FEDERAL TRADE COMMISSION

PUBLIC WORKSHOP

FACTORS THAT AFFECT PRICES OF REFINED PETROLEUM PRODUCTS

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I N D E X

P R O C E E D I N G S

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CHAIRMAN MURIS: Good morning and welcome to the Federal Trade Commission. Today we are holding a public conference on factors that affect prices of refined petroleum products. As you are all aware, this is a topic of immense importance to the American public and to our economy. Both the level and volatility of prices of these products, such as gasoline and home heating oil, have resulted in increased public concern. Just how these prices are set has generated much discussion and debate among many and diverse groups.

These are issues with which we have been involved as well. Recently the Commission issued a report on and closed an investigation of gasoline pricing in two particular geographic areas, the midwest and western states. The Commission has also conducted investigations of a number of recent oil industry mergers and issued orders requiring substantial divestitures in several cases to preserve competition.

Because of the importance to the American economy of issues raised in our investigations, we plan to broaden our focus to study in more detail the central factors that can affect the level and the volatility of prices in refined petroleum products

throughout the United States. Today we start this process.

We are asking for public input on issues we should address at later hearings. We hope to focus in a comprehensive manner on the issues of greatest relevance and importance. At the later hearings, we will discuss and analyze the issues in more detail. The ultimate goal is to produce a report that can assist in developing appropriate public policy in this vital area.

This has been a traditional role of the Federal Trade Commission. Indeed, this is just the latest in a series of hearings and workshops that the Commission has held in recent years. The goal of these hearings has been to understand trends in the economy.

We work with knowledgeable people, with the business community, the consumer sector, public interest organizations and academics. We hope to understand important issues that will have an impact on the economy and on how a regulatory agency should or should not deal with them.

These hearings are designed to help us learn the issues so we can fulfill our mission both as a law enforcement agency and as a body of economic experts that files periodic reports on the major issues facing

our country.

This type of activity is what Congress had in mind when it established the Commission in 1914; not just an agency that would enforce the law, but an agency that would take a look at the law and make sure that the rules we are enforcing make sense. And as I have in the past, I want to commend my predecessor, Bob Pitofsky, who really rejuvenated this process at the FTC.

Over the years, the Commission has used this mandate to study and report on a wide variety of issues confronting government. The shape of our securities, communications and agricultural laws were first forged in the context of FTC investigatory hearings.

So, let me initiate this program by thanking all of you who are here. I'd like to give special thanks to all of our speakers, who are willing to lend your valuable time, intelligence and experience to this project. I also want to thank the many FTC staff who contributed in putting this program together, especially our moderator, Susan DeSanti, who has become an expert in coordinating these events.

And just to add a personal note, we had a meeting in my office about five weeks ago when I suggested that we have this event starting today, and I

think it's fair to say I was the only one who had confidence that they could pull it off, and I'm very pleased that everyone's worked very hard to make this event happen today.

I look forward to today's program and the programs that follow, and again, I especially want to thank the FTC staff and our moderator, Susan DeSanti, who has become an expert in these events. We have much to learn, we have a stellar group of speakers, and I look forward to the program.

Thank you very much.

(Applause.)

MS. DeSANTI: Thank you very much, Mr. Chairman.

I'm Susan DeSanti, Deputy General Counsel for Policy Studies, and let me start also by thanking all of the outstanding speakers who have agreed to come and share their learning and experience with us and the many outstanding FTC staff members who worked so hard to make this initial public conference possible.

We're also grateful to have Commissioners in the audience today, and I think that Commissioners will be joining us from time to time today as their schedules permit.

We have a very full agenda, so let me briefly

describe how the morning and afternoon sessions will work, and then we'll get started.

In both the morning and the afternoon, we're going to begin with some short overview presentations to lay the foundation for the discussion to follow. Then we will have panel discussions that build on and expand those presentations into additional areas.

Now, to begin the conference, we are honored to have four very distinguished speakers who I will introduce in turn.

Our first speaker is Tom Greene, Senior Assistant Attorney General for California Department of Justice and Chair of the Multistate Antitrust Task Force of the National Association of Attorneys General. Tom has had an extensive antitrust practice in both state and federal court, including arguing and winning the ARC America case in the Supreme Court; serving as national class counsel in the insurance antitrust litigation; and leading California's action against the tobacco industry, which was ultimately settled for $25 million.

Tom has been chief of California's Antitrust Law Section but recently has been asked to set that aside to investigate potential unlawful conduct in the utility industry. This will come as no surprise to

anyone who's been following the events in California. We are very grateful that he has made time in his schedule to come and join us from California today.

Tom?

MR. GREENE: Thank you.

Mr. Chairman, Susan, colleagues, thank you very much. It will come as no surprise to you that petroleum products issues are of enormous importance to every state in the union and, of course, to every consumer in the United States. This has been reflected I think in our allocation of our relatively scarce resources at the state level through a variety of ongoing investigations and major pieces of litigation.

As we speak, for example, the state of Hawaii is investigating a price-fixing investigation -- price-fixing case in the United States District Court in Hawaii. Both the states of Alaska and California are engaged in major investigations. In the past, we have been involved certainly in California and with our sister states in the petroleum products, MDL litigation, as well as the Long Beach litigation, which dealt with other aspects of the industry.

We've also been I think good partners with the Federal Trade Commission in its work in reviewing major mergers of the last few years. Indeed, we think this

has been one of the shining examples of federal-state cooperation. We have worked closely with the Federal Trade Commission on the Exxon-Mobil transaction, which yielded divestitures of hundreds of retail stations in the northeast and a major refinery in California; the BP-ARCO matter was a case brought by the Federal Trade Commission in the United States District Court in San Francisco, a parallel filing by the states of California, Oregon and Washington, and that case led to divestitures of all the ARCO's assets in Alaska.

All of those results are very positive, and the working relationship between the various states involved in these matters and the FTC has been really an example of how to do this well. That's not to say that we have to rely on this. This is a relationship that needs constant tending, particularly at the day-to-day level of investigations, to make sure that the flow of information continues and that we continue to work in a cooperative and cost-effective manner to serve the public and more generally.

With this background, however, we do have a variety of perspectives, and let me try and share them with you. The first and perhaps most striking is the increased concentration in this industry. This industry is concentrating as quickly as any in the

world. It obviously is an industry of obvious importance, but I think the first thing that we all need to be aware of is the concentration has increased, and this has potentially significant implications.

Indeed, when Chairman Pitofsky closed the midwest investigation, you will recall that the report itself speaks to a refiner who basically withheld product from the market in order to increase prices. It may not have been a Section 1 problem, but it certainly raises some fundamental issues about increasing market power in this arena.

Secondly, retail competition is something that we all need to be very intensely interested in. What has happened historically is that we've looked largely at the two tiers and have been broad gauge measures of competition among major refiners and major companies. It is very important to realize that the cockpit of competition, if you will, is quite local. The industry, at least in my state, has moved very rapidly to zone pricing in which micro-zones, if you will, are created, which may be an intersection in a major city, an off-ramp on a major freeway or, in most cases, zones which are a few miles square.

The implication of that is that unless there's competition in that zone, there won't be competition

for the consumers who go into those zones if they rely on that intersection as the place where they usually get their gasoline.

One further thing to be aware of is that the industry appears to be moving in a direction of retail back pricing; that is, as costs decline, prices will stay relatively high until competition breaks out zone by zone. This has I think significant implications for how we think about these transactions and where the action ultimately is in this industry.

The next thing to be aware of is largely consistent with broader patterns in American industry. Inventories have declined dramatically. My state may be as good an example as others. In the 1990s, reserves and inventories have declined roughly 20-plus percent.

One implication of this is that if there's a refinery fire or an outage, there simply is not a cushion to cover the outage, and so you see price spikes, once they start, they escalate very, very quickly and quite dramatically. So, the combination of price spikes, which is increasingly a reality in this market, really is joined conceptually with declining inventories, which have good reasons to be created or to be diminished, and the implications for America's

petroleum consumers is quite dramatic.

Another thing to be aware of, and I must admit this is really colored by my recent experience in the electricity industry and taking a look there, is that I don't think as antitrust lawyers we can really appreciate the implications of inelastic demand curves. One implication of that, and one I want to highlight to you, is that if the demand curve is relatively inelastic, a relatively small diminishment in supply can have out-sized pricing effects.

We have certainly seen that in California's electricity market, so that suggests that even small players may have significant market power, and again, this may call into question some of our traditional HHI screens and things of that nature, but the power of individual marketers to spike the price or increase the price really is in large part a function of the shape of those demand curves.

Something that, again, is colored to some degree by my recent experience working with the electricity industry is something that I think we just need to be generally aware of, and that is a change in the way the cutting-edge thinkers in the business community are thinking about their own businesses. And that is a change from what is the traditional notion

that as you are developing strategy, investment strategy, you want to cover your costs, you have certain profits goals, and you try to meet them.

Increasingly, industries are looking at physical assets as equivalent to financial options. One implication of that is that you want the option to make as much money as possible. In the electricity industry, this suggests moving from plants which are relatively more efficient to plants that would chase a price spike much more effectively.

Once you begin thinking of physical assets as options, how the industry may work, whether it now makes sense for them to chase a price spike and whether, indeed, this facilitates thinking that price spikes are actually in the interests of certain industry participants and what effect that might have, all are things I think we do need to think about.

So, in summary, I think a handful of issues are of utmost importance here. The first is to maximize, to the extent possible, the ongoing partnership between federal and state agencies in reviewing this important industry. Secondly, I do think we need to be very cognizant of the issue of increased concentration. I think we need to be particularly sensitive to the local nature of competition in this industry. I think we

also need to be watchful about options approaches and what implications that might have both for this industry and for our overall thinking as antitrust lawyers.

And on those notes, I turn it back to Susan.

(Applause.)

MS. DeSANTI: Thank you very much, Tom. You've already given us a lot to think about.

Our next speaker truly fits in the category of someone who needs no introduction. It is simply impossible to be involved with competition and consumer protection issues and not understand the impact that the Honorable Howard Metzenbaum has had on consumer issues, first as a Senator from the State of Ohio for 19 years, and now as Chairman of the Consumer Federation of America.

While in the Senate, he chaired the antitrust, labor, energy regulation and conservation subcommittees. At the CFA, which is a nationwide organization of approximately 285 pro-consumer groups, he is a well-known and frequent public voice on many of the most important issues confronting the country. We are honored to have him with us today.

