introduction, and EPA should also support tax creditors or other monetary incentives designed to facilitate the introduction of this fuel.

EPA's (sic.) written comments will elaborate further on these issues, and for now, I thank you for the opportunity to testify at this hearing.

MR. GRUNDLER: Thank you, Mr. DeVore. Questions?

MR. FRANCE: Mr. Frick, we've had a lot of testimony over the last couple of weeks from suppliers of the after-treatment equipment and from the manufacturers themselves that have reached much different conclusion in terms of their prognosis, the status of the development of the technology, especially PM traps, and also the prognosis given the lead time that we propose in our rule.

I'm curious if you have--how do we reconcile your statements with what we're hearing from the very folks that have to apply the--develop the technology and apply it?

MR. FRICK: I think in the end, you're going to have to look at what the data that come in and how much you can believe that the actual testing that you have, the test data, shows that the statements can be backed up. In the end, this rule has got to be based upon the record, not merely statements made in the hearings.

We think there is data out there that shows that some of these devices actually can work on higher sulfur fuel than they've been saying. So we think it's partly there is availability of these. They don't necessarily have to have 5, 10 or 15 parts per million.

MR. FRANCE: And what data is that?

MR. FRICK: That's the--we will have this data in the record, but the data from Europe on the use of the SCR technology, the data on the particulate traps we think can show that it can function on the higher sulfurs.

MR. FRANCE: And particulate traps on 50? I was curious since we have the opportunity to have International and MECA, if they would respond to that?

MR. BERTELSEN: When you're looking at applying filter technology across the board to every heavy-duty engine used in every conceivable application and operated in every conceivable ambient environment, you need to be sensitive to achieving the necessary regeneration temperatures to bring about the cleansing of the filter to ensure its durability. And I'm not even going to get into the sulfate issue, which I think has been pretty clearly established that even at very low levels, sulfate formation from filters, from the sulfur in the fuel, quickly causes a filter to exceed the proposed standard.

But talking about the experience with filters

operated at higher levels, yes, if you apply a technology, particularly an example of a retrofit where you have an opportunity to examine the engine temperature map of that technology, I hate to use the word cherry pick, but you can say yes, this is an appropriate environment, we can apply a filter technology because the temperature regime of that particular engine and that particular application is sufficient to bring about regeneration. But that's a long way and a far different issue than saying you can apply this technology at a 50 ppm to all engines and all applications. It just simply isn't the case. And I think we should be very, very careful at pointing at one data point or another.

And with regard to the issue of data, we also intend to provide to EPA before the close of the comment period additional data to back up our testimony that we provided here.

MR. WHALEN: Let me just add from International's standpoint that maintenance and durability factors are just critical to our customers, and that's why we made the decision when we announced the availability of a commercial rear engine school bus which will be available next year, achieving the hydrocarbon and PM targets that we're looking at here, that it would only be--we would only sell those in areas where the 15 ppm low sulfur fuel was commercially available. And that at the moment is northern and southern

California.

MR. GRUNDLER: And do you have data that you can share with us for the record?

MR. WHALEN: Well, yeah, there's been data entered earlier from the experience in Europe and others. We have been testing. We're working with ARCO in southern California. So that's actually an EC-5 fuel, but that data is available for the record, I'm sure. So we are doing field tests currently right now in California with some fleets. We'll have about five or six different fleets in different parts of California. I don't know whether the data would be available, frankly, in those before the close of this rulemaking.

MR. FRANCE: Just one other. Again, just to reinforce to Mr. Frick and to others, to the extent that you have data to support contentions that the technology is unproven, not feasible, we would like to see that information submitted in your written comments.

One other quick question, and this has come up before, with respect to your--again targeted at Mr. Frick--with respect to your 50 ppm proposal, my understanding in that proposal is that you're projecting reliance on SCR technology for NOx control. Is that correct?

MR. FRICK: We believe that is at least one technology. There may be others. There may be other efforts

done by the manufacturers that can do it, but we do believe it has been proved in use in Europe that it does work.

MR. FRENCH: And since we're dealing with a national rule here, we would be definitely interested--not interested, we'd request in your written comments that you provide your assessment on how your industry will supply urea on a national scale, and the cost of putting that infra-structure in place, and also the impacts on the trucker and the implication that has with respect to in-use performance of those systems.

MR. FRICK: Very good.

MR. FRANCE: Thank you.

MR. GRUNDLER: I'd like to thank the panel for their time and their comments. At this point, I'm going to call for a ten minute break, and we will convene with the next panel at 1:30.

(Off the record.)

MR. GRUNDLER: Dennis McLerran, Blake Early, Curt McIntosh, Angie Farleigh, Lynn Westfall, Justin Rodda and Richard Severance up for our next panel. On deck, just so you know, I'm going to try to work in some of our unscheduled people, Charley Bittle, Fernando--actually, Charley was scheduled later, but he's got to go. Charley Bittle, Fernando Martinez, Jennifer Douglas, if you're still here, and John Kowalczyk are all on deck following this panel.

Mr. Westfall, why don't you begin.

MR. WESTFALL: All right. Well, good afternoon. My name is Lynn Westfall and I'm the vice-president of Strategy and Strategic Issues for the Ultramar Diamond Shamrock Corporation, or UDS. UDS is one of the largest independent refiner/marketers in North America, with six refineries, totalling over 600,000 barrels per day of crude capacity, and approximately 6,000 branded retail outlets. Of our almost 100,000 barrels per day of on-road diesel production, approximately 80 per cent is sold to over 900 independent businesses. So I feel that I speak for our customers today as well as for our company.

We, UDS, have always believed that an active, constructive involvement in the regulatory process produces a result that benefits all parties, so we certainly appreciate the opportunity to be here today to comment on the EPA's diesel sulfur rule.

In the past, we've been actively supportive of numerous clean air efforts, from being the first company to commercially produce the ultra clean California CARB Phase 2 gasoline, to voluntarily supplying the San Antonio and Denver markets with cleaner than required gasoline. We recognize and we fully support the need to lower the sulfur content of on-road diesel fuel as the next step in the ongoing process of providing cleaner fuels to the U.S. public. We now find,

however, that we cannot support the current EPA diesel sulfur rule because it requires a fuel that delivers little, if any, added benefit, but at a tremendous cost versus fuels with only slightly higher sulfur levels.

First, let's set aside the myth that the current proposal is a requirement for refineries to produce a diesel fuel with only 15 parts per million of sulfur. By not allowing for testing allowances after the fuel leaves the refinery, this rule, by EPA's own admission, actually requires us to make a fuel between 7 and 10 ppm sulfur. This is less than one-third the level required in the new Tier 2 rule for gasoline. Three primary issues arise from requiring a sulfur level that low.

Number 1. Can such a fuel be produced in a refinery and at what cost?

Number 2. Can the integrity of this fuel be maintained throughout the distribution system?

Number 3. How soon could such a fuel be produced in quantities large enough to meet current demand?

As to the first issue, the producibility of the fuel, the answer is probably yes, but at a tremendous cost and risk. At some point around 25 to 30 ppm sulfur levels, the sulfur removal technology changes dramatically. Above that level, low pressure hydrotreating technology can accomplish the task. According to a recently released study

by the National Petroleum Council, which studied this issue for over a year, the industry price tag for a 90 per cent reduction in sulfur levels would amount to about $4 billion, or about $50 million average for each refinery currently producing on-road diesel fuel.

For most refineries, this would involve primarily expanding the capability of existing units to remove more sulfur. The current EPA proposal for a 98 per cent reduction to 7 to 10 ppm sulfur, on the other hand, shifts the removal technology to what is called high pressure hydrotreating. This would require new, grassroots construction at most refineries.

Again, from the NPC study, the price tag for the industry for this lower sulfur level now doubles to about $8 billion, or about $100 million for each affected refinery, tying it with the Tier 2 gasoline rule as the most expensive environmental rule to date.

Now, at our Wilmington, California refinery, we have a high pressure hydrotreating unit in gasoline service that cost almost $200 million, so we have some experience with this difficult process. It requires a special compressor capable of producing pressures well over 1,000 pounds, or half a ton, per square inch. Next, you must have vessels and lines that can contain this high pressure. Vessels must be over four inches thick and are such a

specialty item that only one or two companies in the U.S. are capable of manufacturing them. Is this extra cost then really justified by a mere 8 per cent increase in sulfur reduction?

On to my second issue, that of maintaining the integrity of such a low sulfur fuel as it moves through the distribution system. Diesel fuel, heating oil, gasoline and jet fuel all move through the same pipeline networks in the U.S. There are very few lines dedicated to only one product. Currently, the sulfur ratio between high sulfur products and on-road diesel in the same distribution system is about 10 to 1. At this ratio, the amount of cross contamination between the products is very easily handled. The current proposal by EPA, however, would increase this ratio to almost 1000 to 1. That means that only small amounts of cross product contamination would be necessary to ruin an entire shipment of diesel fuel, requiring that it be returned to a refinery for reprocessing. Processing the same diesel fuel twice lowers the production capacity of a refinery and the availability of diesel fuel to our customers.

Now, to my third issue, that of the timing of the new requirement. In the current proposal, lower sulfur diesel is required by April 1, 2006, less than three months following the effective date of the Tier 2 gasoline regulations. In essence, this means that the industry must

accomplish these two programs in tandem. Again referring to the NPC study, the Tier 2 gasoline program alone will severely tax the ability of the engineering and construction industry in the U.S. Any additional investment requirements, even a higher sulfur level than that currently proposed, will push this part of our industry beyond its capacity, thereby jeopardizing compliance with both gasoline and diesel sulfur rules. As the saying goes, we can do the improbably, but the impossible takes a little longer.

Having outlined what's wrong with the current proposal, what do we at UDS think would make it right? We support the positions taken by both the API and the NPRA for a diesel sulfur limit of 50 ppm at the refinery gate. We believe that this level provides virtually the same clean air benefits sought in the EPA proposal, but at a much lower cost to both the industry and the consumer. Furthermore, the timing of the new requirement should be delayed to no sooner than mid 2007 to avoid straining the construction industry and jeopardizing our compliance with Tier 2 gasoline rules.

If there is a theme to my testimony today, it's one of cost effectiveness. Recent price spikes in reformulated gasoline areas of the country have more than ever brought the issue of fuel costs to the forefront. The debate and investigation into these particular incidents is going to go on for some time, but so far, I think an important point has

been missed, although others mentioned it earlier today. Refining companies don't have access to unlimited capital. Regardless of how much money is required for environmental improvements, every dollar spent on these required projects is a dollar that's not available to expand the output of our refineries.

Historically, refinery expansions have been ahead of the demand curve to the point of excess capacity in our industry; capacity available for short-term disruptions in supply. I don't think that pattern will continue. At UDS, expansion projects now require a very high return rate to compete for the limited capital that we have left after making required environmental expenditures. Many of the expansion projects that we would have considered in the past just don't make the cut any more.

If reduced supply and resulting price increases are an acceptable cost to the American public for a certain level of cleaner air, then so be it. Rarely, however, has an environmental proposal such as the diesel sulfur rule presented such a distinct decision point on cost versus benefit. You can have a 90 per cent reduction for $4 billion, but it will cost you twice as much to get an additional 8 per cent. This is certainly an issue warranting public debate, and we at UDS appreciate the opportunity to participate in that debate today, and I appreciate your kind

attention to my remarks.

Thank you.

MR. GRUNDLER: Thank you, Mr. Westfall. Ms. Farleigh, why don't you go next.

MS. FARLEIGH: Thank you. My name is Angie Farleigh. I'm with US Public Interest Research Group based in Washington, D.C. Since I submitted testimony in the LA hearing, I'd like to take this time to read some excerpts from some of our members around Colorado who couldn't be here today, but wanted to be heard. I have just a few to read.

Kelly McDonald from Loveland, Colorado writes, "I have several family members with some type of lung disease or breathing problems. Honestly, I am very confused as to why there are such stringent laws governing our personal autos and regular gasoline manufacturers, but yet diesel fuel appears to be exempt."

Michael McNeill from Nederland, Colorado writes, "Diesel engines of all sizes represent a major health hazard to Americans. Most of us get smog certificates on our passenger cars every years. But it doesn't take a rocket scientist to know that the Ford F-350 or Dodge Ram diesel truck sitting next to you in traffic is a health hazard. The fumes are overwhelming and the particulate emissions are visible. The problem escalates with the size of the diesel engine in larger trucks and buses that are being represented

here today."

Dr. Bess Brackett from Greeley, Colorado writes, "I was just on Trail Ridge Road today in the Rocky Mountain National Park in Colorado where one can view some of the most breathtaking scenery in the world. Unfortunately, there were diesel buses also in attendance. It would be a tragedy if diesel buses and trucks were allowed to continue as is and endanger not only the health of our nation, but also its beauty."

And, finally, James Lindahl from Nederland, Colorado writes, "As a sufferer of pulmonary hypertension, I am keenly aware of the effects that the particulate pollution from diesel powered vehicles has on those like myself who suffer from chronic lung disorders." And then he, as well as all these other letters, so on to urge the EPA to adopt the toughest emission standards as soon as possible.

The first thing they all mention is to clean up sulfur levels in diesel fuel to no more than 15 parts per million by 2006. The public understands that low sulfur diesel fuel is absolutely necessary to achieve the proposed pollution reduction.

They also understand that it is necessary to have low sulfur diesel fuel available nationwide by the time the emission standards go into effect. They do not understand, however, why the EPA is considering weakening their proposed

provisions on sulfur.

At a time when the oil industry is enjoying record profits, they can afford to clean up diesel pollution. The public, however, cannot afford to continue breathing unhealthy air. In order to protect the public health, US PIRG and their half a million members across the country urge you to adopt a sulfur cap of 15 parts per million by mid 2006.

Thank you.

MR. GRUNDLER: Thank you very much. Mr. McIntosh?

MR. MCINTOSH: Good afternoon. My name is Curt McIntosh and I'm president of the independent Diesel Workers Union located in Columbus, Indiana. We have 2,800 members working in three manufacturing plants located in Columbus, Seymour, and Walesboro, Indiana.

In 1993, the membership signed an unprecedented eleven year contract with Cummins Engine Company. Out of that contract, a partnership was formed with Cummins to provide employment security for the community and to help Southern indiana attract new business.

Our members pride themselves on producing the best products on the market today, and then putting the Cummins name on every engine shift. We're committed to reducing emissions in the products we help to produce, and to help guarantee a cleaner environment.

Our hourly employees have been involved in all aspects of our new Signature engine line, the industrial leader in emissions control. Our goal at Cummins is to not only meet, but to exceed, the standards set by the EPA emissions control, and to produce the best, the highest quality diesel engine in the world.

The proposed changes represent the biggest emissions reductions ever required from heavy-duty engines. These new standards will mark the first time Cummins cannot meet emissions standards using traditional in-cylinder methods, force us to work with outside suppliers of after-treatment devices and influence the fuel efficiency.

The use of after-treatment is a gray area. It is still unknown if these devices can perform to the necessary levels to meet the proposed emission levels. Cummins and other engine manufacturers need to examine the feasibility of exhaust after-treatment technology and their impact on the engine system. Even with the ample time given in the proposed rule, it is still too early to make judgment on this technology.

If these new standards are implemented without a complete understanding of after-treatment performance levels, and we are unable to develop and build quality products that perform to customers' expectations, the result would be a decline in sales, leading to reduced environmental benefits

and loss of jobs to many engine workers, including members of the Diesel Workers Union.

We ask the EPA to consider the long-term impact of this proposed rule on our economy. By working with engine manufacturers, an appropriate standard can be developed that would produce reasonable, responsible emission reduction while ensuring security for our workers far beyond 2010.

In closing, Cummins Engine Company and the Diesel Workers Union will continue to work in a partnership to lead the way for a strong emissions control, and most of all, I'm proud to know that working together, we'll provide our grandchildren a safe and clean environment, along with job security.

MR. GRUNDLER: Thank you very much, Mr. McIntosh. Mr. Early?

MR. EARLY: Good afternoon. My name is Blakeman Early. I'm an environmental consultant for the National American Lung Association. You heard testimony earlier today from the American Lung Association of Colorado, with whom we are affiliated.

The American Lung Association is the oldest voluntary health agency in America, founded in 1904, and for four decades, we have helped lead the fight for clean air.

The American Lung Association is pleased to support the low sulfur diesel fuel and heavy-duty vehicle rulemaking.

We strongly support the low sulfur diesel provisions and view the cap of 15 parts per million on diesel sulfur as the critical element of the rule. In my brief comments today, I want to highlight the urgent public health need to clean up diesel fuel and heavy-duty vehicles, and show the overwhelming public support for this program, as demonstrated by a recent poll.

As I just mentioned, the most critical element of this rule is the 97 per cent reduction of sulfur in diesel fuel. We commend the EPA for proposing this level. We must cap the sulfur in diesel fuel at no higher than 15 parts per million, and we must fully implement the sulfur rule nationwide by no later than June, 2006.

Cleaning up diesel fuel and heavy-duty vehicles is necessary because the air is dirty. Diesel engines contribute considerable pollution to the US's continuing air quality problems. Even with more stringent heavy-duty highway engine standards set to take effect in 2004, these engines will continue to emit large amounts of nitrogen oxides and particulate matter, both of which contribute to serious public health problems.

Diesel engine NOx contributes to unhealthy levels of smog. Nitrogen oxides from diesels contribute to ozone, and ozone is a powerful respiratory irritant. Symptoms of ozone exposure include shortness of breath, chest pain when

inhaling deeply, wheezing and coughing. Ozone can also trigger asthma attacks, and you've heard a lot of testimony about that today.

People with existing lung disease already suffer from reduced lung function and cannot tolerate an additional reduction in lung function due to ozone exposure, and they are especially at risk.

Smog is often viewed as a problem primarily plaguing urban areas in the northeast, California and Texas. But recent monitoring data over the last three years finds that EPA's new eight hour standard for smog was violated in over 300 new counties in 15 states. A rapid urbanization of western cities continues, and most recent air quality monitoring shows unhealthy levels of smog in Denver, Phoenix, Las Vegas and Salt Lake City. Las Vegas and Phoenix appear to exceed EPA's new eight hour standard already. And Denver and Salt Lake City are only .01 part per million, or 1 part per billion below the level to be considered a violation of the new eight hour standard. Clearly, as far as breathers are concerned, this difference is insignificant. Ozone is a public health threat in Denver and Salt Lake City, just as it is in Phoenix and Las Vegas.

EPA calculates that the rule will reduce diesel generated NOx emissions by 1.5 million tons annually, just five years after this rule is implemented. This represents a

more than 50 per cent reduction from the level of NOx diesels would generate without the benefit of this rule.

Diesel exhaust significantly increases particulate pollution. Diesels are a large source of particulate pollution, especially small particles known as PM 2.5. Fine particles are easily inhaled deeply into the lungs where they can be absorbed into the bloodstream or remain embedded for long periods of time. A recent study showed a 17 per cent increase in mortality risk in areas with higher concentrations of small particles.