Senator Metzenbaum?

(Applause.)

MR. METZENBAUM: Thank you very much, Chairman.

I appear here this morning to commend the FTC and Chairman Muris for holding one of its first public forums in the new administration on the extremely important issue of gasoline pricing. I hope the FTC will be a leader in the administration in aggressively pursuing policies and investigations to increase competition and keep gasoline affordable for the consumers, for obviously the most vulnerable, the low and middle income families.

Consumer access to affordable gasoline prices has long been a major concern of mine, as it has been for the Consumer Federation of America. As chairman of the Senate Antitrust Subcommittee and since, I have spent a good part of my career working to prevent antitrust abuses and to improve competition in a number of industries. The lack of meaningful competition in the oil industry gives me and other consumer advocates great cause for concern.

The Consumer Federation's most recent report by Dr. Mark Cooper, whom you will hear from later, comes to a surprising conclusion. His study shows that recent gasoline price hikes are caused mainly by growing industry concentration and market manipulation, not by OPEC policies or other international factors.

I say that this is surprising because I think that many Americans have concluded that the main reason they are paying more at the pump is directly related to OPEC having increased crude oil prices, but the fact is it is the refiners and the marketers that are most responsible for price increases. The refiner-marketer share of the pump price doubled in 2000 and doubled again in the first five months of 2001, costing consumers more than $11 billion just since January.

Despite modest recent price decreases, gasoline prices are still almost 20 cents per gallon higher than two years ago. These price spirals have hit Americans hard, very hard, and those who have been hurt most are the lower and moderate income consumers.

It costs households an average of more than $150 a year. That may not sound like much to a lot of people, but households with incomes below $10,000 that own motor vehicles spend more than 10 percent of their income on gasoline, compared with the less than 2 percent of income spent by those earning more than $75,000 a year. And rural households also pay more proportionately.

These price increases are felt deeply by consumers because gasoline is not a luxury; it is an essential commodity. It is an absolute necessity for

daily life for millions of Americans, probably the vast majority of Americans.

The result of these price increases has been windfall industry profits. Last year, the biggest five oil companies enjoyed after-tax profits of $40 billion, which is two and a half times their $16 billion in 1999. Fortune Magazine reports that the return on equity for the oil industry in 2000 was an astonishing 25 percent, which is double the average for the industry and about 50 percent more than other large corporations.

In the first quarter of 2001 alone, profits increased by nearly 75 percent. In fact, profits are so high that the oil industry literally, actually, doesn't know what to do with all of the money that it's making. That's an incredible reality in the American economic scene.

I have here Monday's Wall Street Journal. The front page, top right-hand story is entitled, "Pumping Money: Major Oil Companies Struggle to Spend Huge Hordes of Cash." That's an unbelievable kind of headline, unbelievable reality in the American economy. The story cites the Royal Dutch-Shell group which is making a million and a half dollars -- a week? No. A day? No. -- a million and a half dollars an hour and

sitting on more than $11 billion in the bank. That ain't hay. That's a lot of money for a company to have accumulated on the backs of the American consumer.

The facts show that oil companies are manipulating the market and profiteering. Even Pat Robertson, with whom I usually have nothing in common politically, has charged that oil companies are stifling competition. As you may have seen in the papers, he accused big oil companies in California of thwarting his attempts to open a refinery. Growing industry concentration has allowed refiners and marketers to reduce refining and storage capacity and to withhold supplies in individual markets.

For example, the FTC investigation last fall found that several companies, including Marathon Oil and BP-AMOCO-ARCO, had taken actions to withhold or divert oil in order to keep supply tight and prices high.

Between 1994 and 1999, 10 percent of the nation's refineries and branded gasoline stations were closed. The nation's petroleum storage facilities were reduced by nearly 15 percent. The industry systematically lowered stocks on hand from about a one-week supply in the eighties to a one or two-day supply in the late nineties.

A waive of mergers drove this consolidation and concentration. Every time another merger occurs, the potential for real competition decreases. By the standards of the Reagan Administration's Justice Department, four of the five regional refinery markets have reached levels of concentration that are of concern.

I used to have some involvement in the oil industry. I used to be a distributors of Phillips Company gasoline in the Cleveland area. That company, which was big at the time, is now Phillips-Pasco. Sohio, AMOCO, ARCO, Exxon, Mobil, Chevron and Texaco are all also part of merged companies today.

The concentration really shows up in the regional markets, where the largest four companies account for at least one-half and as much as three-quarters of the output of gasoline. A similar trend has occurred at the retail level with gasoline stations. What this means is that individual companies acting unilaterally can manipulate refining and storage capacity or exploit market disruptions and drive prices up. That was a major conclusion of the earlier FTC report. Although this type of anticompetitive behavior does not involve collusion, the impact on the consumer is the same; higher prices for the consumer.

What are the solutions? Overall, the administration and Congress should focus their energy policy on increasing competition, expanding refinery and storage capacity and boosting the fuel efficiency of motor vehicles. The Department of Justice should stop any further mergers. The Department of Justice should also investigate and discourage restrictive marketing practices, such as zonal pricing and franchise restrictions and acquiring supply.

Federal and state officials should crack down on any company that withholds oil or gasoline from the market. A joint federal-state task force should be created to track and prosecute anticompetitive behavior in the oil industry, and the administration should propose legislation to put an end to the kind of market manipulation that I have described.

We also need a windfall profits tax on companies that gouge the market. Finally, we need to provide better energy assistance to low-income households, such as direct energy assistance for transportation costs. Energy assistance programs should also be directly indexed to energy prices.

In conclusion, a one-sided plan that focuses almost entirely on producing more energy, as the President has proposed, just won't work. It's not

realistic. You've got to look at supply and demand and, in particular, pro-consumer competition. We've also got to look at government policies and business practices by the oil industry. For example, the Government did not close a large number of refineries over the last decade leading to tight oil supplies; the oil industry did. We can make gasoline prices affordable without holding back important environmental laws, like the Clean Air Act.

We at the Consumer Federation and I personally urge the FTC to be on the leading edge of this issue. Expose market manipulation. Condemn antitrust practices. Propose reforms. And help consumers get a fair shake at the gas pump.

Thank you, Chairman .

(Applause.)

MS. DeSANTI: Thank you.

John Felmy from the American Petroleum Institute, API, will be our next speaker. He is chief economist and director of API's Policy Analysis and Statistics Department. His department is responsible for all statistical publications and economic analysis of API.

He brings over 20 years of experience in energy, economic and environmental analysis to the

discussion today, and we are fortunate indeed that he has agreed to share his expertise and analysis with us.

John?

MR. FELMY: Thank you.

Mr. Chairman and members of the Commission, I am John Felmy, chief economist and director of policy analysis and statistics of the American Petroleum Institute, a national trade association representing more than 400 companies in all sectors of the U.S. oil and natural gas industry.

I would like to thank the Commission for the opportunity to present our views on what happened to the prices of refined petroleum products over the last two years. I will review what led to these problems and explain what the industry did to make sure gasoline got to every family who needed it during the 2001 summer driving season. Then I will discuss the huge challenges we face and suggest actions that need to be taken to avoid the turmoil we have experienced over the past two years.

Right out of the block, however, I would like to say that gasoline prices shot up dramatically last March because of supply and demand; no more, no less. For a variety of reasons, there were lower than usual inventories of gasoline on hand in the spring. In part

that was true because we had a colder winter than most recent winters. That meant refineries supplied large amounts of heating fuel to keep American families warm. And if refineries are producing large amounts of heating oil, they are producing less gasoline. You can only squeeze so much out of any one barrel of crude oil.

Meanwhile, the decline in gasoline production was accompanied by a drop in imports of gasoline and a 2 percent increase in demand. Taken together, those are the immediate causes for the price spikes earlier this year.

From the broader perspective, I will describe the energy situation two decades ago when we experienced our last major price spike. In that era, we paid even more for petroleum products when measured in today's dollars than we do now. The average price of a gallon of gasoline in 1981 was $2.64, and the price of a barrel of crude oil was $69.

In the same year, we produced 45 percent more petroleum and consumed 20 percent less petroleum than we do today. As a result, the U.S. imported only 36 percent of the petroleum compared to 60 percent we now get from other producing countries.

Refinery capacity was over 2 million barrels a

day higher. There were 315 U.S. refineries, and capacity utilization was only 69 percent compared to the current 93 percent. Since that time, more than half of the refineries have shut down, but surviving refineries are much bigger.

Why have things changed in the industry so much? The impact of what happened in the late seventies and early 1980s cannot be overstated. Higher prices of the time, a deep recession and a steep decline in consumption of petroleum products brought about major changes. Between 1978 and 1983, for example, petroleum consumption declined by 19 percent to 1.2 million barrels per day. This decline led to a severe recession in the industry, thousands of workers were laid off, and many expansion projects were cancelled.

Another factor that had a big impact was the windfall profits tax of 1980. That drained $73 billion that otherwise would have been spent on new exploration, refining or marketing. Huge investments required for environmental controls successfully reduced emissions from all facilities but also sharply cut profits in the industry. In the 1990s alone, the industry spent $90 billion on environmental investments. The industry spent almost $2 billion

alone on the upgrading of underground storage tanks. These investments were never recovered, and between 1981 and 1998, the rate of return in the refinery sector was just 4 percent.

Because of these regulatory costs, dozens of refineries and storage facilities were closed and thousands of gasoline stations went out of business. This low rate of return forced companies to do everything they could to become more efficient. It also explains many of the mergers that occurred in the industry. By merging, companies eliminated duplicate functions and saved billions in costs.

In addition, the larger merged companies had more capital to make the investments required to explore and drill for oil. To cite one example, a deep water off-shore drilling rig can cost a billion dollars. By becoming more efficient and developing stunning new technologies, the industry has saved incredible amounts of money. The cost of finding and refining petroleum has gone down despite massive environmental investments that have accompanied all these changes. And these developments, mergers, investments and technological improvements directly benefitted American consumers.

The real cost of a gallon of gasoline is now 45

percent lower than it was in 1981. Despite this good news, we still have a petroleum supply system that is straining to meet consumer needs. Since 1985, demand for petroleum products has exceeded the refinery capacity, even though refineries are bigger and more efficient than ever. Storage facilities for crude oil and refined products continue to shrink due to regulations.