Diesel emissions contribute from 18 to 25 per cent of particulate pollution in many urban areas. They contribute an even larger percentage of the fine particulate pollution in these areas, which is the most dangerous to human health. EPA calculates that this rule would reduce diesel generated particulates by 60 tons annually just five years after the rule is implemented. This represents a more than 60 per cent reduction from the level of particulates that would be generated without the benefit of this rule.

Particulate matter air pollution is especially harmful to people with lung disease such as asthma and chronic obstructive pulmonary disease, which includes chronic bronchitis and emphysema. Exposure to particulate air pollution can trigger asthma attacks, cause wheezing, coughing and respiratory irritation as well, just like smog

does.

Recent research has also linked exposure to relatively low concentrations of particulate matter with premature death. Those at greatest risk are the elderly and those with pre-existing respiratory or heart disease.

The public strongly supports cleaning up diesel fuel, trucks and buses. A nationwide public opinion survey conducted earlier in June, in that survey, nearly nine out of ten people believe that big diesel trucks and buses should be required to use the best available pollution control technology. In addition, the survey found that nearly seven of ten believe that cleaner diesel fuel and stricter diesel vehicle standards should be required within less than five years.

On the critical question of diesel fuel, 85 per cent of the survey respondents believe that up to 4 cents a gallon is a reasonable price to pay for cleaner diesel fuel.

As I indicated earlier, the ALA strongly supports the EPA proposal. In our written comments, we will address many of the specifics raised in the proposal. I will highlight the most critical elements. With respect to the emission standards, we strongly endorse the levels EPA has proposed. We support the 90 per cent reduction of particulate matter to .01 grams per brake horsepower-hour, and a 95 per cent reduction of NOx to .2 grams per brake

horsepower-hour.

We are pleased that EPA is calling for the particulate standard to be fully implemented in 2007. But we believe that the four year phase-in period proposed for the NOx standard for diesel vehicles is unwarranted and will unnecessarily postpone needed air quality benefits. We call on EPA to require 100 per cent of the new vehicles to meet the .2 grams per brake horsepower-hour standard, NOx standard, in 2007.

Again, we reiterate the critical element of this rule is the 97 per cent reduction of sulfur in diesel fuel. EPA must cap that sulfur in diesel at no higher than 15 parts per million, and in order to meet the 2007 standard for the NOx that we are endorsing, it must be in place by June of 2006.

The American Lung Association also supports the development of a Blue Sky performance standard for truly clean technologies, and we will further expand on this concept in our written comments.

In conclusion, some, especially in industry, will say the air is getting cleaner, so cleaning up diesel fuel and heavy-duty trucks is unnecessary. Some data do show that air pollution levels in some cities are lower than they were a decade or two ago. But this is not true of all areas of the country. In some areas, air pollution is increasing. We

know much more about the health effects of air pollution today than we did in 1990 or 1980. We know that exposure to ozone at much lower concentrations poses health risks, including exacerbation of asthma. We know that particulate pollution has been linked to premature death. We know that diesel exhaust has been linked to cancer. With all we know about air pollution health effects, we do not need more delays. The American Lung Association urges the immediate adoption of the low sulfur diesel/heavy-duty vehicle rule.

Thank you very much for letting me participate today.

MR. GRUNDLER: Thank you, Mr. Early. With your indulgence, Mr. Severance, I'd like to invite up Mayor Wellington Webb from the City of Denver. Thank you for coming, Mr. Mayor.

MAYOR WEBB: I appreciate the indulgence of the Committee in terms of letting me slip in. But for whoever I just bumped, I apologize.

Good afternoon. My name is Wellington Webb. I'm the Mayor of the City and County of Denver. I want to thank you for the opportunity to participate in today's public hearing on the EPA's proposed diesel fuel emissions standards. I will share Denver's perspective with you to be included in your agency's official record.

It is common knowledge that diesel-powered vehicles

pollute the air. We see it every day. Diesel emissions are a significant source of air pollution, especially in our urban areas, and studies show they are impacting the health of our residents. According to a 1995 study done by the Denver Regional Council of Governments, there were 2.7 million vehicle miles travelled daily in the Denver Metro area by diesel vehicles.

Almost 5,000 heavy-duty diesel trucks are based in neighborhoods within the 80216 zip code in North Denver. In addition, Interstates 70 and 25 run through these neighborhoods that have many low-income as well as minority residents.

There are significant levels of pollutants, including particulates, sulfur dioxides, toxics and more, associated with diesel vehicles. And, we know that these pollutants are related to health problems, from chest pain and shortness of breath to lung cancer and premature death. And I would also add in as one that happens to be asthmatic, I'd concur with the testimony previously given by one of the speakers. And I just lost my place. There are obviously increased health care costs borne by all of us as a result.

In addition, it has been shown that nitrogen oxides from sources such a diesel-powered vehicles, is a major cause of the Denver area brown cloud. Historically, we know that the brown cloud affects our quality of life and our region's

economic vitality.

One way to reduce overall emissions from diesel vehicles is to reduce the sulfur in diesel fuel, in conjunction with tougher emission standards for diesel engines. In fact, cleaner diesel engines cannot work unless there is also a significant reduction in sulfur in diesel fuel.

i believe that the EPA's proposal for cleaner engines using cleaner fuel is necessary and provides sufficient lead time for the affected industries. I am a great believer in the ability of the American industry to efficiently and effectively meet such a challenge.

Last year, the South Coast Air Quality Management District in California concluded that 70 per cent of the total cancer risk in their area was attributable to diesel particulates. If diesel emissions have even a fraction of that impact in Denver, EPA's proposal would have a significant positive impact on the health of our residents.

Thank you very much.

MR. GRUNDLER: Thank you, Mr. Mayor, for sharing your time and your comments with us. Mr. Severance?

MR. SEVERANCE: Good afternoon. I'm Richard Severance, president of Conoco's Refining and Marketing, North America. Conoco markets motor fuels in 21 states in the Northern Rockies, Mid-continent areas, and Gulf Coast

regions of the United States. Our four U.S. refineries are located in Colorado, Montana, Oklahoma and Louisiana and supply our 5,000 retail networks.

Thank you for the opportunity to speak before the EPA and present Conoco's views on the proposed rules to establish new heavy-duty engine and diesel fuel standards.

The EPA faces the daunting task of setting standards that protect the public's health and the environment. This task is especially challenging if the standards are to be achieved in a cost effective manner using sound, proven technology.

Conoco is supportive of the objective to reduce emissions from heavy-duty trucks and buses and we agree that reductions in diesel sulfur levels will benefit this effort.

However, I must say in all candor that Conoco is concerned about the practicality and benefits of the proposal the EPA has put forward.

In the interest of time, I will only speak to those concerns we find most troubling, the extreme level of desulfurization required, the timing of the changeover, and lack of information on future off-road diesel standards.

The desulfurization level. The EPA's proposal for a 97 per cent reduction in diesel sulfur is commonly referred to as the 15 ppm standard. However, to ensure the 15 ppm level is not exceeded anywhere throughout the distribution

system, refiners would need to produce diesel at an even lower sulfur level.

The actual level required is a guess at this time because of uncertainties with regard to how to protect product integrity through the distribution system, and the repeatability of the test methods.

However, EPA and others have guesstimated the sulfur content of the diesel would have to be in the 7 to 10 ppm range when it leaves the refinery.

There are many unknowns in trying to determine how to configure a refinery to produce a product that meets such a stringent standard. EPA has indicated it expects its expert refiners will be able to meet the new standard by revamping existing units. Conoco engineering and technical experts are not convinced that this will be possible in all cases.

It is probable that a more extensive study and evaluation of existing units might determine that revamping these units will not meet the expectations, or they could be so extensive or expensive so that constructing new units is a more viable option.

Product balances and potential for supply shortages must be examined in the context of the proposed regulation. There are several factors that will work to reduce on-road diesel product volumes if refiners are required to

desulfurize to the 7 ppm level.

First, refiners must decide how to handle the diesel streams that are the most difficult and, therefore, the most costly to desulfurize, such as light cycle oil. A refiner may opt to remove some or all of these streams from the on-road diesel pool rather than invest in treating them. This would reduce production of on-road diesel fuel.

Unfortunately, reductions in supply of any product, whether it be gasoline or diesel fuel, generate production shortages resulting in price volatility in the marketplace.

Secondly, in order to meet these low sulfur levels, hydrotreating operations would need to be more severe, resulting in more frequent unit shut-downs for necessary catalyst changeouts. During these unit outages, a refinery's on-road diesel production capacity will be reduced and likely the refinery would be unable to produce any on-road diesel during this time.

Third, regardless of whether revamped or new units are the more viable option, the proposed standard is so restrictive the refinery will have to run perfectly day in and day out, in order to make a 7 ppm sulfur standard. Even a simple crude slate change, something many of us do many times a month, could result in a product that does not meet the 7 ppm level.

And, fourth, maintaining the integrity of the ultra

low sulfur diesel throughout the distribution system presents a challenge. Should the diesel product exceed the 15 ppm standard after delivery into the product terminal or retail station, there will be limited options to remediate that product. Off-spec product at the terminal or retail station will result in product outages until the off-spec material can be remediated.

When stringent fuel standards are established, any disturbance in a refinery distribution system results in an impact to supply availability.

In light of these questions and concerns, Conoco would encourage EPA to adopt the API proposed standard of 90 per cent reduction in diesel sulfur content.

Achieving the API proposed 30 ppm average/50 ppm maximum diesel sulfur content would still require significant refining modifications and capital investments. Although not easy, we believe the plan is achievable by the industry while gaining nearly the same health and environmental benefits.

In summary, as far as sulfur levels are concerned, the EPA is faced with adopting either a standard that refining experts believe can be maintained on a constant and consistent basis, or one with inherent questions on its ability to provide product at a consistent quality and maintainable rates.

On the issue of timing, a little over a year ago, a

Conoco representative spoke before the EPA in Denver on another low sulfur issue, low sulfur gasoline. After hearing all of the testimony, the agency set forth an aggressive implementation plan requiring the phase-in of low sulfur gasoline between 2004 and 2007.

The oil industry is currently employing significant resources to study, design and implement refining modifications to meet those gasoline standards within the time allotted.

The simultaneous introduction of low sulfur diesel, regardless of whether it's the 90 or 97 per cent reduction, will require the industry to implement two distinct and separate clean fuels projects, each requiring unique modifications to existing refineries or new units.

This would not only severely tax each company's internal resources, but would certainly strain or even overload the refining industry's engineering, unit fabrication and construction infra-structure.

For example, there are more than 150 refineries in the U.S. today. Even if you believe that only one reactor would be needed for each refinery, and it's more probable that many refineries would require at least two, the fabrication industry would need to complete these units at the rate of one every other day for a year. There are real questions as to whether there is enough fabrication capacity

to manufacture all the reactors and associated equipment at the same time.

Similar questions exist whether there is an adequate skilled and qualified labor force that would be needed to install the reactors when they were built.

Conoco has estimated that if this project coincides with the peak industry demand on the gasoline projects, some project costs could increase by as much as 25 per cent.

The timing for the introduction of low sulfur diesel fuel is driven by the planned phase-in of new diesel engines. A number of benefits could be gained by delaying the introduction of the new engines by two years, but compressing the phase-in over a shorter period of time, two years versus four years.

Under the current EPA proposal, only 1 to 2 per cent of the total U.S. trucking fleet would require the low sulfur diesel in the first year, 2007. The remaining 98 per cent of the trucking community would be forced to pay for the new, higher priced fuel for a minimum environmental benefit.

With the delay, the trucking industry would be spared from paying a higher price for a fuel they didn't need, and this industry, which has many independent truckers, is already feeling the impact of higher fuel prices because of rising crude costs.

Finally, delay and compressing the engine phase-in

would give the agency time to complete the rulemaking process for off-road diesel requirements.

I cannot stress the importance of a full understanding of the total distillate picture. The refining synergies between on-road and off-road diesel are too intertwined to be treated as separate entities. The off-road diesel information is critical to be able to evaluate all the refinery blendstock streams and the optimum disposition of these streams. This allows refineries to implement the necessary modifications to achieve both on-road and off-road diesel standards in a way that is most likely to preserve the supply balance between the two. Without a complete picture of the agency's expectations for the total distillate pool, the refining industry cannot adequately be prepared to meet the future needs of the transportation industry.

In conclusion, I want to emphasize Conoco's concern with the practicality of the proposed EPA rule and believe the industry proposal is a more reasonable course of action. Conoco believes the industry's approach would significantly reduce emissions, generate nearly the same health and environmental benefits, and result in a cost effective and stable supply of low sulfur diesel for this nation's transportation sector.

When you look at the incremental emissions benefit versus the incremental cost, one has to question whether it

is cost beneficial to go to the extreme levels proposed by the EPA.

I hope the EPA is open to continue discussing alternatives, such as the one proposed by our industry, and we will continue this dialogue with all those who have a vested interest in producing a diesel standard that properly balances air quality and health concerns with cost benefits.

I appreciate the opportunity to comment on this issue which will impact not only our industry, but others as well. We look forward to working with the EPA to hopefully resolve our differences and implement a program that will benefit everyone.

Thank you.

MR. GRUNDLER: Thank you, Mr. Severance.

Mr. Westfall, in your statement, you say that you believe that a 50 ppm sulfur level would provide virtually the same clean air benefits sought in the EPA proposal, but at a much lower cost to both the industry and to the consumer. Can you explain that a little bit more for me?

MR. WESTFALL: I think I have two points to make on that. Number one is that there is a requirement for a 50 ppm level of sulfur, or something above 30, so our industry does not have to go to high pressure hydrotreating. There's $4 billion left over of the price tag that can be applied towards after-treatment technology, to develop a technology

that can work on a 50 ppm fuel. And if we can do that for $3.9 billion, then we as a society have gained a cost benefit of $100 million.

We're trying in the current proposal to put all of the technology changes into the refining industry, and as I say, if you'll allow us to go to a higher sulfur level, slightly higher, around 30 or so, then again there's $4 billion that can be applied to other technologies to see if we can in fact develop one that can run on a fuel like that and give the same benefits as you're asking in the current proposal.

MR. GRUNDLER: So if I'm hearing you correctly, it's not based on any particular analysis about a different type of technology.

MR. WESTFALL: Not at all.

MR. GRUNDLER: I see. Okay. I want to thank the panel for your time and your comments.

Is Mr. McLerran and Mr. Rodda in the room? If so, I'll invite you up, along with Jennifer Douglas, if she has returned, Fernando Martinez, charlie Bittle and John Kowalczyk. Welcome to the hearing, and we look forward to your comments.

I remind you to fill out the cards so we can, and the audience can see your name.

So, Mr. Kowalczyk is not up there all by himself,

I'm also going to invite Kelly Nordini, Marie Valentine, John Stern, David Bartlett, Ronald Hagmeyer to join him.

Mr. Kowalczyk, you have the honor, since you were the first at the table.

MR. KOWALCZYK: My name is John Kowalczyk, and I'm here to speak on behalf of Langdon Marsh, the Director of the Oregon Department of Environmental Quality, and I'd just like to note that I believe I'm the only representative of a state environmental agency to speak today. That seems kind of unusual.

I'm going to read a brief statement from Mr. Marsh. There are many compelling reasons why the State of Oregon is very pleased with and highly supportive of the timely and substantial air quality benefits that can be achieved and realized from EPA's proposed rules. This proposal is another giant step that addresses the prime source of air pollution in Oregon and the nation, and that is motor vehicles.

Designing the proposed rules to motivate application of the best available NOx after-treatment devices on new heavy-duty diesel trucks and buses, as EPA has done, will help us address continuing ground level ozone issues in the Portland area. The proposed particulate emission standards for new heavy-duty diesel engines will necessitate application of state of the art particulate control devices that will greatly help our efforts and our partners' efforts

through the Western Regional Air Partnership, to address regional haze problems and protect visibility in pristine areas of Oregon and other locations in the west.

Our citizens and we are also greatly interested in addressing the control of air toxic emissions. Achieving the maximum particulate emission reductions through technologically feasible means, such as being proposed, can accomplish possibly and address the greatest health hazard that we're hearing of, and that is the cancer causing emissions of particulate that have been identified in studies in other urban areas of other states.

And last, but not least, we expect EPA's proposal to once and for all effectively address the noxious smoke and odors from on-road diesel engines over their useful life, and this has been an issue, long-standing issue, and major concern of the public.

We do realize that in order to achieve the huge emission reductions from on-road diesel engines that EPA has projected, it will require application of ultra low sulfur diesel fuel. This challenging requirement comes on the heels of EPA's recent rules to require low sulfur gasoline to enable state of the art emission control technology on gasoline powered passenger vehicles. We remain sensitive to the possible adverse impacts of new fuel regulations on small Rocky Mountain refineries that supply fuel to portions of

Oregon.

We participated in and are pleased with the results of the efforts of the Western Regional Air Partnership to seek EPA action to help prevent refinery closures and unnecessary fuel shortages and fuel price increases in the west as a result of EPA's gasoline sulfur rules. We commend EPA for including special provisions for Rocky Mountain refineries in their gasoline sulfur rules that they recently adopted.

We are pleased to see that EPA seeks comments on ways to ease the impact that the proposed diesel sulfur rules may have on small refineries. We urge EPA to consider reasonable ways to do so, and I would underline this, without compromising the timeliness or the effectiveness of the proposed program in improving air quality. We encourage EPA to support incentive type programs for these refineries that may help to mitigate economic impacts of the fuel desulfurization requirements, and perhaps even stimulate early compliance.

And, finally, while EPA has recently adopted a program for light-duty gasoline vehicles that promises to motivate manufacture of near pollution free vehicles by the end of this decade, and while EPA now proposes to virtually do the same for on-road heavy-duty diesel vehicles, we are disappointed that EPA has not concurrently proposed a similar

program for the last remaining significant category of mobile sources, and that is non-road or off-road heavy-duty diesel engines.

These engines used in construction equipment, trains, ships, farming vehicles and mining equipment, are projected to emit about the same total amount of pollution in the future as does on-road heavy-duty vehicles and, thus, they are of virtually equal concern in terms of impact on ground level ozone, carcinogen particulates, regional haze and nuisance visible smoke and odors.

Non-road heavy-duty diesel engines should be controlled to a similar degree as proposed for on-road heavy-duty diesel engines. We understand that this will also require very similar low sulfur non-road diesel fuel to enable application of appropriate after-treatment devices. Just moderate reductions in the sulfur content of non-road diesel fuel will not provide very much air quality benefits.

To address the issues of controlling off-road diesel fuel, we hope that EPA will move as expeditiously as possible to regulate non-heavy duty diesel engines and fuels, and we suggest that EPA give as clear and timely notice as possible, such as issuing a specific advanced notice of proposed rulemaking for this source category, concurrent with the adoption of the on-road heavy-duty diesel rules, that indicates what EPA's inclination is towards specific non-road

heavy-duty engines and fuel standards, and then aim at adopting those proposals in the year 2001.

I believe we've heard the refining industry and the engine manufacturers and others all wanting to know what EPA is projecting and doing in this area. So I think there's just a lot of good support for giving people advanced notice on this issue.

So, again, I thank you for this opportunity to come, and I hope these remarks are useful to you.

MR. GRUNDLER: Thank you, Mr. Kowalczyk. We move from the left to the right. Mr. Hagmeyer, welcome.

MR. HAGMEYER: Good afternoon. My name is Ron Hagmeyer, and I'm president of Venta, Incorporated of Lakewood, Colorado. Our company either operates or supplies motor fuel to 85 convenience stores in Colorado, Arizona, Wyoming and Nebraska. We sell about 70 million gallons of motor fuel each year at these retail outlets, mostly under the Texaco brand. I appreciate the opportunity to appear today to comment on the EPA's proposed diesel fuel sulfur standard.

I am appearing today on behalf of the National Association of Convenience Stores, a national trade association consisting of more than 2,300 member companies. The convenience store industry employs 1.3 million people and operates over 119,000 retail outlets across the country.

Convenience stores last year had total sales of $234 billion, which included motor fuel sales of $134 billion. Motor fuel brings in over 57 per cent of the total sales revenue of our industry. Over 75 per cent of NACs member companies sell motor fuels, and 40 per cent of our companies sell diesel fuel.

NACS is deeply concerned about the potential impact of the EPA proposal on our nation's diesel fuel distribution system. EPA has proposed a 15 ppm diesel sulfur cap, and most of the refining industry supports a 50 ppm cap. For diesel fuel retailers, like us, each approach presents the same serious problem. Simply stated, if either standard is finalized, our existing distribution system will be incapable of meeting the standard on a regular basis because of product commingling and contamination as low sulfur diesel fuel moves through pipelines, barges, bulk storage terminals, and tank trucks. Unless each of these facilities is cleaned immediately prior to the introduction of ultra low sulfur diesel fuel, residual sulfur clinging to the walls of the pipeline or tank will contaminate the product.

If EPA intends to mandate the complete segregation of ultra low sulfur diesel fuel from all other products, then our nation's distribution system will surely collapse. There are not enough dedicated pipelines, storage tanks, and cargo tanks to meet this separation requirement. If it is not

EPA's intent to require segregation, then EPA should thoroughly assess how its proposal will work in the real world without significant product contamination.

A second issue of serious concern to NACS is the possibility that EPA will rely on a phase-in approach in implementing the diesel sulfur standard. EPA has suggested an option that would permit 15 ppm diesel to coexist with the current 500 ppm diesel during a four year period from 2006 through 2009. NACS strongly opposes this dual fuel option. Such an approach would be unworkable for the vast majority of our members, especially the smaller companies with limited financial resources. The cost of installing additional tankage would be impossible to justify for the limited phase-in period. I would add that in the preamble, EPA did not include an estimate of the potential cost to diesel fuel retailers of a dual fuel approach.

Another basic flaw in this approach I believe is the simple fact that a large number of retailers would be likely to choose to offer only one grade of diesel fuel. Many smaller retailers would be inclined to sell only the higher sulfur diesel, thus saving money by continuing business as usual. They would be selling a lower priced fuel to a broader market consisting of trucks with the older engines. Sales of the more expensive, low sulfur fuel generally would be limited to interstate truck stops supplied

by major oil companies. Some of the larger retailers may choose to offer only the cleaner 15 ppm diesel because it will be correctly viewed as the higher quality product. But the fuel would be used only in the newer trucks, comprising a small percentage of the market in 2006. The higher price of the new fuel would ensure that it would be used in very few of the older trucks.

The result most certainly would be chaos in the market. Supplies of diesel fuel at the retail level would probably be erratic and unreliable in most regions of the country, because refiners in any one region would be unable to produce the correct balance of the two grades. Supply uncertainty would be compounded by the unavailability of one grade or the other at individual retail sites. Supply problems, of course, would then invariably trigger severe price volatility.

As everyone knows, today we are already experiencing price volatility and severe supply disruptions in our distribution system from prior mandates and regulations imposed upon the industry. My company obtains motor fuel from eight different terminals or refineries in our marketing area. In 1999, we suffered partial or complete shortages of various products from our major supplier for a total of 196 days. This year, through five months to date, we have suffered product shortages for 90 days, and we are

just entering the peak driving season in our markets.

What this has caused and what it causes today is increased transportation costs from our fleet of trucks from additional mileage, repairs and maintenance, and driver man hours resulting in higher pass through of costs to the consumer. If we think prices are high now, I believe that they will be nothing compared to those we will experience if this proposed regulation is mandated to the industry.

I would agree that with our industry, that 50 parts per million is far more reasonable than 15 ppm. I believe that 15 ppm does not significantly increase the air quality from 50 ppm. I've been in Europe. They have good air quality. I don't see any black smoke coming from trucks over there. And I think today, our air is cleaner than ever. I've lived in Denver for 24 years. I was born in 1934, an asthmatic, allergic to 65 different foods. I wasn't supposed to survive.

On top of that, from high school until about 15 years ago, I smoked two to three packages of cigarettes. Today, I walk five to ten miles a day, and I think Denver's air is cleaner than ever, and I haven't had an asthmatic attack for over 35 years.

I truly appreciate, and our industry truly appreciates what EPA is trying to do. We want clean air, too. We just want it at a reasonable cost and at a level

that's efficient and not over kill.

We appreciate very much the opportunity to testify before you today. Thank you for your time and your consideration.

MR. GRUNDLER: Thank you, Mr. Hagmeyer. Ms. Valentine?

MS. VALENTINE: Good afternoon. My name is Marie Valentine. I'm here to speak on behalf of DaimlerChrysler on the subject of EPA's proposal to modify heavy-duty vehicle emission control regulations and on-highway diesel fuel requirements.

DaimlerChrysler is a vehicle manufacturer of light-duty and heavy-duty vehicles that operate on gasoline and diesel fuels. DaimlerChrysler is a demonstrated leader in the development of environmentally sound vehicle technologies. This is evidenced by our commitment to support the pursuit of tough emission performance goals.

Reducing heavy-duty emissions will aid in achieving the Nation's air quality goals, and we stand ready to do our part. This is a logical follow-up to the Tier 2 light-duty vehicle emission regulation adopted last December. We agree that EPA needs to look at all pollution sources when determining a comprehensive emission reduction plan.

In our opinion, the combination of a low sulfur on-highway diesel fuel program with feasible, stringent new

emission standards for heavy-duty engines and vehicles will assist in improving air quality nationwide. We congratulate EPA for continuing to link vehicles and fuels, as was recently done in the Tier 2 regulations. This system approach is the only way to achieve the emission reductions envisioned.

We commend EPA's initiative to propose a 15 ppm sulfur cap for the on-highway diesel fuel. This critical first step will enable the continued development and advancement of diesel emission control technology that is necessary if the heavy-duty industry is to meet the new proposed standards which reflect a 90 per cent reduction in NOx and PM.

Sulfur is a poison that blocks the use of after-treatment technology by rendering the hardware inoperable at today's 500 ppm level. The developers of the after-treatment technologies have indicated that a very low level of sulfur in diesel fuel is critical for the future development of these devices. The lower level will permit catalyst-based control strategies to be optimized for maximum emission reduction efficiencies.

Recent data indicate that sulfur free diesel fuel is the enabling requirement for the use of NOx adsorbers, Continuously Regenerating Technology systems, and Selective Reduction Catalysts due to their sensitivity to sulfur.

Further information on this will be included in our written comments.

The world's engine manufacturers have defined sulfur free diesel fuel, as specified by the World-Wide Fuel Charter, as the correct fuel to enable the use of NOx and PM after-treatment technologies where stringent emission standards are required. Therefore, the sulfur level in diesel fuel must be reduced to allow the use of after-treatment technology as an emission control strategy for diesel vehicles as has been so successful for gasoline vehicles.

Let me emphasize that the proposed sulfur cap is only the first step needed for diesel fuel. A sulfur free diesel fuel with a minimum cetane of 55 and a maximum 15 per cent aromatic limit is ultimately necessary. This fuel composition would support the use of diesel fuel in the light-duty vehicle market and provide the benefits of reduced emissions, and increased fuel economy, another goal of the current Administration, while also maintaining customer satisfaction.

A diesel powertrain is an important option for passenger vehicles. Diesel vehicles could have a significant role in the reduction of fuel consumption by offering a 40 per cent fuel economy advantage over gasoline vehicles on a miles per gallon basis. The sophisticated diesel vehicles

currently in the European market have higher endurance, reliability, and torque, which is a desirable performance attribute. On the emission side, diesel vehicles have inherently low hydrocarbon and carbon monoxide emissions, no evaporative emissions, and have long-term stability of emissions, which will be further reduced with after-treatment, but the enabling fuel is necessary.

We applaud the initiatives by some oil companies to deliver clean diesel fuel to some localized markets in advance of the regulations. The lesson learned is that cleaner fuel can be made available and is being done at an affordable price.

Should a phase-in of clean on-highway diesel fuel be found necessary, we encourage EPA to have it start in 2004. The oil industry has previously challenged EPA to make all known changes in one step, not two separate steps, so capital investment strategies can be optimized. Therefore, the 2004 suggested start date would link diesel with the gasoline sulfur control required by Tier 2, and allow light-duty clean diesel as a viable powertrain.

In conclusion, let me restate the key points of our message. First, EPA's proposal of a reduced sulfur diesel fuel for on-highway is a great first step. Second, clean fuel packaged with feasible emission standards is the correct path to ensure and enable further reduction in emissions.

DaimlerChrysler believes the diesel fuel as specified in the World-Wide Fuel Charter is necessary to enable low emissions and fuel efficient technology.

DaimlerChrysler is continuing to review the proposal and plans to submit written comments addressing other issues in the NPRM, and expand further on our diesel fuel position.

Thank you for the opportunity to speak to you.

MR. GRUNDLER: Thank you, Ms. Valentine. Ms. Nordini?

MS. NORDINI: Thank you. My name is Kelly Nordini. I'm the transportation program director for the Colorado Public Interest Research Group, CoPIRG.

If it's appropriate, I'd like to defer CoPIRG's comments to Robin Hubbard, who will speak later this afternoon on your schedule.

Instead, Mayor Joe Rice of the City of Glendale was not able to be with us today, and he asked, if it's appropriate, if I could deliver some brief comments on his behalf.

MR. GRUNDLER: That will be fine.

MS. NORDINI: Thank you.

Mayor Rice is with the City of Glendale, and Glendale is a small city in the heart of the Denver Metro area that is situated right along Colorado Boulevard.

Colorado Boulevard is one of the busiest state highway corridors. It faces tremendous traffic every single day and on the weekends. This means that Glendale experiences the disproportionate impacts of diesel exhaust, and while Glendale has taken many steps as a community to help reduce automobile air pollution, including establishing a local shuttle program that runs along Colorado Boulevard and supporting transit throughout the region, including the I-25 light rail line that's planned, Glendale believes that we need diesel vehicles to do their part if we are to achieve our clean air goals in the region--rather, I should say Mayor Rice believes.

Mayor Rice was, therefore, disappointed to learn that the EPA has proposed waiting until 2010 to fully clean up smog-forming pollution from trucks and buses.

In addition, because high sulfur fuel will poison the new diesel clean-up technologies, we must ensure that all diesel fuel is fully cleaned up and readily available before the trucks are required to clean up.

Mayor Rice applauds EPA's efforts to clean up diesel vehicles to help make all our communities cleaner and more livable, and he thanks you for the opportunity to comment today, and for your consideration.

MR. GRUNDLER: Thank you for sharing his comments.

Next, I'd like to hear from Mr. Bartlett.

MR. BARTLETT: Good afternoon. My name is Dave Bartlett, and I'm here on behalf of the Diesel Technology Forum. The Forum is a new group working to enhance public dialogue with a wide range of stakeholders, including the EPA, other government agencies, and other interested parties, to explore a wide range of opportunities to reduce emissions from both existing and new diesel engines, while recognizing the inherent benefits of diesel technology.

Diesel power systems, that is, engines, fuels and after-treatment systems, that are the subject of today's hearing power the economy, from the familiar package delivery trucks to tractor trailers. They're the very centerpiece of our nation's supply and distribution network. But they're also much more. In the age of the Internet and e-commerce, diesel power systems have taken on an even more important role facilitating the greatest economic expansion this country has ever seen, doing more work, moving more goods, and helping more businesses and more people than ever before.

This proposal to reduce emissions and require cleaner fuels in new diesel trucks and buses starting in 2007 marks yet another milestone in the continuing improvement of diesel technology. New diesel engines powered with today's fuels emit less than one-eighth the emissions of engines built just over a dozen years ago. And if adopted, the proposal currently under consideration here could result in

as much as a 90 per cent reduction in emissions beginning in 2007, and that's on top of improvements already on-line for the period 2002 to 2004.

We support the direction of the EPA's proposed rule that will result in lower diesel emissions and cleaner diesel fuel in 2007. We're especially pleased that for the first time, EPA has used a systems approach in setting future fuel and engine standards, an approach that recognizes that engines and fuels are both part of an integrated diesel power system.

This systems approach is even more important than ever, since for the first time, engine manufacturers, the companies that manufacture exhaust and after-treatment equipment, and fuel refiners will all have important roles to play in order to achieve the significant reductions in emissions that EPA is proposing.

Whatever the outcome of the debate over how much sulfur should be allowed in diesel fuel, everyone agrees I think that lowering sulfur content, coupled with advances in diesel engine technology, will help improve air quality.

And while this hearing is focused on future reductions in air pollution, we shouldn't lose sight of the tremendous progress that's been made in the past right here in Colorado and across the nation.

For example, in Colorado, air quality continues to

improve. In the Denver area, the number of exceedances of any of the federal air quality standards has declined by over 83 per cent from the period 1986 to 1990, only 25 days. That's compared to 1991 to 1995, 4.2 days. Quite a reduction. Most encouraging is that in the last four years, Colorado has had not one single violation of any National Ambient Air Quality Standard. During this time, Colorado has also experienced explosive growth in construction and population. This also means an increasing use of diesel engines in the trucking industry, serving more people and delivering more goods than ever before.

On a national basis, overall criteria pollutant emissions have declined by 34 per cent from 1970 to 1997. This reduction has taken place at the same time that the U.S. population has increased by 31 per cent. The economy has more than doubled in size over that same period of time. The Gross Domestic Product has increased 114 per cent in that time period.

Now, how has pollution declined at the same time that we've seen massive increases in manufacturing, construction, transportation, agriculture and all the other activities that constitute economic growth? The answer is simply that all these activities have become cleaner at the same time that Americans have demanded more and more of them.

We see the future of diesel power systems in both

these trends. Diesel power systems have become much cleaner, and through continuous improvements, they will become much cleaner still.

This proves that we can have economic growth, increasing the use of diesel technology, and cleaner air. These are consistent goals.

Diesel power systems are an essential part of the quality of life that we enjoy today. They provide the most efficient, economical and reliable power for whatever the need. And diesel is a technology that is defined by innovation and continuous improvement, meeting the ever increasing needs of the customer, whatever the application and whatever the need.

Now, make no mistake about it. This proposal represents a significant technological challenge for the engine manufacturers, the exhaust after-treatment suppliers and the fuel refiners, all of whom are members of the Diesel Technology Forum. But we're confident that together we can build on our past progress and produce the cleanest, most economical and most reliable diesel power systems ever.

While this proposal deals with new technology going forward, there are many opportunities we think to address some important issues concerning the existing diesel fleet.

Let me say just a word about excessive smoke from diesel trucks and buses. When properly maintained, diesel

engines don't smoke. Fortunately, Colorado has had a successful diesel smoke emissions inspection program for several years, a program that has virtually eliminated excessive smoke from diesel trucks and buses. And, frankly, we wonder why only 13 states have such programs today. We challenge the other states around the country to consider adoption of smoke testing programs. We have the tools and resources available to assist in that effort.

This March, the EPA issued a challenge to retrofit 10,000 engines over the next two years. The Forum is pleased to be working alongside the EPA in that effort. We are bringing together resources or identify engines of all types in a wide variety of applications to determine the feasibility of lowering emissions by adding exhaust after-treatment systems, modifying engine emission controls, and/or using cleaner diesel fuels. We're encouraged by the possibilities for success with this program, which will include engines in a full range of applications from marine vessels to highway trucks.

In conclusion, the members of the diesel Technology Forum, while not taking a position on the specific fuel sulfur levels or the other issues that are under debate today, support the EPA's decision to take a systems approach to reducing diesel emissions. However, the specifics of this debate are resolved, diesel power systems are poised to

deliver more of the efficient, reliable and economical power demanded by the American people.

As leaders in technology and innovation, the members of the Forum are committed to working with the EPA, with state governments, and with other interested parties to continue the improvement in diesel emissions, and to take meaningful steps now to address the problems in the existing fleet.

Thank you very much.

MR. GRUNDLER: Thank you, Mr. Bartlett. Mr. Stern?

MR. STERN: I'm John H. Stern, and I'm vice-president of Petroleum Affairs and general counsel for Countrymark Cooperative, Inc. We're located in Indianapolis and we own and operate a 24,000 barrel refinery at Mt. Vernon, Indiana.

Countrymark is owned by 188 local cooperatives in Indiana, Ohio, Michigan and Kentucky. And those local cooperatives are owned by 200,000 farmers in that same general geographic area. Countrymark presently is a small refiner under the definitions of the SBA and the EPA. We have 315 employees currently.

We basically produce fuels for the agricultural area and for the small communities in the Midwest, and those fuels are predominantly a high quality diesel fuel for the farm, gasoline, other diesel fuels and heating oils for the

rural communities and small businesses. We basically distribute our products through a pipeline that runs up through the center of Indiana and through truck and barges on the Ohio River.

We are constantly attempting to upgrade our refinery and to comply with all of the EPA regulations and other regulations that exist, and we are a clean air and clean water company. However, we are concerned about these regulations and the impact that they have upon us, our owners and our customers.

Most of the time when people think of the petroleum industry, they think of the international oil companies, the major oil companies, and OPEC. However, there is a segment of the petroleum industry which is unknown to many, and insignificant to most, and that's the small refiner and the cooperative refiner. However, in the areas where we operate and serve, we are a factor in the community, in that we provide fuels to niche markets and we provide employment and we serve and have served for many, many years.

However, in my 50 years, and I hate to admit that I'm that age, this is the most severe time I have ever seen for small refiners and cooperative refiners. The impact of regulations, both the Tier 2 gasoline and the present proposed regulations, are just more than most small refiners can bear that burden.

I'm not going to replow the same ground that everybody else has today. We support the industry and the 50 ppm. We are also concerned about the distribution system and about the technology that's necessary. We also know that it will be difficult for us to obtain engineering, construction and the processes along with all the major oil companies who will be vying for those services at the same time.

I've heard it said that putting the gasoline regulations and the diesel regulations together would be helpful to refiners. I don't know where that started, but I can't find any justification for that, nor can I find that among any other refiners. It's two different things, and the costs will be the same, and you're trying to do two things that at a refinery at the same time. It makes for safety problems, operational problems, and frankly, the cost of money is a very big factor here.

EPA has asked for comments concerning the various suggestions in the regulations as it relates to small refiners and to cooperative refiners. I might mention we are one of a kind. We are a small refiner, and we're a cooperative refiner. I don't know whether that's good or bad, but at least we have gained some notoriety by being an individually distinct refiner in this country.