We now import 2.5 million barrels a day of refined petroleum products each day, and that represents about 10 percent of demand, and according to the Department of Energy's Energy Information Administration, these imports are predicted to grow by 140 percent over the next 20 years. This would not be a concern except that other countries acquire different gasoline recipes than we do in the United States.

On top of that, different U.S. jurisdictions -- federal, state and local -- require different types of fuel to meet their own environmental needs. The existing refinery, pipeline and terminal system must supply 16 different types of gasoline. These boutique fuels have hamstrung the delivery system, increasing the possibility that any small change in demand or interruption in supply will set off another explosion of price increases like those we have seen over the

last two years.

And the situation could get much worse if still other new regulations are not carefully implemented. New rules that lower sulfur content in gasoline and diesel fuel will limit the availability of imported fuel, because most foreign refiners do not yet produce the kind of low-sulfur fuel that will be required in the U.S.

All this means is that we have reached an important crossroads in our ability to supply American consumers with the fuels they need. Two decades of regulation, no matter how well intentioned, have put a tremendous strain on the system. The price spikes for heating oil and gasoline over the last two years are but manifestations of the underlying problems that we face in supplying consumers.

We are now lurching from season to season, unable to build up sufficient inventories to provide a comfortable supply buffer of either gasoline or heating oil for the coming season. The price spikes that occurred for heating oil and gasoline were driven by the interplay between supply and demand for these fuels. Our experience with these spikes reveals that markets for petroleum work.

Sharp increases in gasoline prices are caused

by shifts in supply and demand, partially triggered by unwise regulatory policies and limited refinery capacity. In the spring of 2000, a variety of supply limitations and demand growth drove prices up, and then, as markets worked and more supplies rushed in to meet demand in the midwest, prices fell.

This year's sharp increase in gasoline prices were again due to supply and demand factors. We experienced a much colder winter. November and December were the two coldest Novembers and Decembers on record. As a consequence, our refiners supplied large amounts of heating fuel, and because natural gas prices were high, utilities needed larger amounts of residual fuel to make electricity.

Even though the refinery utilization was 2.7 percent above the previous year and had high levels for the season, gasoline production fell by 2 percent over the previous year. With the end of the heating season and the fall of natural gas prices, gasoline production expanded greatly. The refinery system set records for gasoline production for 13 straight weeks. Both May and June were record months for gasoline production, as was the entire quarter.

In addition, imports of gasoline increased dramatically as prices rose. In recent weeks, the high

prices and slowing economy have driven down demand. As a result, prices have plummeted. In the spring and early summer, prices increased by 30 cents over a 45-day period and declined by more than they rose over the next 60 days.

Let me close with a plea or a call for adoption of a comprehensive energy policy. Prices of gasoline, natural gas and electricity have declined over the past two months, but we should not be lulled into complacency. No sane homeowner would quit repairing a leaky roof simply because it stopped raining. Likewise, it would be foolish for our nation and its leaders to forego seeking long-term solutions to our increasing energy needs simply because gasoline prices have gone down.

While the gasoline situation has improved, we are already preparing for the next season. Refineries are operating at a very high level and will require maintenance for safety and environmental investments. We have little breathing room to prepare for the heating season. Inventories of heating oil are about 11 percent below average.

While prices have declined, we still face the same challenges we faced last winter and spring. Refinery capacity is less than our demand for petroleum

products. The Department of Energy says we will need 30 percent more energy over the next 20 years. To meet that demand, we will need 33 percent more petroleum or about 6 million barrels per day. This is a staggering amount equal to 90 billion gallons per year.

To supply this to consumers, we will need more refinery capacity, more pipeline and terminal capacity, more shipping capacity and more storage facilities. We must enact a comprehensive energy policy that adequately promotes cost-effective energy efficiency and conservation, realistic amounts of renewable energy and more supplies of oil, coal, natural gas and nuclear energy.

In addition, regulations need to be streamlined to get supplies to consumers more cheaply. Otherwise, we will be doomed to more frequent and more severe energy disruptions than we have endured in recent years.

And with that, Mr. Chairman, I will conclude my testimony.

(Applause.)

MS. DeSANTI: Thank you very much.

Our final speaker in this opening session is Phil Verleger, a renowned economist and consultant who also brings a wealth of experience and knowledge to

this discussion. Phil has been contributing forward-thinking ideas to the discussion of energy issues for many years in the context of government service, academia and consulting, most recently as president of PKVerleger, LLC, and senior adviser to the Brattle Group. We very much appreciate he has come to join us today, and we look forward to hearing his thoughts.

And we look forward to having the technical assistance cooperate with us, as well.

MR. VERLEGER: Let me start. Thank you very much. It's a pleasure to be back in Washington. As some of you know, I spent 25 years living here. As you can see now, I split my time between Newport Beach and Aspen, Colorado, and so it's a pleasure to be back in Washington in August for a day.

Listening to the first three presentations, I realized that Tom Greene, who I became friends with working on ^ Bill Macheir's task force, he and I were sort of the book ends between two views of the oil industry, and if I can make the technology work, I'm going to talk about the dynamics of petroleum price setting, and I will start by talking really about the role of the FTC.

I've never appeared here before, I've advised

some people, but one can really go and ask whether some of the price increases right now occurred because of decreased pump competition, which implies the FTC failed in its purview; whether they're due to environmental regulations, as we heard just a minute ago; whether the Jones Act and other energy problems, due to policy, have created troubles; and if I use the Jones Act, I guess -- I'm trying to write a book right now on the energy issue, and the title of it is really Made in America, because our energy crisis right now is entirely made here at home. And then inventory dynamics, which really sets price -- this is what I spent the last ten years studying -- and then an OPEC conspiracy.

Let me start with the traditional antitrust regulation of the petroleum industry. Typically, if you look at the history of the way the FTC has reviewed and the Justice Department, they have focused on exploration and production, refining, terminals and marketing. If you look at the last six mergers that have been reviewed over the last seven or eight years, starting with the Texaco-Shell joint venture and working up now to the Valero-UDS proposal.

Some of these issues are important today; some of these issues are much less important. The

exploration and production has been almost unimportant with the exception of the West Coast, and there, because we have a limited number of suppliers, because we have a limited number of buyers, and we can't export Alaskan crude oil, we have a classic oligopoly, one of the only oligopolies in the market.

Any merger, any transaction changes the price dynamics, and one company has been very public recently saying if a merger goes through, they will use that to bring down crude prices.

Refining is a different issue, and here I want to spend some time. Refining mergers have affected markets but not in the way the FTC would have predicted, in part because refining is a very capital-intensive -- as Bob Slaughter will tell you -- low-return business.

Environmental regulations in terms of the product quality alone, leaving asides emissions from refineries, will require refiners to spend probably more than $25 billion over the next five to six years. And mandated divestitures, together with voluntary divestitures, have forced the transfer of assets from well-capitalized firms -- and let me take the word "forced" out; "caused," because in many cases it's been self-divesting -- well-capitalized firms to

under-capitalized firms.

Stringent environmental regulations make it harder to import products from abroad, as John Felmy suggested. As a matter of fact, we really are -- if we did, through tariffs, what we have done through environmental regulations, the WTO would slap huge fees on the United States. The consequence is going to be a reduced supply of product at higher prices.

Now, this trend could be modified or moderated I think if antitrust authorities were to break with classic molds and instead of requiring divestitures of refineries require that merging firms agree to expand refining capacities and hold onto them.

Whoops, I did something wrong. That's because I am incompetent.

Let me start, and I'm going to -- I'm not going to go through everything, but if one looks at the refining capacity in the United States, between 1990 and 2001, the largest integrated companies with market capitalizations of over $100 billion sold more than a million and a half barrels of refining capacity, they were purchased by smaller companies; the large companies with market capitalization of between $10 and $100 billion; and more importantly, the companies with market capitalization from $1 to $10 billion.

Now, it's these middle-tier companies that are going to have trouble manufacturing -- I think making the investments to produce the clean fuels required, particularly if the economy slows over the next two to three years. What you can see if you look at this in percentage terms is that the integrated majors went from almost 50 percent of refining capacity to 36 percent of refining capacity, and the smaller companies -- the large companies, I'm calling them, went from 21 to 30, and the medium companies went from 9 to 14.

Now, in these calculations I'm assuming the UDS-Valero proceeds and assuming the Phillips-TOSCO merger proceeds.

One of the ways of looking at this is to look at refinery debt in 1990 as a percentage of market capitalization, vertical axis, versus refining capacity on the horizontal axis, and what you see is the companies in 1990 that owned most of the refining capacity had very little debt. Update that to today, and one finds just a random scatter. And if you look at the two dots up there on the right-hand corner, the companies owning substantial refining capacity of over a million barrels a day and high debt, those companies may have trouble making enough investment to produce all of the clean diesel and clean gasoline, low-sulfur

gasoline required by the EPA.

For every 100,000 barrels a day of refining capacity lost in terms of these clean fuels, we mark the front retail prices up by 10 cents a gallon, maybe 5 depending on your price elasticity demand.

The third -- now, I've covered E&P, focuses on gasoline. The third area that hasn't come up yet is terminal operations. It has been -- sometimes there's been attention; sometimes there hasn't. In the case of the merger between National and Marathon, there was no attention, and there was a problem. This is a really key issue, and just in the last week I received a paper from Gilbert and Justine Hastings -- I think Justine is going to be here this afternoon -- that covers this thing very well following the classic Salop approach where you can raise rivals' costs, and what you find is if you're not careful in terms of vertically integrated companies mergers on terminals, you raise prices, 3, 4, 5, 6 cents a gallon. This one is very important.

The last issue Tom Greene talked about was marketing, and I think here the FTC and even I'm afraid Tom's model is a bit out of date. Marketing is being transformed today by the introduction of hypermarkets. Hypermarkets -- the term comes from France -- are large retail establishments such as WalMart and Costco that

offer gasoline. That trend began in France. We're now seeing it over here.

In San Diego, there was one Costco out of 600 stations, a year ago, now there are 7. Each of these stations sells three to five times as much gasoline as a regular station does, and the prices offered at these stations can be 10 to 20 percent lower. So, last week when I was in LA, there was a Costco selling gasoline for $1.40 a gallon. They had lines at the pump. The regular price on the street was $1.70. So, one of the forces of innovation is the hypermarkets, and what we're seeing out of the hypermarket is that they realize the classic gains that the FTC looks at, economies of scale and scope.

Now, it's my expectation that these hypermarkets will provide the funds to the undercapitalized refiners probably getting the products going forward. If you look across the country, in the northwest, Tesoro, a fairly undercapitalized firm, is putting most of their stations in WalMart facilities, and in some WalMart facilities -- the average gasoline station does 200,000 gallons a month. The WalMart stations are moving in some areas a million gallons a month.

These firms have the market capitalization. If

you rank the large companies, Exxon, Chevron and others, you find that WalMart is about the third largest. I think they're bigger than -- in terms of market capitalization than Shell-Texaco. So, they're a new form of competition. They are bringing the lower prices of gasoline.

In my belief, if I look across these, it's environmental regulations that explain much of the increased price volatility. Regulations that increase the number of products, creating storage problems, and lead directly to the price dynamics. Requirements to use ethanol and RFG may reduce the available supply of gasoline due to the need to lower the RVP of a blend stock. Regulations on product quality represent a barrier to trade.

Shipping requirements, the Jones Act also creates an enormous problem. We don't have enough Jones Act ships. Jones Act ships must be constructed in the United States, operated with U.S. seamen and not receive a construction subsidy. We still have a couple of World War II Jones Act ships moving back and forth across and around the world. This is one other problem.

But the key thing is inventory dynamics. Simple statements about inventory dynamics and

economics: Volatility and prices are low when inventories are high. It doesn't matter the commodity, it can be grain, it can be gasoline, it can be copper. Volatility and prices are high when the inventories are low.

Changes in regulations, mergers and OPEC policies are all affecting the inventory dynamics. It's an obvious reason for why firms hold additional stocks. We have heard about discussions earlier about companies holding it. They hold it when it's profitable; they don't hold it when it's not profitable. And the way they tell whether it's profitable is to look at forward pricing.

Forward price charts is published in Senator Metzenbaum's Monday Journal and is published every day. You can buy crude oil for delivery today for about $27 a barrel. If you want to buy it for delivery a year from now, you can buy it much more cheaply, for about $23 a barrel. Well, would anyone want to hold inventories if they bought the oil today for $27 and sold it a year from now for $23? It doesn't matter, unless you're a state government or something, you don't want to do it, or a federal government. I had a lot to do with SPR at one point in life.

What this means, and you find from the

agricultural economic literature, it hasn't come over to the industrial economic literature much, is that there is a strong relationship between inventories and price trends. This graph shows inventories of crude in the delivery market for the futures market, which is pad two, the middle of the country, inventories shown on the horizontal line. On the vertical line, you should see the spreads between cash and -- futures and cash prices. When futures are greater, that would be up at the top, at $86, you have high inventories. When you have high spot prices and low inventories, you have got low inventories -- you have low inventories.

This has led to the development of what is called a supply of storage curve. The term goes back to John Maynard Keynes Home but Working, applies to the agricultural economics. We see it working every day in the petroleum markets, and I had a quote from just this recent -- this week's or last week's Platt's saying that spot prices of gasoline in West Coast markets were 6 cents a gallon lower for immediate delivery than they were for August delivery, because there was no storage space.

You can find these relationships in every energy commodity. This is natural gas in December. We see last year inventories were very low, and we had

very high pump prices. We find the same rough idea of a supply of storage curve for gasoline, for formulated gasoline, in June. You see it for heating oil; that is, when inventories get very low, as they did in February of 2000, you have a huge premium for prompt supplies of heating oil for forward markets.

Well, what you -- one of the things that has happened is if you go and get these supply of storage curves, you find that the proliferation of blends, John Felmy's discussion, leads to a much more inelastic supply of storage curve. The red curve here is the fitted curve for the summers up to 1999. Post-1999, we see a much steeper curve. That means small changes in inventories lead to much larger increases in spot prices.

Why? Because the storage problem is much more complicated for the refining industry. So, EPA has essentially twisted the supply of storage curve and given us much of the increase in price. The FTC report on the midwest alludes to this.

We also see that in the case of mergers and structural change, that that twists the supply of storage curve, so that when we are -- when mergers have been approved and one uses the traditional measures of Hirfendahls and concentration, much less the fact that

these mergers are being undertaken for cost savings or refineries are being sold to firms that can't come up with the capital to hold the inventories, and that is effectively twisting the supply of storage curve and making it more inelastic.

So that what I'm saying is that in terms of inventory dynamics, inventory setting commodity prices, our merger policy has actually tended to make this curve more inelastic. Our environmental policy has tended to make this curve more inelastic. And when I use the term "inelastic," what I'm saying is that creates much more price volatility.

Another thing in this is, well, we'll let the oil-exporting countries figure this one out. Unfortunately, I wrote a paper for some people in the oil exporting countries and explained the supply of storage idea to them, and in March '99 they began to follow the idea. If you look at inventories in terms of normal days of supply across the world, the blue area representing the normal area, in 1999, with the collapse in Asia, we had very high inventories, then they cut production, through their meetings in March '99 -- a meeting I call an illegal conspiracy, but that's personal -- they managed to push inventories down and prices up. One saw that forward cut price

curve go from very negative, $12 prompt, to very high, and inventories were run down.

So, conclusion: Petroleum products today are more volatile and higher. Mergers in the industry are not -- I repeat not -- the primary cause. The proliferation of blends ordered by the EPA has reduced the storage capacity and increased the volatility. Ethanol requirements make matters worse, particularly given the need to have extra tankage for ethanol and the need to run drop the RVP for gasoline.

OPEC's conspiracy to keep inventories tight adds to volatility. Industry efforts to improve inventory problems obviously adds to volatility, and industrial requirements for cleaner products may even reduce product supplies further.

Finally, the FTC's vigilence on vertical constraints created through terminal ownership is probably the most important issue and should be paramount, particularly, and I come back to the paper that's in the book by Gilbert and Hastings.

Thank you.

(Applause.)

MS. DeSANTI: Well, I say nothing about the efficiency of the industry, but this is the most efficient presentation by speakers that I have ever

participated in. You have ended 15 minutes early. This is a wonderful present, a precedent. So, we are going to take a short break. We will start again at 10:15, but we do have a packed panel. This will enable us to go through more of these points when everyone else is at the table and bring them out.

And after the break, Michael Wrobrewski, Assistant General Counsel for Policy Studies, will begin that panel discussion. Once again, we will start promptly at 10:15. Thank you.

(A brief recess was taken.)

MR. WROBLEWSKI: Why don't we go ahead and get started.

What I'd like to do now is introduce all of the panelists that we've assembled to have the panel discussion on some of the issues that were raised this morning, and in particular, while this morning's session focused on crude oil and refining issues, this afternoon's sessions will be concentrating on transportation and marketing and distribution issues.

First I am going to introduce all the panelists, starting from my far right, your left, is Bob Slaughter. He's General Counsel and Director of Public Policy at the National Petrochemical and Refiners Association.

To his left is Ed Rothschild. He's a principal with Podesta/Mattoon and is a nationally recognized expert in oil, natural gas and other energy-related issues.

To his left is Tyson Slocum. Tyson is the senior researcher with Public Citizen, specializing in electric utility restructuring and oil and gas policy.

To his left is Ben Lieberman. Ben Lieberman is a senior policy analyst with the Competitive Enterprise Institute.

We have already heard from Mr. Verleger this morning.

To his left is Mark Cooper. Mark Cooper is the director of research at the Consumer Federation of America and president of Citizens Research, an independent consulting firm.

To his left is Michael Right. Michael Right is Vice President of Public Affairs for the AAA Auto Club of Missouri.

To his left is James Plummer. James is a policy analyst for Consumer Alert, a nonprofit, nonpartisan consumer group based in Washington, D.C.

To his left is Jim Mongoven. Jim has been -- he is in our Bureau of Competition, and he's been instrumental in pulling this conference together.

To my right is David O'Toole. David is with the FTC's Midwest Region and has been instrumental in putting together the Midwest Gas Report that was released this spring.

To my left is Susan DeSanti and then Jay Creswell. Jay is in the Bureau of Economics here at the FTC and is one of the principal members of our petroleum and oil mergers team.

To his left is John Felmy, who we heard from this morning.

Going around the corner of the table is John Cook. He's the director of the Petroleum Division of the Office of Oil and Gas for the Energy Information Administration. Dr. Cook is responsible for collection, publication and electronic dissemination of crude oil and petroleum product price and volume data and for analysis of petroleum markets.

To his left is John Rasmussen. He is an economist with the Office of Energy Markets and End Use of the Energy Information Administration, EIA, of the Department of Energy.

Tom Greene is to his left.

To Tom's left is Glenn Jackson. Glenn is -- we are indebted to Glenn for pinch-hitting for Bob Dineen, who is unable to make it today. Bob and Glenn are

representing the Renewable Fuels Association, which is the national trade association for the domestic ethanol industry.

Next we have Larry Chretien. Larry is the executive director of the Massachusetts Energy Consumers Alliance. Mass Energy is a nonprofit organization with a dual mission of making energy affordable and environmentally sustainable.

And last, but not least, we have Ed Murphy. Ed is general manager of the downstream energy segment for the American Petroleum Institute.

Before we get started with the panel discussion, John Cook and Jon Rasmussen of EIA have agreed to provide us with additional factual information about two aspects of the petroleum industry. John Cook will provide us with a brief overview of the relationship between crude oil prices and gasoline prices based on modeling done by the Energy Information Administration of the Department of Energy.

John?

MR. COOK: Thank you, Michael. It's a pleasure to be here, at least it might have been, had you not lined me up right after Dr. Verleger here, always a tough person to follow, and in no small part because he presents faster than I do, and that's another way of

saying that somebody has to spoil your efficiency, Chairman, that will probably fall with me.

That said, whenever gasoline prices jump sharply, at least two questions routinely arise. The public invariably questions -- asks the question why do retail gasoline prices seemingly always rise more rapidly, why, in fact, to a greater degree than they fall? To the extent that we see a sticking pattern, the common or the norm would suggest at least to consumers that there's some anticompetitive aspect of market workings there.

Indeed, that generally leads to the speculation that perhaps market forces really don't explain all the variation we see in gasoline, or generally speaking oil prices, so there must be some nonmarket forces or anticompetitive behavior at work.