But the big thing for us, and I think most small refiners, because we are a part of the coalition of--not a

coalition, it's a group of 25 refiners. We've met in the SBREFA process, both on gasoline and on the diesel fuel regulations. And by the way, we are very appreciative of that process, both on the Tier 2 gasoline, and what has transpired here to date. We realize that it's been difficult for those involved in SBREFA to come up with anything that will take care of the small refiner, and I think that's the uniqueness of the small refiner and why we've managed to stick around all these years, is because we are unique. And when it comes to the various comments that were made in the proposed regulations, I can't find one that will fit all.

As a matter of fact, I don't think all fit all. So I would implore EPA to try to incorporate in the regulations as many of the alternatives that were proposed, or at least commented on, in the final regulations, because I think small refiners are going to need all the help that they can get if they are to survive.

I know our refinery, to do both the gasoline and the diesel fuel, will be spending somewhere between $25 and $30 million. Now, as a farmer owned cooperative, and as other small refiners, we don't own crude, so we're not reaping any benefits from the present high price of crude. We pay just what everybody else would have to pay for crude. So when we take it into the refinery, we're paying that $33 a barrel. So our profits come from the refining. We don't own

a lot of service stations and outlets and C stores, so we don't have that end of the business to make money from. And most of our refiners are in that same position.

When it comes right down to it, whether you end up at 50 ppm, which we think is where it should be, or 15, what small refiners need is financial help.

Earlier today, as it was referred to by several, that in Europe there were incentives for small refiners, programs to bring them down to the level that is required by these regulations. I suggest that that is something that EPA, while I know you don't have the authority to do it, could recommend to the administration and to congress some sort of tax relief, investment tax credit, excise tax rebates, or a loan program, guaranteed loan program which would allow small refiners to remain in business.

I know you've heard a lot of people yell from time to time, wolf, we'll go out of business if you do this to us. And from time to time, that has just been crying wolf. But also from time to time, and I think we've seen it in California recently, there are refiners who have gone out of business. And I have to tell you I find the sincerity of the small refiner group that I'm working for at such a level, and I know them well and I know what their plight is, that they are sincere when they say that their ability to remain viable and to provide the services and the quality products to the

communities which they serve is in jeopardy.

Now, I have not gone into the various things which were proposed by EPA. I will cover those in our comments between now and August the 15th. I did incorporate a couple of statements in my statement. One was Mr. Ron Williams' statement in New York. The other was Mr. Gerry Faudel's statement. Mr. Williams is with Gary-Williams Energy, and Mr. Faudel is with Frontier.

I think both of their statements set out very clearly the problems that face small refiners and what we will need to survive and continue to be a viable part of the refining industry in the years to come.

I thank you for the time.

MR. GRUNDLER: Thank you, Mr. Stern. Any questions?

MR. FRANCE: This is directed at Mr. Ron Hagmeyer. Just a couple clarification issues. You had mentioned--I'm interested in your perspective, given that you represent convenience stores. You mentioned you supported the 50 ppm proposal, and you've heard earlier that, if you were here, that one of the ways of achieving the benefits is the suggestion that SCR technology would be used on diesels. And, of course, SCR needs urea, which has in itself, among other issues, distribution challenges. Your member companies could very well be on the hook for distributing urea under

that proposal. I was curious what your perspective is on that, and also whether you have thought about how it would be distributed and what the cost impacts would be on your member companies.

MR. HAGMEYER: My forte is not technology. It's marketing. And my comments on 50 parts per million compared to 15 parts per million, there's going to be problems in the supply and distribution system whichever way we go, 50 or 15. My comments were solely based on cost. The convenience store industry provides fuel at a cost--at a retail price to the consumer, and I think it's pretty common knowledge that for refineries to arrive at a 15 ppm product, as Mr. Westfall said earlier today, that's twice as much money, $8 billion compared to $4 billion.

The cost to retailers is going to be higher at the lower level. Pass-through cost to the consumer is going to be a great deal higher. And that's the basis of my testimony. The convenience store industry is based on retail prices to the consumer, whether it's gasoline, diesel fuel, twinkies, coffee, soda. And the technology, I can't get into. I'm not competent to get into that. But I do feel that I'm competent to talk about the price to the retailer, the price to the consumer, and the effect on the motoring public.

MR. FRANCE: Okay. Thank you very much for your

perspective. I would encourage you in your written comments to at least think about and address along with the 50, in order for that to work, if it were to work, it depends upon a technology that would have major impacts on your member companies. So we'd be interested in your perspective on that. Okay?

MR. HAGMEYER: Thank you. We'll do that.

MR. GRUNDLER: I want to thank the panel. Thank you very much.

I'd like to invite the next panel up. Greg Fulton, Susan LeFever, Sally Allen, Lucinda Smith, Charley Bittle, Jeffrey Kramer and Chris Arend.

Mr. Fulton, I'll invite you to lead off.

(Pause.)

MR. GRUNDLER: Mr. Fulton is not here. We will disregard the order on the list and go from my left to my right. Ms. LeFever, go ahead.

MS. LEFEVER: Thank you. My name is Susan LeFever and I'm director of the sierra Club Rocky Mountain Chapter, which represents 16,000 members in the State of Colorado. I'm here to speak in support of your proposal to reduce the sulfur content in diesel fuel and require the use of advanced pollution control devices in new trucks and buses.

For 25 years, automobiles have been subject to engine emission controls, and it's clearly made a difference

in the quality of our nation's air. Now it's time for diesel engines to take advantage of new technologies and reduce their emissions of smog-causing nitrogen oxides and particulates. Diesel vehicles account for nearly a third of smog-causing pollution, and two-thirds of the soot produced by all the nation's vehicles.

In the Denver area, we're growing too accustomed to bad air days, and those days when the brown cloud hides our famous mountain peaks. We see the effects directly on our morning and afternoon commutes. And exposure to increased air pollution is causing respiratory problems and lung disease, putting especially children, the elderly and those with impaired immune systems at risk. Even Colorado's wild places are impacted by air pollution, as the pollution from vehicles fills the skies in our parks, open space and wilderness areas.

We're a fast growing state, and along with the urban sprawl that we're seeing here in Colorado, we're seeing a corresponding increase in traffic, which is spreading the air pollution problems out into outlying parts of the state.

Are there costs to this? Yes, of course there are. But according to the EPA, for every dollar spent on the Clean Air Act from 1970 to 1990, we received a $20 return on our investment. In fact, the EPA estimates that Americans have realized benefits 70 times greater than the costs of

implementing the program. In 1990 alone, tailpipe and smokestack controls saved an estimated 79,000 lives and resulted in an estimated 15 million fewer respiratory illnesses. We believe that we can see similar benefits when these rules are enacted.

We urge you to make low sulfur diesel fuel available nationwide so that every cleaner truck will have access to them.

We urge you to clean up big trucks and buses as soon as possible. We should not have to wait until 2010 before all the new trucks are cleaned up. There should not be a phase-in period for reduction in smog-forming pollution.

We'd urge you to ensure that big trucks are meeting the emission standards on the roads, and not just during engine tests, and to increase the use of advanced technology vehicles.

Thank you for this opportunity to speak on this very important issue.

MR. GRUNDLER: Thank you, Ms. LeFever. Ms. Allen, welcome.

MS. ALLEN: My name is Sally Allen. I'm vice-president of Administration and Governmental Affairs of Gary-Williams Energy Corporation, a Denver based independent oil and gas company. Our primary asset is a 50,000 barrel per day crude oil refinery in Wynnewood, Oklahoma. Company-wide,

we have about 275 employees and fall within the definition of small business refiner used for the proposed diesel sulfur regulations.

Ron Williams, president and CEO, testified on this rulemaking at the EPA hearing in New York City on June 19th. His testimony has been submitted for the record and I won't repeat all of it here. As he pointed out, in our case, the proposal is devastating and could force us to shut down the refinery. That's not crying wolf.

We participated in the SBREFA process for this rulemaking. Panel representatives, including Paul, visited our small Oklahoma refinery. Small business refiners worked diligently to outline the complex range of problems and circumstances facing us, and to underline as strongly as possible that there is no one solution that will enable all small refiners to survive.

We greatly appreciate EPA's discussion of small refiner issues in the preamble to the rulemaking, but we were extremely disappointed that the proposed rule includes no accommodation that would allow a company like ours to continue to operate.

We can see only three possible avenues that might enable us to remain in business. First, we ask the Administration to address the extraordinary financial burden that these regulations place on small business refiners by

publicly endorsing efforts to obtain economic assistance. Our greatest priority is access to the capital required for desulfurization equipment through tax credits, loan guarantees and other incentives. We estimate that our capital costs to reach 15 ppm diesel sulfur will total approximately $46 million. That's more than twice what we paid for the facility in 1995. In addition, our operating and maintenance costs will increase $5 to $6 million a year. We don't have that kind of money and we don't know where we can get it without government help.

Secondly, small business refiners who produce both gasoline and diesel fuel must be granted an automatic four year delay of all Tier 2 requirements. The coincidence of required expenditure for gasoline and diesel desulfurization will be disastrous. We know of no possible financing sources willing to provide the needed capital to our small business, particularly in the face of additional diesel costs.

The EPA proposal for temporary hardship waivers on a case by case basis will, we believe, create a potentially arbitrary and uncertain situation which will further endanger small business refiners. We need clarification of the EPA's assessment of our hardship situation immediately.

At the very least, clear, straightforward and easy to administer hardship criteria must be delineated immediately with small business refiner concurrence so that

our companies will be able to determine their eligibility.

Thirdly, we feel that small business refiners must retain access to the off-road market. We must know as soon as possible EPA's intentions for the regulation of off-road diesel fuel. It is imperative that small business refiners be given an exemption from any new off-road standard and be allowed to continue to sell their higher sulfur fuel into the off-road market. Some measures must be adopted to conserve the off-road market for small businesses and prevent larger companies from dumping higher sulfur diesel and diluting the off-road market.

EPA asked for comments on options for small refiner flexibility that would allow small refiners to continue selling 500 ppm highway diesel and/or continue to produce at a 50 ppm diesel cap. We don't oppose these ideas because they may benefit some other small business refiners. We would vehemently oppose them if they are offered as small refiner flexibility provisions without the other options we consider essential.

Thank you for the opportunity to address the hearing.

MR. GRUNDLER: Thank you, Ms. Allen. Mr. Kramer, welcome.

MR. KRAMER: Thank you. Good afternoon. My name is Jeff Kramer. I'm president of Prima Marketing, LLC, a

private motor fuels and convenience store company headquartered here in Denver, Colorado. Thank you for calling this hearing today to solicit public comment on the EPA's proposed regulations to control the sulfur content of diesel fuel.

Prima is an independent marketer of motor fuels. We own and operate 55 motor fuel outlets and supply an additional 60 dealer accounts in four states, West Virginia, Pennsylvania, Ohio and Kentucky. Our company employs about 500 workers and markets approximately 80 million gallons of motor fuel each year. In addition, before becoming an independent marketer, I was CEO of Frontier Refining Company, a Rocky Mountain area refiner, and also served as vice-president of Supply and Transportation at Total Petroleum. Because of my background, I feel I have a unique perspective on the refining industry and the impact of this proposed rule.

I appear today on behalf of the Society of Independent Gasoline Marketers of America. I'm privileged to serve as a director of SIGMA. It is an association of approximately 260 motor fuels marketers in all 50 states. Together, SIGMA members supply over 28,000 motor fuel outlets and sell over 48 billion gallons of gasoline and diesel fuel annually, or approximately 30 per cent of all of the motor fuel sold in the nation last year. Collectively, SIGMA

members sold over 13 billion gallons of on-road diesel fuel last year, and 89 per cent of our members sell diesel fuel.

My own personal experience with Prima and representation of SIGMA members at this hearing today combine to make me qualified to speak about the EPA's rule proposal, not just from the diesel fuel marketers' perspective, but also from the perspective of diesel fuel consumers as well. From the point of view of diesel fuel marketers and our customers, EPA's proposal will have dire consequences on our business, our customers, and potentially, the national economy.

SIGMA strongly opposes EPA's diesel fuel proposal for one fundamental reason. It will reduce, and perhaps substantially, the supplies of on-road diesel fuel and, as a result, has the potential to create serious market disruptions as have occurred in the Northeast last winter and in the Midwest this summer.

Diverse and plentiful sources of supply are the life's blood of independent petroleum marketers like Prima. Without adequate supplies of diesel, independent marketers, who have been the most competitive segment of the motor fuels industry, will cease to exist as a force in diesel fuel retaining. Already, as a result of industry consolidations and refiners exiting the motor fuels business, the number of sources of diesel fuel on which an independent marketer can

look for supply has been greatly reduced. When independent refiners are aware that an independent marketer has many other sources of supply, then the integrated refiners are forced to be competitive. When sources of supply narrow, however, there are no such forces acting on the integrated refiners.

EPA's diesel sulfur proposal will result in a substantial decrease in the overall supplies of on-road diesel in this country. As EPA admits in its proposal, some refiners will not be able to make the capital investments necessary to produce ultra low sulfur diesel, resulting in reduced supply. EPA also admits that the desulfurization technology does not exist to remove sufficient sulfur from diesel fuel blendstocks, again reducing supply. An additional admission is that our nation's diesel fuel distribution system, pipelines, bulk storage facilities, tanker trucks, will be forced to often downgrade a certain portion of the nation's diesel fuel production because it will be contaminated with higher sulfur products during distribution, again, reducing supply. And the EPA highlights the fact that, under the proposal, domestic diesel fuel will have a substantially lower sulfur level than diesel fuel produced in other industrialized countries, which will prevent foreign supplies of diesel fuel from alleviating any shortage that might occur in domestic production.

Independent marketers of diesel fuel will not be the only ones to suffer under EPA's proposal. Consumers of diesel fuel, including our nation's trucking and agricultural industries, will pay for EPA's program at the pump. EPA predicts in its proposal that diesel sulfur reductions will cost approximately four and a half cents per gallon. That estimate is woefully low. As we witnessed this past winter and spring in the Northeast and currently are witnessing in the Midwest, even small supply shortages of motor fuels can cause drastic increases in retail prices. If overall diesel supplies are reduced by 10 per cent as a result of EPA's proposal, which I believe is probably not unrealistic given conversations I've had with other refiners, then $2 a gallon diesel fuel prices we saw in the Northeast may become the norm, if not a bargain in the eyes of consumers.

Given the extent to which our nation relies on diesel fuel to power our on-road commercial transportation network, the ultimate impact of these price increases and diesel fuel shortages will be felt by the economy as a whole through increased transportation costs and inflation. While the current staff at EPA may not be as concerned about this proposal and its impact on the economy because they will probably be long gone after this Administration has left office, most of us will still be suffering the consequences and repercussions from this proposal, as will be felt by

consumers and in our economy.

While consumers generally have responded to public polling that they are willing to pay more for gasoline and diesel fuel to have cleaner air, the recent supply crises and price spikes, and the resulting howls from consumers and elected officials, in the Midwest give rise to significant questions regarding the public's support for an environmental program that could harm the continued expansion.

SIGMA raises a specific objection to the dual fuel option discussed in the preamble to the proposal, including the ill-conceived notion that a dual fuel program should be limited to large diesel fuel marketers. In the preamble, EPA requests comments on adopting a regulatory scheme that would permit two on-road diesel fuels to exist for a short period of time. EPA envisions that refiners would make some ultra low sulfur diesel fuel for several years and continue also to supply the current low sulfur on-road diesel during this transition period. EPA also solicits comments on a retailer mandate for offering both on-road diesels, or a mandate that only large marketers do so.

These ideas should be roundly criticized and discarded. I'm afraid they have many flaws to them. In particular, in its attempt to make its proposals on diesel sulfur reductions seem reasonable, this idea of the dual fuels has got many problems with it. It could be potentially

disastrous for our industry and the nation's motor fuel distribution system. In the case of marketers specifically first, it would force Prima and other fuel marketers to decide one of the two following scenarios: either add an additional underground or above ground storage tank and dispenser system to pump and hold the second grade of on-road diesel, or retail only ultra low sulfur diesel fuel at a time when only a small percentage of our customers would require it, and risk losing customers to competitors that choose to sell cheaper, low sulfur diesel fuel.

Further complications arise in the distribution system for products. The general fungibility of petroleum products in the U.S. provides an extremely efficient pipeline transportation system. For example, it costs only about 2 cents a gallon to transport a gallon of gasoline or diesel fuel from the Gulf Coast refineries to, say, the Chicago market. The introduction of multiple product specifications makes gasoline and diesel fuel more similar to specialized chemicals, which are more frequently shipped by more costly truck or rail.

The system breaks down because of so many different products that have to be supplied to the marketplace, and bottlenecks occur. You will also have the situation where even where we're marketing in West Virginia, which requires conventional fuel, we had product outages at various

terminals because the supply would get oriented towards the other areas that needed that product more greatly. So you actually have a major market distortion that winds up creating trucks that have to go very far distances, actually making the environmental situation work, and ultimately you could have a problem with ultimately promoting misfueling in the marketplace because of the tremendous market dislocations that can happen.

A friend of mine recently said that when we were talking about it, said that this is probably the way it will be, and that we probably more than anything should be used to it, get used to it because this is probably going to be more of the norm as more and more regulations come into play.

I would like to summarize that I do have--SIGMA does have a recommendation, a recommended program, one that might allow a little more time until it takes effect, so that all of the refiners can be ready for it, that the cap be set at 50 ppm rather than 15, because we feel that would be extremely important and help significant, and the other portion being that the dual fuel recommendation is definitely faulty.

Thank you very much. I appreciate the opportunity to present SIGMA's views on the EPA proposal.

MR. GRUNDLER: Thank you, Mr. Kramer.

Once again, I'd like to ask the panel's indulgence

and I'd like to invite up the Honorable Ken Gordon. Representative Gordon is the minority leader of the Colorado House of Representatives. Welcome.

REPRESENTATIVE GORDON: Thank you. I appreciate the opportunity to testify out of order. My name is Ken Gordon. I'm the minority leader in the Colorado House of Representatives. I've been in the Legislature since 1992, and I've lived in Colorado for 25 years.

One thing about Colorado, and especially the Denver basin, is that we don't have as much air as they do in other parts of the country, and that it is more subject to degradation because of the altitude, because we're in a basin, because of the sunlight that we get here.

My mother has emphysema and she can't come to Denver to visit her grandchildren, my children. Colorado, though, does have a long history of resource extraction. Places like Minnesota and Wisconsin were developed by people who would get together on the weekend and help the neighbor put up their neighbor's farm. Colorado was developed by people who said if you step foot on my mining claim, I'm going to blow your head off.

It's only in the last part of this last century that we've seen air to be a finite resource. The automobile industry, the trucking industry, and other industries that create air particulates and gases, use the air as a sink to

discard their waste, and they do that, it helps them, it's an inexpensive way to get rid of their waste, and they don't have to pay for it, and the cost is borne by the whole population of the state or the basin or wherever the air shed is.