Our analysis suggests otherwise. Our strategies are premised upon the notion that most if not all of retail price variations will be explained by the shifts in market fundamentals, that is, shifts in balanced exchange, supply and demand, in either crude markets or wholesale gasoline markets.

Indeed, the econometrics show -- and I'll try to demonstrate quickly -- that in the balanced pattern, it is expected behavior; that is to say, it's not a

result of market manipulation but simply the result of prior events.

To illustrate some of these findings, we began in a conventional manner by decomposing retail prices into the main underlying components and sources of price change that occurred and charts that the sectors of price levels. At a glance you can see that over the last ten years there's a tremendous amount of correlation between these three levels, as indeed is often the case. If you look over a broad period, crude oil price movements seem to be almost identically mirrored at the retail level.

Indeed, historically, and, for example, periods like since 1990, we see fluctuations in retail prices almost entirely explained by movements in the underlying crude market, yet we have for last summer and especially this spring, that crude markets don't explain all of the retail movement. There's a significant theory that certainly seasonally and when wholesale markets tightened considerably over the last couple of years. An additional burden comes from the wholesale market.

So, if we are going to understand these price patterns, we need to look a little more closely and quantitatively at the drivers underlying both the crude

market and wholesale market. There's a lot that can be done with global oil demand, global oil supply and the drivers that underlie these relationships. I'm going to cut to the chase and show this, simply chart movement since the early nineties, and crude oil prices here again, stock levels for the developed countries.

One of the things that we have plotted here are crude oil and product mediations per month, and we see a high correlation here. In 1996, when stocks were low, we saw crude prices rising over $25, only to reverse towards $10, and as stocks rose to very high levels in 1998, again, prices reversed, and in '99 and 2000, as Dr. Verleger pointed out, OPEC cuts aligned with Asia's economic rebound and stronger production and growth rates. Heightened balance, reduced inventories and dangerously high prices, or so it would appear, that these fundamentals represented by low inventory levels are driving crude prices.

So, the key question that needs to be asked here is to what extent, to what degree, do the crude prices move with or are explained by relative inventory levels? That's kind of an interesting question, because a number of analysts, particularly OPEC analysts, would argue that anything but high crude markets explains high crude prices. It's limits in

buying capacity, it's shortage of global tankers, it's market fluctuation, anything but.

So, to sort of attempt to sort out the wheat from the chaff here, we've modeled this relationship between crude prices and relative inventory levels, and although it's not great, it's certainly somewhat successful here.

The forecast or predicted line for crude prices is in red, you see the actual there, and it picks up a trend, it picks up most of the turning points and it even allows you to predict within a dollar or two what crude prices are on a day that you know what the stock amount is.

Now, it's true that in early '99, the markets were extremely soft, and oil prices ran a little bit ahead of themselves in a downward direction here, and again, late of 2000, markets tightened extraordinarily, prompting some excessive bidding upward in prices, although what the final analysis suggests to be the equilibrium point.

Nevertheless, when our expectations, you know, are not realized, eventually you start to go back to the fundamental goals. The main point here is that even in this worst case, we only underestimate by $3 to $4. So, if you're thinking about $35 oil prices, $32

of it was explained by these relative inventory levels in September. It's only about $3 or so for all these other unexplained variables, including speculation.

Okay, so, crude oil prices in general drive gasoline prices. Crude oil prices to a high degree can be explained by market fundamentals, but there's still a little bit of boost in there from the wholesale market, that's why we say this is one of the drivers, and can we quantify those.

Again, to briefly summarize, we basically can turn and look at U.S. crude and gasoline stock patterns over the last few years. The normal bands are shown here in blue and green. And focusing on the crude path first, note the similarity to that OECD pattern. Global markets highly correlated, highly linked. When OECD stocks were high in '98, so are the U.S. crude oil stocks. As they fell on the OPEC market, so did crude oil stocks.

We noticed a strong linkage to the gasoline market. These are not separate markets. They are strongly correlated. In general, when you have lots of crude supply, you get lots of gasoline. When you have very low crude supply, you don't get a whole lot of gasoline. Very simply put, if crude's not available, you can't run a whole lot of crude into gasoline.

Putting it on an economic basis, high crude prices add to the marketing costs of gasoline production, and they cut margins, they create degradation, which Dr. Verleger talked to that. All of these things discourage refiners from producing extra gasoline, and ultimately that gives you those costs.

Now, what we're saying here then is that OPEC cuts and high crude prices affect gasoline prices directly through the feedstock cost but also indirectly by reducing gasoline inventories. Low inventories, low coverage, low buffer sets the stage for spikes and adds price pressure to the wholesale market, which ultimately gets passed on.

A typical way of measuring this extra pressure from the wholesale market is to show the difference between spot gasoline and spot crude, that's the blue region here. It's noted that these margins or spreads vary a lot over time due to seasonal reasons and for extraordinary reasons.

Notice that in '99, when stocks were high, these spreads and margins are fairly ordinary, fairly low, this is in the summer of '99. On the other hand, when stocks dropped to fairly low levels last summer and this spring, notice the huge jump in spread. The record spread was last spring of over 21 cents a

gallon. So, again, we see a strong correlation here between the drivers of the gasoline balance or relative inventories and price spreads and wholesale price pressures.

Now, I wish I could say that we had been successful in quantifying this, that we could show you the same degree of explanatory chart, but I'll simply opt out and say we just started to model this area, and it's an extremely complex one, and we can explain a large chunk of it, but not to my satisfaction or anybody else's. So, there is a little bit of unexplained variation left in the complicated portions of the market.

Fortunately, we don't have to pin down every last penny of price pressure to look at the downward sticking phenomenon a little more closely. Whatever the drivers of wholesale prices or spot prices are, the downward stickiness result from or are related to in our view for the past year, in fact, results from what turns out to be a fairly consistent relationship between wholesale trends and retail trends.

So, if we follow this here, again we see them turning together very closely. The best difference is when spot prices are evolving, any retail dealer will tell you this is because he absorbs a significant

amount of the initial cost increase, partly to avoid loss of business, but he is in business, and eventually he can't absorb all the increase. So, he has to pass it on at some point. That suggests that the retail pattern will be in lag, and it is.

If you look at the peaks here, you can see that the peaks of the retail line, to the right of the -- rather, the stock peaks. So, again, you have a lag relationship of some sort going on here, and in particular, retail prices seem to continue rising even after the wholesale prices are dropping in a symmetric manner. Likewise, retail continues to drop even after the wholesales are increasing, so it really does look like we have got some sort of passive relationship here.

The retail changes are directly driven by other forces. So, again we bring out our economics book, Econometrics 101, go through, and this chart summarizes the results.

The first column there for New England represents, it says that indeed, about 50 percent of any wholesale price change is passed through in the first four weeks of the first month, most of the rest of the wholesale change in the next month, and technically all of it, which is an important point,

within 10 to 12 weeks. We might want to just shortcut that to say half now and half later, half the first month and half the second.

Most of the midwest and the West Coast show a much higher pass-through rate. We don't really understand that, but fortunately this pass-through effect is symmetric. That is, if we have a decreasing pass-through at the same speed and at the same degree, and therefore, there appears to be competitive activity there.

Indeed, the pass-through results, a simple illustration, shows you both competition and why we get this assymmetric retail pattern. A real simple example, if we're at $1.40, which we were in mid-March, and prices jump at the wholesale level maybe 10 cents in the first month -- I wish they had only jumped 10 cents -- but suppose they had jumped 10, the pass-through results say that about a nickel of that goes through retail in the first month and the other nickel goes through in the second month. But if wholesale prices drop fairly quickly, that 10 cents they rose, then half of that decrease is passed through in that same second month and then again in the third month.

So, what you have here is a washing out or a

netting out of things, where the second nickel increase is cancelling out the first nickel decrease, so you're stuck, so to speak, sticking at $1.45 for a couple of months here before the price then drops down to the original level, $1.40. So, standing back from all of this, there's nothing funny going on. It does seem like it takes two months to erase a one-month nickel increase, and that does seem inconsistent, but looking below, what you see is a 10 cent increase in wholesale taking two months to be passed through and a 10 cent decrease in wholesale taking two months to be passed through.

Finally, to nail down the competitive nature of all of this and also be able to answer a couple of questions, namely, what investment advice will be next week or the next couple of weeks, we get a lot of the retail changes as a function of the wholesale changes, and this is pretty decent, an exaggerated scale. So, we get the trend right, and we get the level within a penny or two in most cases, especially since March or since the market has been in a relative decline, we have been sometimes within a tenth of a penny, more typically a half penny to a penny, but it predicts pretty well, and notice it explains the changes at the retail level very well as a function of wholesale

changes.

To the extent that there is consistency in the relationship, to the extent that we can model it, predict it to this degree, it seems hard-pressed to argue that there is a significant amount of anticompetitive activity going on.

Now, I know this is a national level model here, but it's been adapted for regional models. We have done this work also at the regional level, essentially at the midwest, and it also holds on diesel fuel, we have done that, but time and again we've seen this explaining whatever the symmetries are perceived by the public at the retail level.

The local area is a different story. I guess some of the other speakers may talk to that.

Thank you.

(Applause.)

MR. WROBLEWSKI: Thank you.

Next, Jon Rasmussen will provide us with a brief overview of the financial performance of the refining industry in the U.S. so that we may have a common understanding of where the industry has been during the last decade.

^ MR. RASMUSSEN: We hear a lot about efficiency, and one of the main propositions in

economics is that companies undertake activities with relatively high rates of return and then be withdrawn from areas with relatively low rates of return, but we do see trends in investment in U.S. refining. The data I use is from EIA's financial reporting system. They collect data annually from major, major companies through a very unspecialized form.

U.S. refining is one of the lines that they study, and in 1999, the companies that they were looking at covered about -- the Asia-Pacific U.S. refining activity. These are the companies that were there in 1999. 2000 data is very much in the process. Of these 32 companies, nine had refining capacity in the United States.

Now, let's take a look at profitability. This is a measure that generates joint investment, basically net income divided by the net assets appearing on the balance sheet. Those of you who have ^ (inaudible) procedures. ^ (inaudible) the first half of the nineties, U.S. refining marketing profitability was declining more often than not and was quite a bit lower than the rates of return being realized in the majors' other lines of business. Makes one wonder why you would invest in this industry.

By the end of 1995, we see a clear upswing in

refining profitability. Then in '99, perhaps just as a point to estimate, is that there is a kind of a rough parity achieved in refining marketing and other businesses generally of that nature there, that composition. I might add that in the preliminary data from 2000 that we're looking at from the FRS, it indicates that that variance is maintained in 2000. The position there is in the upper right-hand corner around 13-15 percent of the measure.

But this is -- first of all, let me say that that decline should millions, not billions. Hopefully we will begin to see higher profits in refining, less refining in 2000 than '99, and they are -- in this year, profits are at a -- are still at a rather high level compared to where they had been.

Now, in doing the analyses, we found one useful paradigm. We found that the return on investment in the U.S. refinery marketing is highly correlated with the big X cash margin from refining and marketing. We call that the net margin, it's done on a per barrel of petroleum product sold. The computation is the difference between the gross margin, which is your average product price, minus your raw material price, that's crude oil, of course, less operating costs, that's the cost of operating your refineries, your

energy costs, and your cost of running marketing networks.

Anyway, we found in the first half of the nineties that the gross margin was clearly declining and net operating costs had sort of a mixed trajectory there, that they actually were rising at the beginning of the decade, adjusted for inflation, and then was enacted but definitely not enough to go up as far as profitability.

Then in the second half of the nineties, the gross margin was generally higher and costs were generally balanced. We had increase in the net margin, which underlies the rising profitability that was ^ (inaudible).

Another component of the general investment is the denominator, if you will, which is largely the net profit line, equipment. Now, the refining component, what I've done here is taking the net profit divided by associated refining capacity, so what you see there is the amount of investment, adjusted for appreciation, per unit -- per barrel of capacity on a daily basis. I think what's interesting here is that beginning in about -- oh, about 1989, there was a very strong upswing in this ratio, which really kind of measures the capital intensity of U.S. refinery marketing -- of

the U.S. refinery market.

And then in the mid-nineties and since then, this has leveled off. We had a similar rise back in the late seventies and early eighties and then again had it flatten like that. We have some idea of why that might be a result of an investment.

The top row there is total capital expenditures for refining, adjusted for inflation, the majors for the U.S. refining. The bottom there are environmental capital expenditures, capital expenditures for ^ (inaudible). This was collected by a census done by the Congress department but was discontinued in 1994. The American Petroleum Institute -- actually, I think it started a little bit before then and has been conducting it since. We basically use the company's refining capacity to allocate most of the expenditures, we do that.

Anyway, if we look at the nineties again, we will find that although profits are low and generally declining, with a strong uptake in investments that maxed out around '9 -- '94, somewhere in there. Then the downswing, and then that uptake in '98 has really gotten ^ (inaudible) a bunch of nonintegrated refiners to the point, mainly because of all the divestitures that the vertically integrated companies were making of

downstream assets. So, if you adjust for that, the capital expenditures continue to decline in '97-'98 and on into '99.

Now it's a little contrary to that proposition I was talking about earlier, but we look at the environmental capital expenditures to say that the overall CAPEX roughly parallels in the nineties the environmental capital expenditures. There was, of course, a lot of other spending going on as well in refining. So, it looks as though in some sense that the environmental capital expenditures were undertaken perhaps as a matter of survival, certainly as a necessary to stay in the business, and that that was more or less guiding the course of investment as we see it there.

The early upsurge in investment way back in the late seventies, we can see that that had very little to do with what was required in the way of capital expenditures for pollution abatement, as well as ^ (inaudible).

These are just some trends that you might find interesting, and I thank you very much for your attention.

MR. WROBLEWSKI: Thank you.

(Applause.)

MR. WROBLEWSKI: One final word before starting the next panel discussion. If any of the panelists would like to be recognized to speak, please just turn your name tag over, and one of the FTC -- myself or Susan or one of the other colleagues here will recognize you to speak.

Now, we've received a lot of really useful information this morning, and I'd like to kind of parse through it a little bit more slowly than we did this morning. And so the first part of this discussion I'm hoping will focus on crude oil price changes, and then the effect of crude oil prices on gasoline prices as well as home heating oil prices and other refined products.

So, my first question really is directed towards either Mr. Cook or Mr. Felmy or Mr. Verleger or to any other panelist that would like to jump in, and the question concerns the relationship between crude oil inventories, both here and abroad, and the price of crude oil in terms of the wholesale price. And we would like to kind of flesh out that relationship just a little bit more, and then we can start the discussion from there.

So, I'm not sure who would like to start.

John?

MR. COOK: Thank you.

MR. WROBLEWSKI: Also you have to speak very closely into these microphones in order to get this conversation on the record.

MR. COOK: As I suggested in my remarks earlier, tighter crude oil supplies and tighter crude oil prices impact gasoline in a number of ways. First of all, there's the cost of feedstock which gets passed through, but what seems to be missing in a lot of the discussion of all of this is its linkage with the gasoline market in the sense of marginal costs, in the sense that it undercuts margins, and tight-priced crude typically occurs with market elevation.

All of these things discourage refiners from producing as much as they had otherwise produced. So, gasoline demand continues to chug along or even surge, as we've seen in July, over the 4 percent pace, and gasoline stocks fall. Traditionally, you know, a tight balance in the gasoline market is reflected in low gasoline stocks but adds pressure to the wholesale by affecting the crude oil market, and yet you have got crude oil heading the gasoline price, the wholesale price, in two different directions, which leads to rising cost, in reducing stocks, which adds to additional pressure.

For some reasons, I skipped the fact that there are obviously other forces at work in the wholesale markets, for example, last winter. The very cold November and December increased oil demand and caused the refiners to produce more heating oil at the expense of gasoline, and this also put a boost to natural gas prices, which caused some fuel switching, again boosting district demand and district direction at the expense of gasoline, and still the high natural gas prices undercut into the heating oil production and consequently into formulated gasolines.

I believe forces combined, you know, over the winter and the early spring period that gave you low gasoline stocks and set the stage for a price spike, which occurred because, again, with the low cut rate, you had a significant amount of refinery maintenance going on in late February and March, that very tight balance between supply and demand on top of the lower stocks started to build up prices, and as prices started to move up, market psychology set in with market participants worried about whether or not this tightness would worsen with even higher prices as you moved to the peak driving season, and that precipitates your typically panicked or precautionary buying syndrome, with factors like environmental regulations

and buying capacity also contributing or compounding to that volatility.

On the other hand, it seems fairly clear that refinery capacity is not the root cause or the root problem here, otherwise they wouldn't have a gasoline market flooded right now, but we can certainly say that the lack of surge capacity extolls the duration that prices remain elevated. So, if you don't have the surge capacity, you have to go long distances away, like Europe or whatever, to get more gasoline at the right price, but it clearly along with the environmental regulations of the various types of gasolines that are necessarily available in, say, the midwest also extends that duration there.

The main point that I was trying to make that seems lost in all of this is that forces driving crude prices drive the raw material costs and also tend to depress stocks over and above any other contribution to depressing wholesale stocks.

MR. WROBLEWSKI: Okay, thank you.

Ed?

MR. MURPHY: There appears to be a high amount of agreement among the analysts about what's been driving the market and the forces behind it, so maybe in response to your question, Mike, and maybe to create

some controversy, I'd ask Phil and John, I'm a little concerned -- there is no question that there is a very, very high correlation between inventory levels, both of crude and product, and price changes, and I -- but my question really is, I think that does not necessarily suggest that there is a causality from low crude inventories or low product prices -- low crude inventories to higher prices.

The existence of inventories reflects the market's expectations about what is going to happen. When Phil talked about the correlation with high prices, I think high prices by definition mean higher than what the market thinks is going to be sustained over some reasonably foreseeable period of time. In that environment, there is obviously a major incentive to draw down inventories, to minimize inventories. If the market is perceiving that prices are high, inventories will be drawn down.

So, it is not unexpected that when you see high prices, you would also see inventories -- low inventories. You'd be foolish to hold out inventories if you thought prices were going to fall.

So, maybe I should just ask John and Phil what they might think about that and whether or not there's a -- which way the causality's going.

MR. WROBLEWSKI: Okay, Phil?

MR. VERLEGER: Well, we really need a picture on the screen of a puppy chasing its tail, because that's what these inventory discussions can get into. Technically there are two markets. There is a market for future delivery, and there's a market for cash delivery. Chairman Greenspan focuses mostly on the very far forward crude oil market, if you read his testimony, and it's a forecast of where crude prices are going. That's one theory that comes out of financial analysis.

The second theory says that spreads reflect really the demand for inventories. I talked about those, and that the cash price reflects the current condition of supply and demand in the market, and with physical commodities, that model seems to work better. But there is generally in a commodity market, there is an asymmetrical relationship in that when inventories are high, it becomes possible to arbitrage. That is, to buy physical commodities today for a price, say 10, and sell forward for 11 and earn a 10 percent rate of return over a year.

When inventories are low -- and what happens is trading firms, Cargill, Bogie, any oil company will buy at inventories and hold onto it, earning a financial

return. This caps sort of the relationship, and it's abstract and it's hard to talk about, but it caps really the relationship between cash and forward prices. You won't see a situation where cash commodities are selling for 10 and forward are selling for 100 unless it's extremely expensive to store the commodity or there's perishability.

On the other hand, when you start to run out of commodities, you can't arbitrage in reverse. Williams and Wright have this wonderful saying that you cannot borrow from the future in a physical market. Now, we do this all the time in the Social Security system, but in the financial market, this is the fundamental difference between the physical and the cash market, and so what happens is that because you can't borrow from the future, you can have extreme price run-ups in the prices of a physical commodity, whether it's a spark, electricity, or whether it's natural gas or whether it's oil.

So -- and in California, we've seen a case where it's been argued that companies managed to constrain the selling of inventory in natural gas coming up to last inventory, so that you couldn't borrow, and that led us to the equivalent of $240 a barrel of natural gas prices. So, when we're

describing this situation, really the way the price formation works in terms of crude oil is the incremental supplier in the market, OPEC, chooses to squeeze the supply of oil and bring the oil down, and then you get a random, unexpected surge in demand -- John Cook's cold weather or something like that -- and that pulls inventory down further, and that's what -- that's the mechanism by which we get these very high prices.