I'm not an expert on the technical proposal, but I do feel very protective of the air quality here in Colorado, and we do have days when the air quality is very degraded. We have a burgeoning population, increasing vehicle miles travelled. Because of the population, we have a great deal of sprawl. People are living further and further away from where they work. And as the Lung Association says, if you can't breathe, nothing else matters.

So I would just come down here on behalf of the environmental community and the people that live in especially the Denver basin, and support the proposal and ask that we give as much credence as possible to trying to protect the air quality, although as a Coloradan and having been on the Natural Resources Committee in the Colorado Legislature for many years, I have found that I have been infected by the desire to have as few unnecessary federal regulations as possible, even though I support protecting the environment. So I would tailor the proposal narrowly for the purpose, and I appreciate the time that I had to testify.

MR. GRUNDLER: Thank you very much, Representative

Gordon. If I could ask further indulgence of the panel, and I'd like to invite up Mr. Young, who's representing Congressman Udall's testimony. Mr. Young needs to leave by 3:30, so if you don't mind, I'd like to ask Mr. Young to represent Congressman Udall's comments.

MR. YOUNG: Thank you very much for indulging me. I apologize for my time constraint. What I have done is brought with me a letter from Congressman Mark Udall who represents the Second Congressional District here in Colorado. He's written a letter commenting to Carol Browner on these proposed regulations that are before you today that you're discussing.

It's a lengthy letter. I brought a number of copies, which I think you have. I don't intend to read the whole letter, but I thought what I would do is highlight just a couple of provisions in it. It is addressed to Carol Browner, and the operative sentence, or section, of this letter is the opening one which says, "I am writing to express my support for the U.S. Environmental Protection Agency's proposed air quality regulations concerning reduced sulfur content in diesel fuel and heavy-duty engine standards," which were published in the Federal Register on June 2nd.

"EPA's proposal to cut a variety of harmful air pollutants from large diesel trucks and buses would have

important public health and environmental benefits for communities in Colorado. Cleaner, low sulfur diesel fuel is a critical ingredient of EPA's initiative, enabling state-of-the-art control technology that will reduce millions of tons of air pollution from neighborhoods and communities across the country."

He then goes on to talk a little bit about his support for the Tier 2 regulations, which were similar in the sense of removing sulfur from gasoline, and for standards for sport utility vehicles and like type vehicles. So I'll skip that.

But I will continue on with the rest of the letter, saying that, "Many studies have proven that diesel emissions produce pollution that can be breathed deeply into the lungs causing very serious respiratory effects, especially to the very young and the elderly. It is estimated that over 470,000 children and 226,000 elderly in Colorado are at risk for lung disease or respiratory distress because of unhealthy levels of air pollution. Moreover, national, state and international health agencies have determined that diesel exhaust is a probable human carcinogen, and related to increased incidences of lung cancer. We must do all that we can to reduce the air pollution from large diesel trucks and buses in our communities.

In so doing, smog air pollution in Denver could be

cut, toxic air pollution in our communities could be curbed, Denver's brown cloud could be reduced, acid rain in our forests and watersheds could be mitigated, visibility throughout Colorado could be improved, and health impacts from soot could be reduced, thus improving quality of life." I'll end it there, saying that he finishes by concluding, saying, "I commend the EPA for keeping at this issue and in developing standards that will help improve the quality of life in our communities for years to come." Sincerely, Congressman Mark Udall.

Thank you for giving me the opportunity to present these remarks from the Congressman.

MR. GRUNDLER: Thank you very much. And while we're hearing from members of Congress, Mr. Arend, why don't you present your member's views.

MR. AREND: My name is Chris Arend and I'm an aide with Congresswoman Diana DeGette, who represents the First Congressional District here in Colorado, and she regrets that she was not able to be here today. She's back in Washington trying to get our budget passed through. But she has asked me to read a statement into the record that I would like to give right now.

"As a member of Congress representing the City of Denver, Commerce City, and parts of Aurora, Colorado, I am greatly concerned about our metro area's air quality. In the

early years of Denver, many people moved to our City to take in our fresh dry air, to find some respite from devastating diseases such as tuberculosis. Today, our once fresh dry air is often infected with an ominous brown cloud over our city obscuring views of white capped mountains only miles to the west.

While the air quality over the Denver metro area has greatly improved since the red alert days 20 years ago, it seems we still have work left to do before we can breathe the fresh dry air so coveted by our ancestors. While it may be technically safe to be outside again, it is obvious we continue to face challenges towards cleaning our air.

To move towards cleaner air, I support the Environmental Protection Agency's proposed Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Requirements. This initiative will help to modernize our diesel fleet and bring controls to diesel fuel and diesel engines comparable to regulations which already apply to individual cars and trucks.

I understand there will be added costs for trucking companies and for fuel refineries to produce lower sulfur gas. However, there are refineries currently cost effectively producing lower sulfur diesel fuel. Also, the Department of Energy and industry are now working together to bring about highly efficient clean diesel engines to power a

new generation of diesel trucks and vehicles.

Overall, I feel the long-term benefits of these rules will outweigh the short-term inconvenience these industries may feel. It is shocking to hear that according to the American Lung Association of Colorado air pollution places 400,000 children and 226,000 elderly at risk in Colorado for lung disease, while diesel particulates may be responsible for 1,220 cancers in Colorado. It's also concerning to hear that nationally, the Health Effects Institute of Cambridge, Massachusetts, found a 1 per cent increase in the death rate for each small increase of tiny particulates in the air, and a 2 per cent to 4 per cent increase in hospitalization of the elderly.

Anyone behind a bus or a semi-truck can tell that diesel vehicles spew a tremendous amount of particulates in the air. These new regulations proposed by the EPA not only will reduce the problem of diesel particulates, but will improve diesel engines and diesel fuel overall to allow for immediate pollution reductions.

by the time these regulations are fully implemented, nitrogen oxide emissions, a major contributor of smog from highway diesels, will be reduced by 95 per cent, and particulate emissions will be reduced by 90 per cent. the gains and potential health benefits from these regulations are so great that I would encourage the EPA to

implement these rules even earlier than the 2010 targeted phase-in date. As far as I'm concerned, it is never too late to have cleaner air to improve the quality of life for our children and elderly citizens.

Thank you for the opportunity to submit these comments to you today. I hope in the near future, after these regulations are implemented, we all will be able to take deep breaths of our historical fresh clean dry air and continually gaze upon the beautiful mountain vistas of Colorado's Front Range."

Thank you.

MR. FRANCE: Thank you. The next testifier, Lucinda Smith.

MS. SMITH: Thank you. My name is Lucinda Smith, and I'm a Senior Environmental Planner with the City of Fort Collins in Air Quality. But today, I'd like to share with you comments prepared by our Mayor, Ray Martinez. He sends his apologies that he couldn't be here today. Prior commitments prevented him from being here. If it's acceptable, I'd like to just read his letter.

"Dear Sir or Madam. I am providing comments on behalf of the City Council and the 110,000 plus residents of the City of Fort Collins, Colorado. I would like to start by thanking EPA for the progressive work they have done to protect air quality, first by promoting tighter Tier 2

standards, and now by proposing more stringent diesel emission standards and fuel controls. I also thank you for the opportunity to make comments on this important issue.

As a member government of ALAPCO, Association of Local Air Pollution Control Officials, I should say that Fort Collins heartily endorses the comments provided recently by STAPPA and ALAPCO on this proposed rulemaking. By making these comments, I can offer you the perspective of one local community in the north Front Range of Colorado.

Fort Collins is a community interested in improving local air quality, protecting the health of our citizens, and preserving our good quality of life. As such, we urge you to adopt more stringent emission standards for heavy-duty diesel trucks and buses as soon as possible. We also urge you to adopt the 15 part per million cap on sulfur in diesel fuel proposed for the year 2006. There's several reasons we urge you to do this.

First, the proposed standards will help us achieve local as well as federal air quality goals. The city's own air quality goal is to continually improve air quality as the city grows. We put a lot of effort into programs such as reducing traffic growth, improving traffic flow, enhancements to the state's inspection and maintenance program, smoking vehicle enforcement, and buying alternative fueled vehicles. However, nothing has been more effective in reducing per mile

emissions historically than tighter federal emission standards.

Second, the proposed standards would help reduce ozone, which is a pollutant of growing concern along the Front Range. In 1998, Fort Collins came close to violating the ozone standard. The diesel control program proposed by EPA would result in significant reductions in NOx and hydrocarbon emissions, both important ozone precursors.

Third, the proposal would help improve visual air quality. When we survey Fort Collins residents, they tell us that pollution affects them most by creating the brown cloud and obscuring mountain views. Our current air quality is worse than the state's visibility standard about one in three days. By reducing fine carbon particles, NOx and hydrocarbon emissions, the proposed diesel program would have a positive impact on air quality. Local data collected in 1997 as part of the north Front Range air quality study indicates that nitrate aerosols account for 29 per cent of wintertime visibility impairment from fine particles, and elemental carbon accounts for another 24 per cent. NFRAX also reports that it is NOx, not ammonia, that limits the formation of nitrate aerosols in Northern Colorado. Therefore, the proposed reduction in NOx emissions, as well as fine particulates, should lead to improvements in visibility.

And, finally, an increasing number of scientific

studies have linked diesel emissions with cancer. Both the South Coast Air Quality Management District study and the STAPPA/ALAPCO study provide evidence of a significant cancer threat from diesel particulates. These studies provide a compelling reason for EPA to act aggressively to address emissions in diesel engines.

For all these reasons, the City of Fort Collins supports adoption of the rules. We also urge EPA to take the following additional steps. One, ensure that heavy-duty diesel vehicles meet the emission standards while in use, not just during engine tests. Two, step up the development of rulemaking for non-road diesel equipment. And, three, ensure that the diesel rules provide incentives to promote the use of advanced technologies, such as electric buses or fuel cells as they become available for the heavy-duty fleet.

Thank you once again for the opportunity to comment on behalf of Fort Collins citizens and City Council. Sincerely, Ray Martinez, Mayor."

Thank you.

MR. FRANCE: Thank you. And thank you to the entire panel for sharing your views with us.

We'll take exactly a five minute break and we'll reconvene promptly.

(Off the record.)

MR. FRANCE: Okay, the next panel, Dominica Ottero,

ken Toltz, Robin Hubbard, Clark Wilson, Anna Brower. And why don't we call up a few more from the next panel. Paul Argyropoulos, Jim Stevenson.

Mr. Toltz, when you're ready?

MR. TOLTZ: I'm ready.

Well, good afternoon. My name is Ken Toltz. I'm the president of Dependable Cleaners, a 70 year old family owned and operated chain of dry cleaners in the Denver metro area. And in the interest of full disclosure, I'll also let you know that I'm the Democratic candidate for United States Congress here in Colorado's Sixth Congressional District.

I want to thank you for the opportunity today to comment on EPA's proposed emission standards for large diesel trucks and buses, and the corresponding requirement for cleaner diesel fuel.

As a native Coloradan, I have personally witnessed the decline in Denver metro area's air quality over the past 43 years. And it's no surprise that the visible pollution emitted by large diesel burning vehicles has made a strong impact on public opinion. I applaud the EPA for recognizing that improving our quality of life and health requires vigilance and action to ensure that our natural environment can be enjoyed by generations to come.

There is enough scientific evidence supporting the fact that pollution from diesel vehicles is a contributor to

air pollution, and has a wide range of health impacts, including increased asthma attacks, cardiopulmonary ailments, and even premature death, and we can no longer turn a blind eye. I myself do not claim to understand all of the intricacies and chemical reactions which contribute to the causes and manifestations of pollution. I'm not here today to discuss these facts or how scientists have arrived at them. However, it doesn't take a science degree to see the brown cloud which looms over Denver and recognize that its very existence is evidence of pollution's threat to the ongoing health of our community.

As a businessman, I understand that interstate commerce depends upon moving products quickly and efficiently from point of origin to destination. America's fleets of diesel long-haul carriers, which are largely independently owned and operated small businesses, must be able to move products cost effectively and environmentally responsibly. Mass transportation in America's cities which depend upon diesel powered buses is under a similar cost pressure. Large construction vehicles, usually powered by diesel engines, are also in use daily, as are many business delivery vehicles.

In short, the scope of this problem is huge.

the EPA is acting in the best interests of our nation's health in proposing strict new standards for diesel engines to reduce the emissions of particulate matter and

NOx.

And while I support the EPA's proposed emission reduction guidelines, I am very concerned about the proposed delay in its implementation. EPA has proposed a phase-in of the NOx emission standards to take effect between 2007 and 2010. This is an unacceptable compromise. Not only should EPA require strict new emission standards, it must also include strict enforcement provisions.

We must also recognize that these proposed changes come at a cost to thousands of businesses and potentially millions of American consumers. I believe that the federal government should consider implementing specific tax incentives to encourage businesses to make these changes well ahead of the 2007 deadline.

When the public health is at stake, it's in all of our interests to recognize that the costs of compliance are a public interest. If tax incentives encourage the conversion of thousands of diesel engines sooner than seven to ten years, the nation benefits and the costs of conversion are not unfairly borne by the transporters.

Ultimately, the goal is to clean up our air by having businesses comply with the standards as soon as possible, not as late as possible.

This is an opportunity to rethink how our governmental agencies interact with businesses. I believe

the federal government should help businesses facilitate the compliance process, and I'm here today to encourage a focus on providing needed and meaningful incentives to businesses to encourage compliance with the new standards long before the 2010 final deadline.

Over the past several years, I have been personally involved as a representative of Colorado's small businesses in the effort to improve Denver metro area's air quality. As a member of the board of the Corporate Alliance for Better Air, part of the Regional Air Quality Council, and a member of the Colorado Department of Public Health and the Environment's Compliance Advisory Panel, a position mandated by the Clean Air Act, I have focused on increasing business involvement in pursuit of clean air and stronger environmental standards by working to enhance and streamline the communications between EPA, the Colorado Department of Health, and local businesses.

As an environmentally conscious business owner, I recognize the challenges independently owned and operated businesses face when attempting to both run a business and operate in an environmentally responsible manner. However, governmental policy which focuses on punitive measures in enforcing compliance of existing and new environmental standards, creates an adversarial relationship which often results in delays and legal challenges. When public health

is at stake, it's in all of our interests to recognize that the costs of compliance and the timing of implementation are a public interest.

If tax incentives encourage the conversion of thousands of diesel engines sooner than seven to ten years, we benefit, our children benefit and our nation benefits.

Thank you.

MR. FRANCE: Thank you, Mr. Toltz. Robin Hubbard?

MS. HUBBARD: Welcome to Denver and thank you for the opportunity to speak. My name is Robin Hubbard and I'm the field director for CoPIRG, the Colorado Public Interest Research Group. We have 14,000 citizen members across this state, and we're going to host public interest issues ranging from protecting the environment to trying to stop consumer rip offs and promoting good government.

So just to preface my comments, I'd like to welcome you to Colorado and talk a little bit about it. We're actually one of the fastest growing states in the country. Of the five fastest growing counties across the nation, four are here. So we're faced with an incredible amount of sprawling development, and the unfortunate negative impacts that come with that. It includes loss of open space, battling traffic congestion, and key to the issue at hand today, lower air quality.

So Colorado citizens have our work cut out for us

at the state level to stop sprawl and improve air quality, and unfortunately the picture won't be complete unless we clean up diesel. Big trucks and buses contribute more than their fair share to the air pollution problem. Heavy-duty vehicles are responsible for 36 per cent of the smog-forming pollution, and 59 per cent of the soot pollution emitted by all vehicles on the road in Colorado today.

Although big trucks and buses are among the biggest pollution sources, the oil industry and engine manufacturers have done very little to curb this pollution. In fact, they've cheated on their emissions tests in the past, resulting in an extra 1.3 million tons of smog-forming pollution each year. So in order to protect the public health, we must require drastic reductions in pollution from these large trucks and buses.

However, because high sulfur fuel will poison the new diesel clean-up technologies, we must ensure that all diesel fuel is fully cleaned up and ready and available before the trucks are required to clean up.

So, therefore, in order to ensure that all cleaner trucks will have access to the clean fuel necessary to run them, CoPIRG urges the EPA to require diesel sulfur fuel levels for both on and off-road vehicles, with a cap of no more than 15 parts per million sulfur nationwide by 2006.

Cleaning up diesel fuel by 97 per cent will allow

the EPA to cut smog-forming pollution by 95 per cent in 2007 and soot pollution by 90 per cent in that same year. However, the EPA is proposing to wait until 2010 to fully clean up smog-forming pollution from these vehicles. So this means that Coloradans will have to wait ten years before all new trucks are cleaned up. There should be no phase-in period for reductions in smog-forming pollution.

In addition, the EPA should take measures to ensure that big trucks are meeting the emission standards on the roads, not just during the engine tests. Specifically, both in-use and on-board diagnostic equipment should be required for all heavy-duty trucks by 2007.

Finally, the EPA should increase the use of advanced technology vehicles, such as electric buses or fuel cell trucks. The EPA should include a provision in the heavy-duty rule that would provide incentives to introduce more of these cleaner efficient diesel alternatives into the heavy-duty fleet. And this we believe is the direction that we should be heading long-term.

So these provisions are necessary to protect the public health, and we ask that you include them in your final rulemaking. And, again, we appreciate the opportunity to comment today.

MR. FRANCE: Thank you. Clark Wilson?

MR. WILSON: My name is Clark Wilson. I work at

the Colorado Department of Health and Environment as a food inspector. My personal stake in stricter diesel emission control is that I am an avid recreational and commuting bicyclist, riding approximately 3,000 miles a year. I want to maintain a healthy lifestyle and breathe clean air. Improving diesel emission through readily available technology, as has been demonstrated in Europe and Asia, will increase air quality in urban areas for both cyclists like myself and for all citizens interested in outdoor recreation.

I encourage EPA to enact diesel emission standards that will decrease sulfur emissions by 97 per cent, decrease particulate emissions by 90 per cent, and decrease NOx emissions by 95 per cent.

I want to also encourage EPA to apply the standards to working engines rather than idling engines set up under ideal conditions. Increased costs of a few cents per gallon and approximately $1,500 per engine are far outweighed by benefits for air quality and lung disease.

Thank you.

MR. FRANCE: Thank you. Anna Brower?

MS. BROWER: Thank you. I am here today as a representative of COPEEN, the Colorado People's Environmental and Economic Network. We're a statewide organization, an environmental justice organization based in Northeast Denver here, and I am here to testify on behalf of these

communities, mainly low income and largely comprised of people of color, the populations that are most impacted by most forms of environmental irresponsibility about the EPA's proposed standards for diesel trucking emissions.

I so apologize, it is an organization of people of color. We were not able to send a person of color today, because I can see that diversity is a little lacking this afternoon.

The communities in which COPEEN works are inundated with pollution from myriad sources, but diesel trucks have been a particularly persistent problem since the state laid the interstate right through our neighborhoods. Nearly 5,000 diesel trucks make up the 38 fleets registered in our zip code, 80216, and this number does not even reflect all the fleets located in those communities. Motor vehicles in our neighborhoods, of which diesel trucks are the most numerous, contribute a vast majority of the carbon monoxide that poisons the air, and nearly half of the particulate matter that darkens and dirties it. And if it weren't for the numerous refineries and factories also located in our neighborhoods which release nearly 20,000 tons of sulfur dioxide a year, motor sources would be largely responsible and accountable for that pollutant, too.