All the tests that one does statistically suggests that these markets are being reverted; that is, the prices tend to go back, whether it's gasoline margins or gasoline prices or crude oil prices, they tend to reverse. A mean price for WPI is around $19 a barrel. So, coming to what Mr. Verleger said, any company that's holding that can get $30 for oil is looking at this market, generally you won't see the forward price trading anywhere near there, and so inventories will be drawn down. It's kind of this natural phenomenon. And, you know, that is -- that is the mechanism, kind of the intellectual mechanism by which prices get set.

Again, as I said, and I take this point very strongly, when crude stock prices go up, the refining markets tend to get squeezed and so refiners, A, can't

afford to hold the crude oil inventories, and B, the product price inventories go down, and the incentive to hold them just isn't there. That's the mechanism.

MR. WROBLEWSKI: Okay, thank you.

Mark, you're shaking your head.

MR. COOPER: Well, let me -- I want to tell a slightly different story, because it's quite clear -- and this question here, the EIA knows that they can correlate inventories with prices, and they say, ah-ha, therefore, there's competition, because they can predict the price based upon some stable moving variable, and the real question is why do inventories behave that way?

And Phil has one explanation, which has to do with the commodity markets, but I would suggest that while you can't borrow from the future, you can, in fact, plan for the future, and that's what inventories and storage policies are about.

So, let me tell a different story from John Cook. Essentially he says that, well, we had a cold winter and we were running refineries and so we were producing oil -- heating oil and number two, and therefore we couldn't produce a lot of gasoline, and so our inventories got tight, and then in the spring, when the price went way up, 30, 40 cents a gallon, people

started importing, because you can do that for a nickel or a dime, and that spread was just too big.

The question is, if you really were at risk of losing gasoline business in the spring, that is, if that market were vigorously competitive, in January, in December and November, you would have said, hey, maybe I need to import today. That is, the capacity to import gasoline exists all year long. Why do we wait until after we get a 30 or 40 cent run-up?

Well, we do so because the individuals looking at those markets know that there is nobody else out there who's liable to be importing that stuff. There is not enough competition in the one market that actually matters. Phil says there's two markets, but this is a physical commodity. There is only one market that matters, and that's the physical market in which you consume the product, fundamentally different from all other financial futures. You actually consume this stuff.

So, we have a different story. Why were people so stupid in November as to not lay in gasoline when they knew they would need it in March and April and May? And the answer is, they don't face enough competition. Market forces are not sufficient to discipline them. They can do two things at once. They

can import gasoline, especially if they had enough storage capacity, which they have been shrinking, and they can produce heating oil. If they were scared to death that they would lose their gasoline business in April because someone else was importing gasoline and would not let the price go up by 30 or 40 cents, very different view of what the ultimate cause of inventory policy is. It's competition at the pump that would drive that better stock management, that is, more competitive stock management.

MR. WROBLEWSKI: Okay, thank you. We have two reactions to that.

MR. MURPHY: Well, I think the answer is that Mark is just a lot smarter than most guys in the industry. So, sitting back here in November, we didn't know that there was going to be a California energy crisis. We didn't know that there was going to be an extremely cold winter, and so we didn't know what was going to happen to gasoline prices. The futures market did not know either.

I assume that if Mark is correct, he was back in November of 2000 out there buying gasoline for futures delivery in the April-May period, in which case he's a very wealthy man. The hindsight is very easy on that. If you know that the situation is going to

change, I would agree with him, then you would import and then you certainly would try and take advantage of supply. When you expect future prices to be high, you would try to get those supplies to the market. That is exactly what refiners did this spring.

When margins got high, when prices got high, we saw record production for over a two-month period, record gasoline production. Hindsight is very good. If you knew it was going to occur in November, yes, then you would have imported a substantial amount of gasoline in the spring period, but you knew over that entire period that your inventories were at historically, unprecedently low levels and getting there on a continuous basis. People didn't wake up one day and discover that inventories were way too low. They could see that developing continually.

I think, Mark, what happened is the distillate season -- if you look at the data, the distillate production season, because of the extremely cold weather, the distillate production season extended well into March, and so refineries didn't turn around that would have ordinarily turned around in late February or early March, depending on the weather, that they didn't do that until the end of March, and so they had a loss of the production that they otherwise would have had.

That's what drew the inventories down. That's what largely created the problem in the April period.

MR. WROBLEWSKI: But you know, one of the unique features of this forum is that we don't necessarily have to answer the questions here. We can identify the factors and then move on.

Larry, you had one additional other point that you wanted to make.

MR. CHRETIEN: Yes, I would like to make some observations about heating oil. That's what my organization is concerned about. Gasoline is a big problem, but to talk about our experience in the Massachusetts area, our handout had a typographical area, I referred to January 2001, and I want to focus back on January of 2000.

Wholesale prices in New England skyrocketed -- nationally they did, as well, but more so in New England -- even though we experienced almost record warmth in terms of degree days right up until about Martin Luther King Day, and so when Bill Richardson, the Secretary of Energy, came to Boston, I showed him this graph that showed how even though crude oil prices have been fairly stable, right up around Martin Luther King Day, we saw a spike in retail prices that's attributed almost entirely -- well, more than entirely

by wholesale prices spiking.

Every -- more than every penny of increase in the retail price came from the wholesale level. The retailers actually lost their margin at that particular point, and they were stable thereafter. And what I think is -- the FTC ought to be doing is focusing on the wholesale market. It alludes to it a little bit in the report that was done regarding California and wholesale terminal operators for gasoline. That's the concern I have in New England.

I would bash the retailers to death in Massachusetts, because we sort of compete with them as a buying group, but that's not necessary. It's a very competitive market. I'm not sure that the market's competitive enough at the wholesale level.

To echo what Mr. Cooper said, winter in New England -- or to massage his language a little bit -- winter in New England is not a unique event. We have it every year. We have had it for a long time. I just turned 40, but it happened even before I was born. So, the issue here is why aren't the refineries and why aren't the wholesalers buying their product in sufficient quantities to deal with the fact that there's an oncoming winter?

I understand about degradation, but they were

really caught with their pants down in that particular moment to an extreme point of view, and we'll get maybe into it in the afternoon session, but today, prices have come down, but interestingly enough, wholesale margins and retail margins are fatter than they were before the price spike. So, the downward stickiness persists a lot longer, and the whole volatility issue plays into that. Consumers don't know what the hell is going on in terms of where they can get a fair deal, and so margins are sticky.

MR. WROBLEWSKI: Okay, thank you.

John Felmy, you have a comment?

MR. FELMY: Yeah. First I'd like to address the heating oil problem in New England. The fundamental problem when you had the price spike in heating oil in New England in 2000 was transportation. For those of you who are familiar with the situation, New England consumes all the heating oil in the country; they produce none. They also don't have any petroleum products pipelines that transport heating oil into New England.

So, we had extreme cold, which basically interrupts the barge traffic. You had turbulent weather, so you couldn't unload vessels to be able to get heating oil, and so just at the time that you're

having sharply increased demand, you've got reduced supply. Fundamental supply and demand. There's no question, New England needs to step back on an energy policy basis and really decide, do we need a refinery? Do we need a petroleum products pipeline so we're like the rest of the country?

But there's one other thing on the gasoline note I'd like to mention that's been missed. There's a fundemental reason why gasoline inventories are low going into March and April, and it's EPA regulations. That's been missed in the discussion.

Because of the dramatic difference between winter and summer gasoline, you can't just keep very high levels of winter gasoline until May 1 when you have to have summer gasoline. So, there's an inherent limitation. So, making an argument that, well, you could have planned in advance and built more inventories just simply does not hold, because you can't physically have a lot of inventory, because it degrades the summer product. So, that's an inherent limitation and an environmental limitation.

MR. WROBLEWSKI: Okay, thank you.

MR. VERLEGER: Can I just add a quick point on this?

I think Senator Feinstein from California has

made a point on this that -- and this might be something like EPA, but EPA essentially prohibits selling that winter grade gasoline after a certain date, whereas if one had a bit more flexible market-oriented transition, such as they have in Europe, we wouldn't have these problems. This is a made-in-D.C. problem.

MR. WROBLEWSKI: Okay.

MR. COOK: As a lightning rod for some of this decision, I need some rebuttal time here.

Actually, I want to underscore Ed's last comments here and deal with some of those issues over there.

First of all, gasoline reports in January and February were very strong, record levels. At the same time, we had low stocks. Now, let's don't confuse low stocks as the causal factor to the price spike. They aren't. They simply set the stage.

Indeed, more inventory supplies did not flow in from Europe in January and February because the economics weren't there, more or less getting it ahead of time. But indeed what they could see were low margins, relatively speaking, and no arbitrage; no potential to make money on shipping extra gasoline to the East Coast. So, we're in business to make money,

stocks are low, but hey, you know, prices are very moderate, the margins aren't there, the arbitrage isn't great, you're not going to have any of that.

So, when we get to the March period, yes, that affects the timing there. You had the stage set, and then you had demand pick up a bit. You have refinery maintenance problems. You have some unplanned outages. You have market psychology working it out, refinery capacity. All of these things conspire, if you will, or combine to run those spreads up, bring in more cargos from Europe, prompt up even more refinery production than would otherwise occur and resolve the problem.

It's not, as was suggested across the room here, that had we known -- yeah, in fact, we talked at a company level to some of the players in the midwest, you know, in March, and all of them were simply looking at the signals that they saw, looking forward in the market here, and very hesitant to place forward ethanol-based RFG in the Chicago market. One player was speculating among the firms that were actually out there, even though it was uneconomic to do so, and taking a major beating from their management for taking the risk.

In other words, most players are not going to

fight the forward curve. How do they know whether or not the profit is going to be there until it's there?

MR. WROBLEWSKI: Okay, thank you. Let's finish with the -- with Ed and Tyson, and then we will move on to the next topic.

MR. ROTHSCHILD: One of the advantages of participating in an event like this is we have gone over for the last 30 years, so these things have occurred over and over again, so it shouldn't be a surprise.

What is new, however, and I think Mark touched on it, is we have had an enormous shift within the industry which we cannot ignore, and Mark -- in fact, there was a nice graph in his study, that back in the early eighties, we were averaging an inventory of like ten days of supply in gasoline. We are now consistently below five. We are not -- we haven't lost a lot of demand. In fact, demand for gasoline has grown enormously.