Higher standards for diesel truck emissions and fuel will not solve all of our problems with diesel trucks in

Northeast Denver. The shear volume of diesel truck traffic through our communities has led to innumerable problems. Pedestrians and motorists are hit and killed by speeding trucks. The weight of wandering trucks tears up our roads and creates an unacceptable level of noise. Obviously, poor air quality is only one of many consequences our neighborhoods are forced to bear for the rest of the city. But these newer higher standards, we feel that they will not be stringent enough or imposed quickly enough, as the incidence of childhood asthma is on the rise in these communities and chronic fatigue, particularly in the winter months is endemic for those who live and work in our area.

We feel that the new standards are a step in the right direction, and we ask that the government do the responsible thing and approve the higher standards, recognizing that this action will only be a foundation for more future progressive action. And in doing so, the government will help our industries and trucking fleets, who are our neighbors, make the improvements they should already be making on behalf of the residents to whom they purport to be reaching out.

Thank you very much.

MR. FRANCE: Thank you. Paul Argyropoulos?

MR. ARGYROPOULOS: Thank you, Chet.

First, I want to commend everybody for those of you

who are still in the room, especially those who stayed throughout the day who are not speakers at the end of the day. So I appreciate that.

Good afternoon. My name is Paul Argyropoulos and I'm here to testify on behalf of Douglas Durante, who's the executive director of the Clean Fuels Development Coalition. Clean Fuels Development Coalition is a not for profit organization representing a diverse set of interests in the associated industries interested in furthering the development, production and use of cleaner fuels for the transportation industry.

By combining the efforts of a variety of these industry interests, the coalition provides a conduit to help further the development of national energy strategy and clean air strategies to foster the development of new fuel technology and manufacturing processes.

The diversity of CFDC members and interests include automotive, refining, agricultural, design and engineering, and others interested in the development of clean fuels. CFDC and its members would like to thank the U.S. EPA for the opportunity to testify at today's hearings, and offers the following general comments to the agency's proposed rule.

While today's comments are primarily directed at the diesel sulfur control portion of the proposal, CFDC recognizes that these proposed revisions are integrally

linked to the vehicle and engine standards and that both engine technology and fuel quality regulations must be addressed as a system and not as a separate process.

EPA's proposed rule offers a pathway that will reduce current diesel sulfur levels from the current regulatory standard of 500 parts per million for on-highway fuels, down to 15 parts per million by mid 2006. This significant sulfur reduction is proposed to enable the new 2007 and beyond engine and vehicle after-treatment technologies for application on the heavy-duty engines and vehicles to achieve the proposed emission standards.

The application of these emission reduction technologies will be required in both heavy-duty and several weight classes of heavy-duty vehicles beginning with the 8500 pound gross vehicle weight category, up to the 14,000 pound category. While these fuel quality changes are being proposed to enable the on-highway heavy-duty vehicle engines, this will also be available for use in the on-highway light-duty sector at the point that the fuel is required, and those vehicles ultimately will be able to assist in meeting the Tier 2 standards.

In the United States, diesel powered trucks, vans, sport utilities are capturing larger percentages of the transportation market, and overall, the demand for diesel in the United States is growing three times faster than

gasoline. The conversion from gasoline to diesel engines grew 44 per cent rate from 1997 to 1998. And while it is not yet clear what role diesel will play in the light-duty market, there are factors that could push this sector toward production of light-duty diesel vehicles. Efficiency and global climate change issues may all play a role in shaping the transportation demand in the future.

Another very important factor is the changes in the way consumers purchase their products and goods. Online or e-commerce is already shifting the distribution avenues of products and goods. These new patterns will influence how goods and products are ordered and delivered, and it is highly probable that compression ignition technology will be selected to power these delivery fleets supported by the technologies, energy efficiency, and the durability advantages that it holds.

Even in consideration of these unknowns, the Department of Energy estimates that Americans will consume 1.93 billion barrels per day of diesel in 2000, and 2 million barrels per day in 2010. A large portion of this distillate fuel is for the transportation sector. And if demand continues, 100,000 per day of incremental diesel will be needed to keep pace.

With the air quality and public health issues surrounding diesel emissions, it is expected that the

additional emission controls are necessary. While the projected growth in diesel industry and the potential shift in purchasing and distribution of goods, the need for additional air quality safeguards must be carefully considered.

There are also questions of how this rule may affect the availability of supply in the West. Refiners will be required to meet increased diesel production demands driven by continued growth in the diesel market, while also being further constrained by the additional improvements in fuel quality standards.

Supply shifts, product distribution, availability and other issues and impacts are not truly known at this time. These issues will likely be exacerbated by the fuel quality improvements also being required internationally in the European Union and elsewhere around the globe.

With more challenges placed on regional refineries and less opportunity for exportation of the refined products due to local demands, demand in the U.S. must keep pace with both volume and product quality specifications. As currently proposed, these fuel quality emission standards would also advance the agency's goals and the public's interest of improving our nation's air quality and protecting the environment and public health.

While this rule challenges the refining and

automotive industries and the related product industries, and these challenges must not be taken lightly, it may also create new opportunities for these industries. In addition, if viewed from a conventional perspective, the challenges the industries face in achieving these new standards can appear burdensome. If less conventional thinking is applied, there may be alternatives available that can reduce the burden and create new opportunities for cleaner and cost effective fuels or fuel blending components that will allow for further advances in emission control technologies.

One example of such an opportunity resides with synthetic diesel fuels. Knowledge of production of clean sulfur free high cetane synthetic diesel has been around for over 50 years. Gas to liquid, or GTL technologies have and continue to rapidly advance. There are multiple companies with process technologies currently available today, including Exxon, Shell, Sassel, several CFDC member companies, such as Centroleum Corporation of Tulsa, Oklahoma and Rentec.

Centroleum Corporation has developed a commercial process to convert natural gas into ultra clean fuels. This process results in fuel which meets or exceeds the properties specified in ESTMD-975, which is a fuel highly suitable for the advanced compression ignition engines. Synthetic diesel is physically similar to petroleum based diesel, but it has

superior combustion capabilities, contains no detectable sulfur, aromatics, olefins or metals, and has a low density and high hydrogen content.

The fuel also has a cetane number that exceeds 74. While all of these fuel quality characteristics are highly desirable, what does this really mean with respect to environmental benefits and the benefits of having this technology available to the industry to help comply with new rules? Independent tests conducted as part of the EPAC petition process compared engine technologies of the EPA on-highway diesel and conventional diesel fuels, and with that of Centroleum synthetic diesel. These tests revealed that emissions were significantly lower than that of the other conventional fuels tested. I will not go through what the specific reductions were, but they were significant in both nitrogen oxides and in particulates, as well as in air toxic emissions, when compared to both EPA and diesel.

There are also some very basic important advantages beyond emission characteristics. These advantages include the increased need for cleaner sources of energy, the strong favorable environmental characteristics of synthetic diesel fraction, and the ability to use GTL product in the conventional refining and petrochemical scheme, and the simple logistics of using existing infra-structure in production and distribution.

Additionally, GTL technology potential to convert vast unutilized natural gas reserves to the high value product such as ultra clean diesel is immense, creating the potential to make synthetic diesel one of the examples with better stated opportunities available to assist the industry in complying with producing a clean quality fuel that can be used directly as a fuel product, or used as a quality fuel blending component to enhance the existing quality of the product streams.

As the agency reviews the comments and the proposed rule, it must carefully weigh not only the impact on the conventional industries, including the fuel product refining and distribution sectors, the engine and vehicle manufacturers and related product sectors, but also the other currently less conventional industries. Consideration of alternative process production and technologies must be assessed and factored into how the agency moves forward and what opportunities exist to achieve the air quality and public goals. These important environmental and public policy objectives should also factor in the cost effective pathway for the introduction of cleaner burning fuels or fuel components, such as synthetic diesel.

Consideration of how the goals of EPAC and the Clean Air Act can align conventional and less conventional products and markets are vital to further progress in fuel

and emission technology, and the intended benefits of cleaner air. What started out as a niche market in the early 1900s with the motor car and petroleum based fuels has grown into two of the most diverse and technologically advanced industries of today.

Today's alternative products, both fuel and vehicle technologies, may be the niche market of tomorrow, and vastly become tomorrow's conventional products. Recognizing the potential benefits and how they can play a role either direct, niche or supported, is vital to both today's and tomorrow's consumer, and the vitality of the industries.

CFDC thanks EPA for the opportunity to testify today, and looks forward to providing additional comments throughout the proposed public process.

Thank you.

MR. FRANCE: Thank you. Jim Stevenson?

MR. STEVENSON: Thank you for letting me appear here today.

My name is Jim Stevenson. I'm the Quality Control Lab Manager for CENEX Harvest States Refinery located in Laurel, Montana. I was raised on a small farm in Kansas, and have always been very closely associated with rural America.

Today, I want to address several issues dealing with the proposed sulfur in diesel fuel rule.

First, farmers have specific times of need. As a

refinery working for a rural American farmer owned cooperative, we want to strive to provide a clean quality fuel for the environment, yet still be able to compete in a very tight and costly marketplace to provide our owners a secure product supply, one that is always available when the plowing or harvest needs to be done, at a fair market value. Our 325,000 farmer owners need both on-road and off-road diesel at these very specific times of the year. Their petroleum supplies should never be put at risk. The likelihood of putting them and rural America's needs at risk will be greater at a 15 ppm standard level than at a 50 ppm standard, because many refineries will delay upgrades longer or opt not to convert to the very costly 15 ppm standard.

Second, desulfurization units are costly. We believe that a 15 ppm sulfur standard which equates to a 5 to 10 ppm production standard would require high pressure two stage desulfurization units. This requires new equipment design, and would force us to build a very expensive totally new unit due to plot space limitations at our refinery. A standard of 50 ppm could probably be achieved with modifying existing units, although still at considerable cost. CENEX Refinery has historically used crude oils with very high sulfur. Besides having more environmental and maintenance issues associated with the process of high sulfur crude oils, we will experience even more difficulty in that our diesel

fuel stock will contain much harder to treat sulfur compounds. This will put our refinery at risk being able to treat diesel fuel to the ultra low level of 15 or less without extremely high pressure units, given the utilization of unproven technology for our type of sulfur mix we will experience.

Third, possible diesel fuel production loss. Even with a state of the art unit, hard to treat components may be diverted or have to be diverted to other uses. This would result in lost diesel production and higher diesel costs.

Fourth, betting on unproven technology. An issue we feel weighs heavily against going with the proposed 15 ppm limit is the 15 ppm limit is utilizing some unproven state of the art designs which surely cannot be operated at 100 per cent unit reliability. These new designs are not yet proven or reliable for industry-wide use. Therefore, the new units must be designed with excess capacity for rerun capability including additional intermediate storage.

If we do not build extra storage capacity and we have any problems that arise during normal operations, the total refinery production could be lost, including gasoline, diesel fuel, and propane, along with our other products from the facility. Gasoline and propane are also very important components to rural America in harvesting and drying grain. Any disruptions in the supply will result in price spikes at

a time when the farmer has no choice but to buy at an elevated price. Contrary to the farmer, an SUV owner has a choice not to buy at the higher price level.

Our farmers should already be on the endangered species list. Let's not eliminate them entirely with these proposed rules by putting our food chain at risk of not getting fuel supplies at very critical times in the farming operation.

Fifth, possible pipeline restraints. Our cooperative owned refinery is located in Montana, and we depend greatly on common carrier pipelines to move our product to the farmer. No pipelines currently carry a higher off-road sulfur diesel fuel/heating oil. They carry only low sulfur number one heating oil and low sulfur number two diesel fuel/heating oil that is utilized for both on-road and off-road diesel fuel/heating oil. Lowering the sulfur to 15 ppm would both force a very excessive processing cost, along with a very expensive supply distribution system to start providing two additional grades of diesel fuel/heating oil, which would be high sulfur number one diesel and high sulfur off-road diesel. We'd have to start doing that.

With a 50 ppm standard, the off-road diesel fuel/heating oil could continue to be produced at the same low levels as the on-road diesel fuel, at least for some off-road engines. If the nation went to a 50 ppm total

distillate sulfur standard, on-road/off-road/heating oil, the effect would be far greater total reduction in sulfur compounds, therefore, making large air pollution improvement, at least in sulfur reduction.

As you can see, in a relative small supply market region such as the Rocky Mountain region, PADD IV, the addition of two more grades of diesel fuel, along with the excessive cost to make an ultra low level sulfur diesel, will not only provide a larger cost burden to be borne by our farmers, but will put their supply at risk during these critical usage periods.

Sixth, we need another reference test method. As a chemist for a small refinery, I want to address the issue of EPA not yet approving a method of analysis such as ASTM D-5453 as an approved method of analysis. Under the gasoline rule and under the proposed diesel fuel rule, the only approved method is the ASTM D-2622, modified for diesel fuel, that can be used for compliance issues. We don't have laboratory room or large capital dollars to purchase two expensive analyzers and the D-2622 will not provide a level of accuracy at a low 1 to 10 ppm level that will be required to determine credits for gasoline sulfur levels.

I suggest EPA approve an additional method such as ASTM d-5453, so that we would not have to purchase and maintain two expensive analyzers when a single method should

be sufficient.

In conclusion, we recommend the EPA rescind and reconsider the proposed sulfur in diesel fuel rule. We feel strongly a study should first be conducted to see if a 15 ppm is even feasible, or will this standard put the nation into a total fuel supply chaos.

Any new rulemaking should include the following: a 50 ppm cap sulfur standard, no phase-in, no dual highway low sulfur diesel fuel specifications. And we would want to know what the off-road diesel fuel standard is going to be at the same time.

Thank you.

MR. FRANCE: Thank you, and thank you to the entire panel.

The next panel, Jody Kennedy, Tom Byers, Dale Hill, Daryn McBeth, Dr. Maury Albertson.

Ms. Kennedy, when you're ready?

MS. KENNEDY: Hi. Thank you for letting me speak on this important issue. My name is Jody Kennedy, and I'm a membership director for the Colorado Environmental Coalition.

Born 35 years ago, the Colorado Environmental Coalition represents thousands of individual members across Colorado, and over 50 citizen organizations. The coalition is a grassroots action arm of Colorado's environmental movement, mobilizing citizen campaigns to assure that

Coloradans have a voice on decisions that impact their environment.

On behalf of the coalition and our membership, I urge you to adopt tough new emission standards for heavy-duty trucks and buses as soon as possible. Colorado suffers from the worst smog pollution in the United States. Our infamous brown cloud hovers over the Front Range blocking our view of the mountains and causing significant health problems for many state residents.

Among those affected are Colorado's children. In the last ten years, Colorado's asthma rate among children has increased two times the national rate. Two members of the Colorado Environmental Coalition have developed respiratory problems associated with traffic pollution. Neither has prior family history of respiratory disease. One is a young 25 year old male who developed bad asthma. He lives a stone's throw away from a major truck route in Colorado Springs. The other member is an elderly woman, age 76, who developed emphysema. She lives right on Sixth Avenue West in Lakewood.

Heavy-duty trucks and buses emit large amounts of the smog-forming oxides and particular pollution that's causing the cloud and sickness in Colorado. Even though it's common knowledge that big trucks and buses are among the biggest pollution sources, the oil industry and engine

manufacturers have done very little to curb this pollution. In fact, industry has cheated on their emissions tests in the past, allowing us to breathe an extra 1.3 million tons of smog-forming pollution each year.

In order to protect the public health, we must require drastic reductions in pollution from large trucks and buses. The Colorado Environmental Coalition strongly urges the EPA to first make low sulfur fuel available nationwide. In order to reduce current emission levels, engines must run on cleaner fuels. The EPA should require diesel sulfur levels with a cap of no more than 15 parts per million sulfur nationwide.

Second, we ask the EPA to clean up big trucks and buses as soon as possible. Cleaning up diesel fuel today by 97 per cent will allow the EPA to cut smog-forming pollution by 95 per cent, and soot pollution by 90 per cent by 2007. Unfortunately, the EPA is proposing to wait another ten years to fully clean up these big polluting vehicles, and in the meantime, Colorado's brown cloud will go from brown to black. The Coalition strongly requests that there is no phase-in period of smog-forming pollution. Coloradans should not have to wait for clean air.

Third, the EPA should take measures to ensure that big trucks are meeting current emission standards while on the road, not just during engine tests, by requiring in-use

and on-board diagnostic equipment for all heavy-duty trucks.

Finally, the Coalition asks that the EPA take advantage of new technologies. They're creating clean alternatives for transportation. Vehicles such as electric buses and fuel cell trucks are fast becoming reliable and economic replacements for big polluting diesels. The EPA should include a provision in the heavy-duty rule that would provide incentives to introduce more of these cleaner efficient diesel alternatives.

These provisions I've stated are necessary to protect the public health and the well being of Coloradans, and I ask that you strongly consider them in your final rulemaking decision.

Thank you.

MR. FRANCE: Thank you. Tom Byers?

MR. BYERS: Good afternoon. My name is Tom Byers. I'm a Senior Government Affairs Representative with Williams Energy Services, an operating unit of Williams headquartered in Tulsa, Oklahoma. Although Williams is involved in nearly every phase of the energy industry, our presence here today relates primarily to our ownership of two refineries, one in Memphis, Tennessee, the other in North Pole, Alaska, as well as a petroleum products pipeline and product terminals.

I appreciate the opportunity to present our views today on the impact of EPA's proposed ultra low sulfur diesel

standard rule. And rather than reiterate some of the points that you have already heard from trade associations and other interested parties, I will concentrate on the particular problems that the rule will create for Williams' operations.

Williams appreciates EPA's recognition of the unusual circumstances with which we are confronted at our north Pole refinery, and we applaud EPA's insight in proposing a transitional implementation plan. Williams is pleased that EPA has proposed a process that will allow us to participate in developing a regulatory framework that may allow us to continue manufacturing diesel fuel for highway use. While there may be differences among the various parties involved, we look forward to being a fully active participant and to working with the State of Alaska and other interested stakeholders toward an acceptable solution.

Although manufacturing and distributing fuel in any setting is a complex and demanding process, refineries and distribution systems in the State of Alaska are presented with some particularly difficult challenges. In the preamble to the proposed diesel sulfur rule, and on several previous occasions, EPA acknowledged the existence of those unique circumstances. In 1994, EPA, pursuant to authority under the Clean Air Act, exempted the state from compliance with the 500 ppm sulfur standard for highway diesel because of the geographical, meteorological, air quality, economic and other

factors that are found there. In an August 19, 1996 Notice of Final Decision, EPA made the following statement explaining its decision to extend the Alaskan exemption for highway diesel fuel.

"The basis for this decision is that compliance with this requirement is unreasonable during such time period because, at this time, it would continue to create a severe economic burden for refiners, distributors and consumers of diesel fuel in the State of Alaska. This economic burden is created by unique meteorological conditions in alaska and a set of unique distillate product demands in the state."

Those unique conditions did exist in 1996, and they continue to exist in Alaska today.

In addition, there are insufficient environmental and human health concerns in Alaska to justify the cost of mandating low sulfur diesel fuel.

In fact, EPA recognized the limited environmental benefits in that August 19th Federal Register notice when it said, "The Agency recognizes that granting this extension to the temporary exemption means alaska will forego the potential benefits to its air quality resulting from the use of low sulfur diesel fuel. However, the Agency believes that the potential benefits to Alaska's air quality are minimal and far outweighed by the increased costs resulting from factors unique to Alaska, at this time, to communities served

by the Federal Aid Highway System."

Williams requests that EPA continue to recognize this fact as it moves forward in drafting these diesel sulfur regulations.

An argument has been made that low sulfur diesel should be required in Alaska because of the potential liability associated with engines that fail due to the use of high sulfur fuel. According to the American Trucking Association, however, the new engine technology may not reach Alaska in significant numbers for up to ten years. Therefore, implementing a plan that takes into consideration the needs of the marketplace to determine when and where low sulfur fuel is needed is clearly in the best interests of the state.

In any event, requirements for low sulfur diesel fuel should be postponed until at least 2007 in order to coincide with Alaska's Tier 2 gasoline requirements. If Williams can economically justify constructing desulfurization capacity for both gasoline and diesel, it would be most efficient to build them at the same time.

Another fact that sets Alaska apart is that highway diesel fuel accounts for only 5 per cent of the total diesel fuel sales in the state. In 1999, Williams sold approximately 300 barrels per day of highway diesel fuel, which was less than 4 per cent of our total diesel sales.

While this in itself is a small amount, it is important to understand that the rule would have far-reaching impacts on every part of Alaska, including the rural bush area.

Because of a limited transportation and storage infra-structure, and the prohibitive costs associated with constructing additional facilities, refiners will be forced to refine down to the lowest common denominator and make all diesel fuel in compliance with the 15 ppm standard. This will require residents of the bush area to pay for more expensive fuel that they are not required to use. However, they will have no alternatives because in many of the rural areas, for example, a single storage facility is available for diesel fuel.

They will also be forced to bear other additional expenses such as higher electricity costs from the Alaska rural electric cooperatives. Interestingly, this situation is not dissimilar to the problems faced by the farm cooperatives in the lower 48 states.

Williams has estimated that it would cost in excess of $100 million to be able to make diesel fuel with 50 ppm at our Alaska refinery. We have not yet determined the additional cost that would be required to make the ultra low fuel proposed by EPA. We are not even certain if a commercially viable technology is available for a harsh arctic environment like that found at North Pole, Alaska.

Assuming for the moment that such technology is available, Williams will face two unattractive options: spend over $100 million in order to produce a relatively minuscule amount of highway diesel fuel, or stop manufacturing highway diesel fuel altogether. Although Williams has not decided if it will build a desulfurization facility, there is no incentive for us to invest in such a project given the limited demand and a projected zero return on our investment.

While importation of the fuel might be a possible alternative, we do not know what supply sources would be available. Costs to consumers would certainly go up, and supply disruptions would likely occur. Any such disruption would have severe consequences, since the 95 per cent of the fuel consumed in non-highway uses would be disrupted along with the supply of highway fuel.

In the event that EPA's proposal were to allow more than one grade of highway diesel fuel, Williams' Memphis refinery and pipeline and terminal operations would also be faced with substantial logistical issues associated with limited storage facilities and cross-contamination.

Again, we thank the EPA for the opportunity to voice our concerns today, and we hope that you will take these comments into consideration as you finalize the diesel sulfur rules.

MR. FRANCE: Thank you for your testimony. Dale

Hill?

MR. HILL: My name is Dale Hill, and I'm president of Transportation Techniques, which is a Denver based manufacturer of hybrid electric vehicles. And I guess I'm here to put a little different spin on the solution to some of the problems we've been talking about today.

I'd like to start out by saying that we at Trans. Tech. wholeheartedly support the EPA's proposal for diesel engines and fuel requirements. But I'm here also to state that there are emerging technologies that solve a number of the pollution issues that have been mentioned here today. And since serious hybrid electric drivetrains have been the major concentration of our efforts, I'd like to speak to that issue for a few minutes.

We're currently manufacturing 36 45-foot, 116 passenger buses for the Denver RTD for use on the Denver 16th Street Mall. Unfortunately for this meeting, these buses are fueled by compressed natural gas, and they pollute less carrying 117 passengers than a brand new car carrying one passenger. And so that gives you an idea of the direction the technology is headed.

The technology is applicable, however, to diesel, and in that light, I'll address that issue. In hybrid electric technology, you use electric motors to drive the drive wheels of the vehicle. The motors are powered by a

bank of batteries. Those batteries are then charged continuously by constant RPM Genset. And in doing that, we're able to reduce the size of the required engine for the application 50 to 75 per cent. A much smaller engine, run at a constant RPM with no acceleration and deceleration then produces for a comparable fuel, approximately a 50 per cent reduction in the emissions of that vehicle.

If you go from a diesel vehicle to an alternative fuel vehicle, you reduce the emissions by up to 80 per cent or more. So I think that this technology provides some significant reductions in emissions.

And the issue comes up then you're not only reducing the emissions for a specific engine, but you're greatly reducing the emissions for a specific vehicle, because the vehicle carrying the same load is using a much smaller engine and running at a constant RPM.

Although many dollars have been spent to date to bring a marketable product to the industry, there's still many areas of this technology that need improvement, and this costs money and it's dollars that the public sector finds very difficult to bear many times.

In addition, these vehicles, because of the low production numbers that are being produced, have a much higher per unit expense, somewhere in the neighborhood of 30 to 40 per cent over a diesel vehicle.

As I've travelled around the country, there are many, many transit agencies and airports that would very much like to implement the technology because of the greatly reduced emissions, however, they don't have the necessary dollars to pay the incremental cost between diesel and the evolving technologies.

I'd also like to say that at least in the bus industry, for which I'm most familiar, the greatest gains in technology have been made by small entrepreneurial companies, and they've done that in light of the fact that most of the grant money from agencies such as EPA or DOE have gone to Fortune 500 companies, and those dollars have produced minimal results in comparison to some of the advancement I've seen, not only in our company, but other small companies that are working in this industry.

So based on these two issues, I'd like to make three recommendations. First of all, that significant incentives or credits be supported in this bill that the EPA is proposing for purchases of evolving technologies whose emissions meet or exceed these proposed guidelines that you have here.

Number two, that there are indeed grants or funds in some form be made available to small businesses with a proven track record as leaders in the development of evolving technologies.

And, thirdly, I would like to see that you consider that emissions be evaluated for alternative technologies on a vehicle mile basis instead of a brake horsepower-hour basis, because we're playing on a different playing field here, because we're using smaller engines which get better fuel mileage. And, therefore, I would suggest that some consideration be given to a per vehicle mile basis versus a brake horsepower-hour basis.

Thank you.

MR. FRANCE: Thank you. Daryn McBeth?

MR. MCBETH: Thank you. My name is Daryn McBeth and I'm here representing the National Biodiesel Board, a 501(c)(6) organization dedicated to promoting, developing and educating the public on a renewable alternative diesel fuel-substitute or additive called biodiesel.

Some may ask why would someone from the National Biodiesel board be interested in the EPA field hearing concerning diesel engine and vehicle standards and proposed diesel fuel sulfur requirements. The short answer to that question is the proposed EPA rule and diesel sulfur standard have many goals and benefits in common with the characteristics and attributes of biodiesel. For a longer answer, please allow me to explain a little bit about biodiesel, its low sulfur characteristics and the role it can play in helping meet the intent of the proposed rule.

Biodiesel is the name of a clean burning mono-alkyl ester-based oxygenated diesel fuel. Biodiesel is made from renewable agricultural resources, primarily soybean oil. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend.

In fact, 20 per cent pure "neat biodiesel" blended with 80 per cent diesel fuel, or B20, as we call it, has demonstrated significant environmental benefits with a minimum cost increase for fleet operations and other consumers. Biodiesel is non-toxic, it's biodegradable, and is used in conventional diesel engines with little or no modifications.

Biodiesel is registered as a fuel and fuel additive with the EPA and meets clean diesel fuel standards established by the California Air Resources Board. Neat biodiesel or B100, 100 per cent biodiesel, has been designated as an alternative fuel by the Department of Energy and U.S. Department of Transportation. Covered fleets under the Energy Policy Act of 1992 can receive alternative fuel vehicle or AFV acquisition credits for biodiesel use, under legislation passed by Congress just in 1998.

Last month, biodiesel became the first and only alternative fuel to successfully complete the entire Health Effects testing requirements of Section 211(b) of the Clean Air Act Amendments of 1990. The results of the Tier 1 and 2

tests showed that biodiesel not only poses no threat to human health, including sub-chronic inhalation, but that its use results in a 90 per cent reduction in air toxins.

A 1998 biodiesel life cycle study, jointly sponsored by the Department of Agriculture and Department of Energy, concluded that biodiesel reduces net CO-2 emissions by 78 per cent compared to petroleum diesel.

For regulated emissions, compared to conventional diesel fuel, B20 reduces unburned hydrocarbons 93 per cent, carbon monoxide 50 per cent, and particulate matter up to 50 per cent.

for the presently unregulated emissions, B100 reduces sulfates 100 per cent, PAH 80 per cent and nitrated PAH 90 per cent, and ozone potential of speciated HC 50 per cent.

Exhaust from an engine using biodiesel consists of fewer harmful emissions, and includes virtually no sulfur as compared to conventional petroleum diesel.

But the attribute most relevant to this hearing is the lubricity characteristics of biodiesel. Biodiesel significantly enhances engine lubricity, even at very low blends, such as one-half to 2 per cent. Under the dual-system approach in the EPA proposed rule, catalytic devices modifying diesel engine exhaust would be dependent on low sulfur diesel fuel to capture the desired emissions

reductions. Conversely, as the proposed rule correctly states, higher sulfur levels in conventional diesel fuel would harm the proposed emission technology devices and also cause failure to reduce particulate matter and NOx emissions.

Incidentally, the proposed rule also correctly points out that a low sulfur diesel standard would likely create a reduction in diesel fuel's lubricity properties, something necessary for a diesel engine's moving parts, injection systems, and rotary and distributor type pumps. The proposed rule's discussion partially addresses this lubricity concern through advocating a voluntary approach toward maintaining lubricity on a case by case basis.

Biodiesel produces significant lubricity improvement, with blends even below 1 per cent, providing up to a 30 per cent increase in lubricity. After completing lubricity testing of biodiesel, Stanadyne Automotive Corporation, the leading independent U.S. manufacturer of diesel fuel injection equipment, found that the inclusion of 2 per cent biodiesel into any conventional diesel fuel will be sufficient to address the lubricity concerns that we have in these existing diesel fuels.

I've included a copy of that letter with further comments for your review.

Before I conclude, I would like to address two more areas of discussion from the proposed rule where comment is

requested.

The first is on the topic of who would be required to meet the proposed new diesel sulfur standard. EPA discussion suggests the proposed sulfur standard should apply to the diesel fuel at the point of sale to the ultimate consumer, but goes on to confuse the issue, in my opinion, by discussing blending of additives and the likely requirement that all parties in the distribution system could be prohibited from selling, storing, transporting, dispensing, introducing or causing or allowing the introduction of highway diesel fuel whose sulfur content exceeds the proposed cap. That was from the rule discussion.

The characteristics of B100 allow biodiesel to be splash-blended into any type of conventional diesel fuel. Some choose to blend biodiesel with conventional diesel fuel to gain AFV acquisition credits, as previously mention. Others choose to run engines on a blend of diesel fuel and biodiesel for the healthy environmental and emissions properties.

For the new EPA low sulfur diesel fuel standard, to foreclose on the opportunity of a fuel manufacturer, refiner or end user to simply blend no-sulfur biodiesel with conventional diesel fuel, whether to reduce sulfur content in the fuel or to gain other emissions or economic benefits, would effectively take away useful flexibility currently

exhibited by biodiesel as a renewable alternative fuel.

The second and final topic that I would like to discuss is in response to the proposed rule's solicitation for comments concerning encouragement of the early introduction of low sulfur diesel fuel. Whether through voluntary emission credit programs, or other market-based incentives to encourage the early introduction of low sulfur diesel fuel, the National Biodiesel Board agrees that early introduction of low sulfur fuels would, as pointed out by the rule, allow advance emissions testing, lower the cost of emission control equipment, and possibly allow the distribution system a chance to develop experience in handling different fuel, all while presumably reducing toxic emissions.

Toward this end, biodiesel is available today. You don't need to wait until 2006 to get an ultra low sulfur fuel for diesel engines. It's here now. It's been proven in over 30 million miles of on-road use, given a clean bill of health by the Health Effects testing under the supervision of the EPA, needs no capital investments or separate distribution systems, and adds lubricity to engine wear.

In summary, the National Biodiesel Board is pleased that so many of the attributes and properties of biodiesel are nearly synonymous with the goals of the proposed EPA rule dealing with emissions reductions and a new low sulfur diesel

fuel standard. In addition to the emissions characteristics and ultra low sulfur levels, the lubricity improvements biodiesel adds to engine wear is something NBB looks forward to promoting within the context of the final rule and within the private and public marketplace.

That concludes my statement. The National Biodiesel Board appreciates the time and effort of the EPA in holding this field hearing.

Thank you.

MR. FRANCE: Thank you. Dr. Maury Albertson?

DR. ALBERTSON: We all know that hydrogen is the fuel of the future. The thing is that we now have the technology to convert to hydrogen, but we're not going to convert overnight. We're going to have transitions.

I think what Dale just got through telling you is a part of the transition. That's for new vehicles. Our trouble is that we have about 7 million big trucks in the United States that we're not going to dump just because we want to go to hydrogen. We're going to have to convert those trucks to hydrogen. But that in itself needs to be a transition.

But if we get even as much as 10 per cent hydrogen in with the diesel, we clean up the diesel. We eliminate the nitrous oxides. We do not eliminate the sulfur. We have to get the sulfur out ahead of time. But the nitrogen comes

from the air. 80 per cent of what we're breathing is nitrogen. We can do it. All that would be coming out--I should say we control the nitrogen oxide by the temperature of combustion. If we don't get the temperature up too high, the oxygen will not combine with the nitrogen. So that the nitrogen simply goes out as nitrogen, and not as NOx.

So this I prepared for automobiles, but it also applies to a very large extent to trucks. But if we go to CNG, we've already gone to CNG. We have, if you look at the map of Denver, we have about 20 stations where you can pick up CNG today. And I was visiting one of these stations this morning, and the U.S. West telephone vehicle came up, reloaded, he says he has to fill up every day. He can't run on anything else but CNG.

CNG can be a transition, but the ultimate of course is the hydrogen, but we can go to hydrogen immediately. We can control the--and convert our present diesel engines. We can convert these 7 million trucks that are on diesel now, we can convert them to a combination of hydrogen and diesel, and ultimately 100 per cent hydrogen. We'd have to develop the infra-structure in order to be able to refuel, but it can be done. It takes about the same pressure, 3000 psi, as it does for CNG. We have all these refueling stations. They were built here in Denver in just very recently, and there's no doubt going to be a big increase in this number of stations,

and they'll be all over the state.

So we can put hydrogen refueling stations set up in the same way, 3000 psi. We can use the CNG tanks. We have already refitted buses, diesel buses, with tanks to run on hydrogen. But by an adjustment in the cab, we can convert to zero hydrogen or up to a very high percentage of hydrogen. With diesel, we can't go to 100 per cent. We have to have a certain percentage of diesel remaining.

So until we get engines converted like Dale's engines in the Denver buses on 16th Street, until we get those engines coming out of new trucks, we're going to have to go ahead and use the 7 million trucks we now have on the highways.

So this is a system that is actually working. We've demonstrated it. It will work. We have the tanks. We have all the harness, as we call it, that we put on the engine. We have the control system all worked out, and it can be done.

So if anything, if there is such a thing as a panacea, this is about it.

So if you have any questions, you can see me afterwards. I'll be back behind. I do have this handout that has this information in it.

Oh, I meant to mention we can make the--right now, hydrogen is made of natural gas primarily, but also quite a

bit with crude oil, and to some extent, with coal. We can go ahead and use these fossil fuels to make hydrogen as long as they last, but we know that there's a limit to how long it will last. Fortunately, natural gas has--we have reserves on it for many more years than we do for petroleum. But we can also get methane, which is natural gas, by digesting organic solids, and we could turn off our natural gas wells today if we were anaerobically digesting all of our organic material that is wasted in the United States today. That's how much there is.

So we have many options for renewable energy to replace fossil fuels at the same time that we get rid of the pollution.

MR. FRANCE: Thank you. Thank you to the rest of the panel. We appreciate your testimony today.

We're running a little ahead of schedule. Let me go ahead and move into the next panel if they're here. Justin Wettstein, Richard Bridenbach, David Orr. Is there anyone else in the audience that has signed up to testify and has not been called. Come on up.

(Pause.)

MR. FRANCE: Okay, Mr. Orr?

MR. ORR: Thank you. Throughout all history, mankind has relied on certain absolute and inalienable laws of nature as the basis of his material well being. Such laws

do not depend on majority opinion or on what political party is in office. They are, rather, the very principles on which the entire material universe depends on for its very existence. To deny them would be no different than if you were to close your eyes while you were driving to work in the morning.

What would you do if you were to wake up one morning to find that it was against the law to rely on your sense of vision while driving your car to work? I hope you find this question to be absolutely absurd. Clearly, no one in their right mind would ever obey such a preposterous law, nor would any lawmaker ever entertain the notion of legislating such a law.

But sadly, enough, I'm here to inform you that the proposed sulfur regulations are no different than the example I just gave you. I will do this by addressing six points.

Number one, that by eliminating sulfur from our gasoline and diesel, scientific evidence demonstrates a substantial increase in the rate at which global warming occurs.

Number two, that there is a distinct difference between solid visible particulates known as air pollution and sulfur dioxide, which is a transparent gas known for its cooling qualities.

Number three, that through the use of inexpensive

and efficient fuel additive technologies, noxious emissions can be eliminated without requiring the reduction of sulfur dioxide.

Number four, that EPA regulatory decisions are made by non-scientists.

Number five, that the scientific methodology used by the EPA to assess the reversibility of Tier 2 emissions, an earlier regulatory decision to eliminate sulfur in gasoline, was faulty.

Number six, that one of the principal causes behind the recent increase in gas prices in the Midwest is due to the incorrect presupposition on the part of the EPA that all evaporative emissions are the same.

Sulfur dioxide directly and indirectly tends to cool atmospheric pressures. Some scientists suggest that the cooling effect of SO2 is modest, however, others, including representatives of the National Academy of the Sciences and the National Center for Atmospheric Research, believe that the cooling effect of SO2 occurs at the same rate of that of carbon dioxide.

A detailed bibliography, as well as subsequent graphs and charts, can be found on the NAFA websit at www.altfuels.net. Under the section entitled Focus on Climate change, please pay particular attention to Figures 5 and 6, which can also be found on Page 9 of the report. The

correlation presented in these two figures demonstrably shows that when atmospheric sulfur levels peak and begin to decrease, increases in global temperatures generally follow, and vice versa.

Based on this evidence, it is our position that increased quantities of SO2 put into the atmosphere by fossil fuels has caused a large negative force, which has substantially offset the effect of CO2 by at least negative one watts per meter squared. For those of you who don't know, SO2 has been a part of the earths biogenetic process since the planet's beginning, acting as both a solar reflector and a natural precursor to cloud formation. That is to say that without SO2, cloud formation would not be possible.

As of late, the generation of SO2 has been subject to confusion and misunderstanding. Much of the literature the EPA promotes suggests that all aerosols are pollutants, i.e. solid visible particles known by us as smog and haze. This is simply not correct. SO2 is an invisible gas. Solid particulates on the other hand, many of which are carbon bases, are what causes smog and visible pollution, not SO2.

The confusion lies in the fact that both carbon based solid particulates and SO2 are products of fossil fuel combustion. It is, however, the incomplete and less efficient combustion that generates the visible carbon based

particulates, NOx and other harmful pollutants. The presence of sulfur in fossil fuels can increase the generation of such pollution because based on the current gasoline that we are using, sulfur tends to interfere with clean combustion.

However, with the use of inexpensive and efficient fuel additive technologies that the National Alternative Fuels Association advocates, the most noxious emissions which sulfur would otherwise tend to increase can all but be eliminated.

These technologies allow sulfur to remain in fossil fuels absent the generation of the noxious particles that the EPA is all too vigorous to eliminate, and for good reason.

I might mention that the technology that NAFA advocates will not only eliminate noxious particles, but it will also decrease the costs of refining gasoline and diesel, while simultaneously increasing both performance and mileages, absent any engine modification whatsoever. Let me repeat that.

The technology that NAFA advocates will not only eliminate noxious particulates, but it will also decrease the cost of refining gasoline and diesel, while simultaneously increasing both performance and mileages, absent any engine modification whatsoever.

The proposed sulfur regulations that the EPA is currently proposing for diesel fuel is justified on the basis

of NOx, particulate, hydrocarbons, toxic emissions, and acid rain concerns. With the exception of the high concentration of sulfuric emissions caused by the power generation facilities and volcanic eruptions which cause acid rain, SO2 attributes to none of the above concerns.

The proposed sulfur regulations are, therefore, based on the false presupposition that in order to eliminate noxious particulates, it is also necessary to eliminate SO2, which I might mention constitutes 90 per cent of the sulfur in fossil fuel combustion.

We believe that the unilateral phase-out of SO2 without any investigation into alternative fuel technologies is unacceptable environmental policy. There are too many unanswered questions, especially those related to global warming, that must be addressed before mandating a long-term environmental public policy.

According to the June 16, 2000 testimony of Senator Merculsky made on the Senate floor, and by the way, the Senator is a chairman of the Energy and Natural Resources Committee, and I quote, he says, "We are only just now beginning to conduct the kind of scientific research that will allow us to determine the impacts on climate change." See Congressional Record Consequences of Climate Change.

In short, absent requisite scientific resolution of these most basic questions, there is a very real potential of

both environmental and economic tragedy of unfathomable proportion. It is no surprise that EPA science is based more on fiction than fact. According to the latest report released by the National Academy of the Sciences, which is currently assessing the quality of science conducted by the EPA, and I quote, "The agency has never had an official below the level of administrator with overall responsibility for the scientific and technical foundations of agency decisions. This is a particular problem because the administrator has typically a legal and not a scientific background." Washington Post, June 15, Page A-31.

Not only are such individuals unaccountable to representative government, but they lack the competency to propose viable environmental solutions grounded in objective science.

I might take this time to mention that the emission data conducted by the EPA, which was used to justify recent Tier 2 vehicle emission standards in gasoline sulfur control requirements, came from only four vehicles. The four vehicles were an SUV, a pickup and two mini vans, hardly representative of the model distribution in the passenger vehicle fleet. Two-thirds of the final estimate of the Tier 2 emissions reversibility was based on the SUV. The SUV was a Ford Expedition modified by the EPA prior to testing at the EPA lab in Ann Arbor. It was not a production vehicle, and

manufacturer's requirements for drivability and durability had not been assessed. See Southwestern Research Institute Report at www.altfuels.com.

To create a permanent regulation that would increase the price of gasoline by at least 5 cents a gallon and the manufacturing cost of vehicles based entirely on the emissions of one modified vehicle is profoundly unjust.

An additional example of the overall incompetency of EPA science and the devastating impact that it can also be attributed to impart is the high price of gasoline in the Midwest. Under its mass based VOC definition, the EPA fails to consider the smog ozone forming quality of VOC emissions known as reactivity. Rather, the EPA weighed all evaporative VOC emissions as the same. Thus, the EPA weighted benign evaporative VOC emissions in the same category as the most harmful smog and ozone causing evaporative emissions.

This faulty definition had the effect of discriminating against alcohol, including ethanol, because alcohol typically increases vapor pressure and, hence, evaporative VOC emissions. Thus, in order to meet the EPA's mass based VOC requirement, the gasoline RVP has to be manufactured at an artificially low vapor pressure to offset the RVP increase of alcohol. This was extremely expensive and significantly adds to the cost of refining gasoline, which is in part why people in the Midwest must now pay more

than $2 a gallon for gasoline.

Had the EPA practiced the proper science mandating reformulated gasoline as NAFA advised them to do back in 1993, the price hike in gasoline would have been less drastic, if at all.

In closing, I would like to thank each of you for your time and serious consideration. There's no doubt in my mind that the EPA does not have the best of intentions.

Please realize that my harsh criticism is not to be taken personally. Rather, it should be taken as a healthy reminder that regardless of the whims of partisan politics or the lobbying efforts from various industries, there are certain objective scientific principles which cannot be denied if we are to remain a healthy and prosperous nation.

Thank you very much. And I will submit all that evidence required in the testimony I just gave.

MR. FRANCE: Thank you very much.

MR. ORR: www.altfuels.net. Thank you very much.

MR. FRANCE: Thank you. We appreciate hearing from you. Mr. Martinez, do accept our apology. We did call you earlier, but you might have been out of the room. I noticed you were sitting here for a long period of time. So, again, accept our apologies.

MR. MARTINEZ: Well, thank you very much.

First of all, I was very impressed by the comments

made by young Mr. Gill this morning, his statement saying what are we doing here now. This is really way down late on the road. We should have been ahead of this 30 years ago. So I was very impressed. Also, with the Dr. Feeley, I believe, concerned about children.

Well, Gentlemen, I live--I exist, I don't really live over there, but I exist there west of Commerce City, an industrial city that just likes the coffers that the companies bring in. There's a refinery there. They have allowed a truck terminal to come in within 100 yards of our properties, and I have addressed the city council, commissioners of the county. I've gone to the state. These people are not doing a thing about this.

What happened is they moved in there in '93. In '96--well, back up a little bit. Shortly thereafter, we had to rush my daughter, who was asthmatic, to the hospital. We almost lost her. She stayed there over a week. And they put her on medication and that does help. But I had three heart attacks three years later. I notified all the concerned officials. Nobody does anything about it.

My wife and I are on thyroid medication now as we progress along the road. There's low energy. Like I said, I exist. It's a terrible situation. So I really welcome the EPA to forcibly aid people in my situation to assist us in having cities being more concerned about the health of the

average citizen instead of special interests.

And I would like to--oh, by the way, I'm also on an inhaler, too, Albuterol. But I would like to see the EPA require producers of fuels like this, and the users of the fuels like this to reside in the areas where they do create this problem for the other people.

Thank you very much.

MR. FRANCE: Thank you. We appreciate you taking the time and share your views with us.

Is there anyone else in the audience that wants to testify?

We are here until 6:30, as I expect you all will be, too. We'll take about a ten minute break, ten or fifteen minute break and see who shows up.

(Off the record.)

MR. FRANCE: You can go ahead whenever you're ready. The court reporter is ready, and you have our ear.

(Pause.)

MR. WETTSTEIN: I guess before I start, I'm sure that there's a number of groups today that talked about the emissions for the rules, what effect that might have on emissions, and also the effects of those emissions on both the public at large and then on individual corporations who are involved in refining or producing fuel, or that sort of thing.

I chose kind of a different--my background is in environmental engineering and economics, and so I kind of took a different spin on what I thought was important, because I figured everyone else covered kind of the NOx and some of the other particulate matter issues. So I decided to focus primarily on ozone concentrations, and I actually took this from the report that is associated with these meetings, I guess, and with reporting from the EPA.

Basically, this is a map of the U.S. obviously by counties showing which counties in the United States don't meet the federal--or what will be the new federal ozone standards. And basically everything orange or higher means counties that do not meet what will be the new ozone standard. Of course, these are not going to start being reported until this year, but I thought this was a pretty good graphic.

I think kind of one of the big things to notice is that if you draw a line starting at the orange, which is going to be non-attainment areas for the new ozone standard, you can see approximately, you know, kind of eyeballing it, that maybe three-quarters of the population of the United States lives in non-attainment areas of ozone.

And then I actually wanted to spend a couple of minutes talking about, and I'm sure this has maybe already been covered, but just a couple of minutes talking about the

formation of ozone and why I decided to pick on ozone, even though that's not one of the primary pollutants that we're concerned about with the new proposed rules.

This graph I stole from one of my textbooks for graduate school, and basically the first thing to notice is that there's three areas to this graph. The first area is up in the upper left, which is the area of the graph which is VOC limited, means there's plenty of NOx. Basically, you notice in this graph, if you cut down--I should explain the axis since you can't really see them very well.

The bottom axis is volatile organic carbon, which represents non-methane hydrocarbons in the atmosphere, and then the vertical axis represents NOx, which is obviously of critical importance to the new rule. But you notice in this region, if you cut down on your NOx concentration, you actually see, as you'll see, that you're going through more and more of these lines. And actually these lines represent ozone concentration potential. So as you go from bottom left to upper right, you have an increase in the potential to form ozone.

So actually, for areas within this region, reducing just nitrogen oxides increases the ozone potential in general.

The second region is kind of bounded by the line I drew already, kind of the center part of the graph, and this

is called the bended knee region, where there's an interplay between NOx concentration and volatile organic carbon. And this is going to become important in a second, so I'll ask you to kind of remember that.

Then the third region is obviously the one that's left out, and that's where the horizontal lines kind of dictate what ozone concentrations do. And you see that basically if you, in this region, if you decrease your volatile organic carbon concentration in the atmosphere, you're not really affecting your ozone concentration that much. It stays pretty stable.

The reason why all of this is important is that to efficiently reduce ozone concentrations, since most urban and suburban areas are up generally in the area of the bended knee region where you have to consider an interplay between both nitrogen oxides and volatile organic carbon, you have to reduce both nitrogen oxides and volatile organic carbon, which was represented by the same axis on this graph as it was on the previous.

The next graph that I wanted to show was that over the last decade or so--and this is also from EPA, or from a different EPA report, but this shows that volatile organic carbon emissions over the last decade have been decreasing, and that's part of a longer term trend, I believe.

And so basically, if we kind of think back to this

graph, since most of our cities and suburban areas lie within this bended knee region, we're seeing a decrease in this axis, so we're going to the left in this diagram, but we're not seeing as much of a decrease in the NOx. So we're not really affecting our ability to reduce the ozone concentrations in the urban and suburban areas.

So basically, this is why I decided to kind of come and talk about ozone today instead of NOx or one of the other primary pollutants that we're talking about in the proposed rules. And I kind of wanted to shift gears here, because this is kind of what I do, is the trade-offs between science and policy, and this doesn't quite fit on there, but just as an example, I took a report from Cal. Tech. and basically the goal of any emissions reduction strategy should be to try and produce the most cost effective solution that we can develop, and basically don't worry about all the details of these different policy options, but basically the vertical side of the graph shows micrograms per cubic meter of a contaminant, so this is concentration of a contaminant.

And then this is the actual cost that it's taking to remove that amount of contaminant. So you see up at these points that are first up on the graph, you're getting-- basically, you're getting a reduction in your concentration, which is on your vertical axis, at virtually no cost. So these are no cost alternatives that you would want to do

anyway for other reasons. And you see as you go kind of down the graph, you're still seeing more and more and more reduction in the contaminant, but you're also seeing increasing costs.

So the goal, of course, in any policy option is to try and meet your emission standards at the most--in the most cost effective manner.

I'm almost done. But basically what I wanted to show is that, and this is also from proposed--or from some of the material developed along with proposed regulation--or proposed rule change. Basically, I wanted to say that the proposed rules do meet the cost effectiveness kind of guidelines that we have in terms of these--these are all the programs that are--the policy options in red bars on this diagram have already been enacted. And so what this shows is cost effectiveness and dollars per ton, so how much we have to spend per ton of, in this case, NOx or non-methane hydrocarbon removal.

And you can see that this is, first of all, within the range of what we have already spent on programs to remove NOx and non-methane hydrocarbons. And also another key point is that we've already--you can tell from this graph that we've already exhausted some of the more cost effective policy options already.

So basically, in order to try and meet the

standards that will come into effect this year, we've already exhausted some of the cheaper options, so we have to consider the next most expensive--or the next cheapest option, which is represented in this case by the proposed rule.

And then kind of the analogous graph is for the particulate matter. And the reason why there's two on this is one considers the cost effectiveness. The top one is much cheaper obviously, and it considers the effect of a sulfur credit. In other words, the reduction--this policy option considers that the reduction in sulfur emissions which contribute to particulate matter would be given back to the people who are having to pay for it, so in other words, they're getting money back from what they had to spend to enact the--or to comply with the new regulation. And then the other bar is without.

So you can see again this is within the range of different policy options that have already been enacted. And one thing to note is that some of these other--some of the ones that are quite expensive is that they may have been enacted for a variety of different reasons. In other words, this is probably not their primary goal in enacting the more expensive legislation.

So kind of to sum up, I guess there's a number of health reasons, and I'm hoping anyway that some of the other testifiers today--I'm sure they did--touched on the reasons

why ozone and NOx and particulate matter are important pollutants and why they're on the NAAQS list for the EPA. And I think basically the summary of my little speel here is that in order to meet the regulations that are going to come about, and to try and improve human welfare and human health, that the proposed regulations make sense in terms of cost effectiveness and also in terms of our technical understanding of how ozone is formed.

And that's it.

MR. FRANCE: Thank you.

MR. WETTSTEIN: And then there's no time for questions or anything like that?

MR. FRANCE: We'll let you off easy. Okay?

The next guy we won't. Stan Dempsey.

MR. DEMPSEY: Thank you very much. My name is Stan Dempsey. I'm president of the Colorado Petroleum Association, probably the last person today to welcome you to Colorado, but welcome.

MR. FRANCE: You may have the honor of being the last person testifying in a series of five hearings we've had.

MR. DEMPSEY: Well, I appreciate that, and I was able to attend much of today's hearing, but I had other activities outside, and I appreciate you being willing to stick around and take our perspective.

We're a trade association that represents both upstream and downstream aspects of the oil and gas community in Colorado, and this rulemaking is of vital importance to our members from both the upstream and the downstream perspective, and I'd like to just take a minute to talk about that.

Just for some information, our members supported and are implementing at this point a voluntary revapor pressure measure. We cut revapor pressure by half a pound to help with the ozone--meet the ozone standard here in the Denver area. And our association supports the comments made by Ultramar Diamond Shamrock, Conoco, API and NPRA. But I'd like to kind of throw a little bit of a Colorado spin to some of those comments.

Our association is very concerned about the health of the two Denver refineries as well as the other refineries in the Rocky Mountain area. And I really have to compliment EPA with regards to the deliberations and the activity it took with regards to the gasoline sulfur rulemaking and the solution that you came up with for the Rocky Mountain refineries, not only addressing the concerns of the very smallest refineries, the SBREFA refineries, but the refineries which are slightly larger and that serve both Colorado and the Rocky Mountain areas, but even the refineries that were outside the PADD IV area, and treating

them fairly competitively.

And I guess we would urge you, without creating a carve-out, because we don't believe that it's appropriate, but to find a way in your general approach to this rule, to treat those refineries that are I think at significant risk of closure, to deal with this rulemaking in a sense so that those refineries have a legitimate shot at surviving, the competition for capital, limited capital expenditure is there.

And I want to emphasize that, you know, we're aware of the fact that there are multiple initiatives from the regulatory perspective with regards to gasoline and diesel sulfur reductions, the regional haze. The rule contemplates some significant reductions in SO2, and there are a host of other initiatives that will play an impact upon those refineries' health.

We would like EPA to take note of that, because what I do not want to see happen in Colorado is the Colorado consumer be really kind of held hostage if there's just one or two refineries, or three that will supply the Colorado market. And, you know, there probably can be supply brought into this state from other sources, but we think it's a healthy business climate to have product come into the state from both inside Colorado and outside Colorado, and we'd very much like to see that preserved.

As a trade association representative, I not only have to answer to my own members directly, but I get called at 6:30 in the morning by radio stations asking me why the price of gasoline or diesel is going up. And while I enjoy answering those questions, I will tell you that, you know, it gets old after awhile, and we would like to be able to say we continue to have a healthy refining climate.

So we would just ask you to continue to work with the refiners so that a solution can be developed that helps the smaller refiners, not just the SBREFA refiners, but the refiners from this Rocky Mountain area.

And I guess that leads me to the other segment of our industry, and I don't think it's probably been discussed, although I haven't been here the whole day. As an organization that represents crude oil producers, the refineries were built in this area, both Colorado, Wyoming and other states, because we do have a good crude oil supply. And we would like to see the EPA recognize the fact that the crude oil industry is important to this segment of the country, and that without having the Rocky Mountain refining capacity, that crude oil industry could be threatened, and there are a number of jobs associated with that, and we'd still like to see that industry exist in Colorado and the Rocky Mountain area.

We appreciate once again your willingness to stick

around and to listen to us as the last witness. I would mention that Bob Laudermilk is still in the audience. He is an air quality control commission member here.

MR. FRANCE: We made him stay.

MR. DEMPSEY: But I want to thank him as well. He sat through almost all of this. But those are really the two points I wanted to come and make, and thank you for your consideration of those points.

MR. FRANCE: Yeah, and we--I mean, the situation is a little bit different with the interaction between the technology and the fuel as compared--and diesel fuel compared to Tier 2 where we, in designing that program, I think we had--well, I know we had more options. But we stand ready and intend to have intense dialogue with all the refineries that are affected, especially the ones out here in the Rocky Mountain states, and the small ones in particular, to try to find--you know, we made an attempt to try to lay out options, they aren't perfect, but, you know, I think it's in everyone's best interest to find a way of recognizing the effects on the technology, but do it in a way that makes the most sense for everybody concerned.

MR. DEMPSEY: We appreciate that.

MR. MACHIELE: I guess in that regard, I don't know if you're planning on submitting written testimony during the--or comments during the comment period, but if you had

any of your own specific ideas for how to do the exact things that you're looking for, please elaborate on that in your written comments.

MR. DEMPSEY: We would be pleased to, and thank you for the opportunity.

MR. FRANCE: Thank you. The record is officially closed.

(Whereupon, at 6:00 p.m., the proceedings were concluded.)

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