So, why are we at inventory levels so low? That's not just market shifts and forward curves and stuff like that going on. That may have some effect on it. It is an overall policy investment change by the industry to carry less inventory. It makes sense. They don't have to invest as much, spend as much, and

they can make more money. So, from an industry standpoint or a company standpoint, why hold as much inventory as we used to if it's costing us money to do so?

That means, as to additional profit, over the same period that we have had -- and it's already been discussed, I don't have to repeat it -- enormous consolidation in the industry. So, we have fewer players making decisions with less inventory. So, if there is some problem, a refinery outage, turmoil, cold weather, we don't have the cushion any more to minimize the price. Prices shoot up way too high.

I don't know what the cause is. The cause could be, you know, the weather, the cause could be refinery outage. It's irrelevant what the cause is. We are not in a position -- if the United States runs out of oil, it affects our entire economy. This is an important policy question. It's both a competitive question and an overall policy question of whether or not we need an inventory policy in this country that requires in some fashion or motivates in some fashion or incentivises in some fashion a higher level of inventory so that we, the businesses who rely on it, the consumers who rely on it, are not constantly -- and I say constantly, you can see those blips -- constantly

going up and down like a ratchet with respect to this kind of behavior.

And I want to mention one point, all of this gets magnified much more in markets which are today far less competitive, California being the best example. I have got -- you know, I believe the folks at Alex Brown, a recent study, the refinery margins, and these are margins for all of the refining areas, but in California, for 2000 and for 2001, they reached as high as $25 a barrel. Now, that's a nice, you know, round number that everybody can understand. Of course, it's interesting to compare that to the Gulf Coast, who's got a lot more competition, and believe it or not, there we're finding margins that reach the incredible price of $8 a barrel.

So, one thing we have to look at and that the FTC does take a lot of time looking at is looking at markets, not just regional markets, but metropolitan areas, because there we get into zone pricing and all of these kinds of things. That's where a lot of these excessive prices that consumers face are found.

Thanks.

MR. WROBLEWSKI: You raised a good question about national inventory policy, and I'm new to this area, but don't we have a strategic petroleum reserve,

and didn't we tap that last year, and what was the effect of it, if anything?

MR. ROTHSCHILD: There are three types of inventory. There's an operating inventory, and John's chart shows that minimum -- that lower level operating inventory. There's a certain amount of stock that every business needs to make sure that they don't shut down, to make sure they keep running smoothly.

Then there are strategic inventories, which you would use for strategic purposes, and the fact that we've only managed in all of these years to draw down the strategic petroleum reserve once or maybe twice, and we have always disavowed any intent to influence the price when we did it, Heaven forbid we should do it for that purpose, that's a strategic reserve.

In between we have something called economic reserves. In electricity, they don't exist. In gasoline, they're down to a day or two. Economic reserves in our view are reserves that are available for expressly the purpose of disciplining prices and cushioning price spikes. Three different kinds of reserves, completely different functions in policy, and probably need different policies to stimulate them to come into existence.

I don't need to tell businesses about operating

reserves. They don't want to shut down. Government will do what it's going to do with the strategic reserve, but we do not have in this country an economic reserve policy, and that's what we hope to stimulate a debate about as we go on the roller coaster.

MR. WROBLEWSKI: Okay, thanks.

Bob?

MR. SLAUGHTER: Well, just one very quick observation on that. I think it's always very interesting when people advocate that the anecdote for what they believe to be excessive costs is to force people to engage in noneconomic behavior. I'm not really sure that that's something that ever tends to reduce costs, but I think that's what I just heard a discussion about here.

You know, there have been a lot of changes in the industry, and there have been some steps taken essentially I think to control costs, which come from a number of areas, which I know you'll want to get into, but sometimes it helps to stand back and say, you know, well, if a bunch of people whose job is to essentially optimize whatever situation they're given are not holding large inventories under all conditions, regardless of cost, it's probably because it makes economic sense to do so, and to force them to do

something else is just going to raise costs to consumers.

MR. WROBLEWSKI: Okay, thanks. Phil, before -- Tyson had his sign up, so I am going to let him go first.

MR. SLOCUM: Yeah, I think it's really important to take a look at how the industry is doing with the shortages. I mean, everybody is talking about these shortages, but everyone really has to understand what this looks like on the industry's balance sheets. You know, they are experiencing record profits, and so I don't think it is unreasonable for us to talk about some reforms that have been discussed here about inventories that may have an uneconomic impact on the industry, because right now the industry is probably the best performing in the American economy.

So, I think regulators and law-makers need to start asking critical questions about whether or not these great profit margins are coming as a detriment to consumers right now, and I think that's pretty clear. And, you know, a lot of different reasons have been thrown about for why inventories are low and I have heard some blame on EPA regulations. Personally, I have taken a look at a lot of the lobbying registration forms of the industry, and they spent a considerable

amount of resources, financial resources, fighting EPA regulations, and so I would find it extremely ironic that environmental regulations that the industry has spent a lot of time lobbying against are now actually providing these supply shortages that are enabling them to enjoy record profits. Just an observation.

MR. WROBLEWSKI: Thank you.

Phil?

MR. VERLEGER: I guess I should start, truth can be turned into fiction, but I think in talking about inventories, one needs to look at, again, the roll of forward markets and cash markets and particularly the opportunity consumers have to protect themselves by buying forward.

To hear about New England, when we were living there, you could -- consumers could sign contracts or forward contracts for heating oil, and many do, and the trouble is consumers try to guess from time to time, they are going to have a warm winter, and they don't buy forward.

Really what we have here is an exercise in technically incomplete contracts; that is, in the gasoline market, it is hard for consumers to reach forward, if there were a good forward market where the futures prices would be higher, as Murphy referred to,

and the incentive to build inventories would be there, as it is in grain markets.

I think most importantly we see it in airlines. Many airlines buy forward and have protected themselves against increases in fuel prices, dramatically protected themselves. Southwest is profitable right now, while others who didn't do so well are not. So, to say that the marketing, in part -- that we have perfected this forward market, had we perfected it or were there mechanisms to perfect it, you would wind up with higher levels of inventory.

California, where I have looked at it, it was blocked impartially, given the point that Gilbert and Hastings makes, that the lack of terminals. You really need an effective competitive terminaling market to make an effective forward market for it.

MR. WROBLEWSKI: Okay, thank you.

Michael?

MR. RIGHT: Just like winter will be back in New England, we will be switching from winter fuel to summer fuel sometime in the spring of next year. One of the agencies that obviously has a significant impact on the cost and the availability of gasoline in this country doesn't seem to be represented at this panel today and won't be this afternoon, and that's the U.S.

EPA. I would suggest that the U.S. EPA in its regulations and their specific impact on the availability and the cost of gasoline be a major topic reviewed by this agency.

MR. WROBLEWSKI: Okay, thank you.

We're going to move on to the next topic. Let's move on in terms of refining issues, and some of the things that we've heard this morning were that the industry is running at a very high utilization rate, I thought I heard 93 percent or was it 95 percent, I don't remember, and I just wanted to kind of probe what the infrastructure implications are for refineries to be operating at such high levels. And I throw that out for discussion, Bob, if you want to start or --

MR. SLAUGHTER: I'll take the first shot at it.

Needless to say, it's very difficult to operate at that high level for a long period of time. I mean, we've seen the industry operating at 95, sometimes up to 99 utilization rates for some period of time during peak demand season. Obviously it's very difficult to do that given this type of equipment here that from time to time needs to be serviced.

Most of the major manufacturing sectors in the U.S. economy consider 85 percent rates of utilization to be top utilization rates. Here you have an industry

that is consistently operating at 95 percent and above. Of course, one of the reasons for that is there is not a significant amount of spare capacity in the industry anymore for a bunch of reasons that I hope we'll get into, but one of the things that eventually, you know, units have to undergo service turnarounds, and one of the questions has been, you know, at what point are they going to occur and what impact are they going to have on supply, because we -- you know, we've put ourselves in a position where there's so much focus day by day on anything that's happening at any refinery in particular areas of concern, and, you know, there is almost an immediate press reaction to some of these reports.

It's -- we have been comported -- the industry has been exhorted by Secretaries of Energy now for the last two to three years to do whatever we can to delay turnarounds, simply because they're so concerned about the impact of even taking relatively small units down for a period of time, and I think that points out how narrow the supply-demand balance has gotten to be in the refining industry.

MR. WROBLEWSKI: Okay, thank you.

Ben? ^ S*Z switch to 2A here -- about 15 seconds missing according to note -- ck backup tape

S*Z.

MR. LIEBERMAN: Exactly would be pretty tough, but to have to separately refine, ship and store a large number of fuels can be kind of a tricky transition from the winter blends to the summer blends of fuel. I think you have to look at the infrastructure problems along with some of these regulatory questions.

MR. WROBLEWSKI: Okay, thank you.

Since we've started on this in terms of the different fuel types, just to throw out -- to make sure everyone understands what they're talking about, can someone describe the difference between what the Clean Air Act requires in terms of reformulated gasoline and then what a number of states have done in terms of requiring differing standards, because I think there is a difference?

MR. MURPHY: Yeah, I'll do that. Essentially the geographic areas that -- the areas that are out of attainment are required to have a reformulated gasoline. Reformulated gasoline is defined to have certain characteristics. It's also defined by the Clean Air Act to include oxygenates. By definition, you
cannot sell RFG without oxygenate. You have two

choices. You have ethanol and you have got MTBE. It is very, very difficult with normal logistical problems to bring ethanol to the East Coast. So, therefore, the dominant oxygenate used on the East Coast has been MTBE .

We obviously have some problems with that. It has contaminated wells. Those places that do not have MTBE do not want MTBE in their gasoline. So, those areas that would like RFG, that could use RFG because of its effect on emissions are reluctant -- not reluctant, they are held to RFG and they are making requests that they would have a different type of gasoline. New Hampshire is a prime example of that at the moment.

So, we have a situation where we have a clean gasoline that is available but has what EPA has determined is an unnecessary component, unnecessary addition of oxygenates, which is driving states and localities who need cleaner fuels to specify criteria that is unique to their particular problem. So, we have what many times has been referred to as boutique fuels. That is in the place of a lack of any excess refinery capacity, and it's further constrained the complexity of the system and our ability to move supplies from one area to another.

If we were running capacities -- refineries at 85 percent utilization rate, this probably wouldn't have been a problem. When you're running refineries at 95 and 99 percent, you not only then have concern about the overall supply, but you have to get the supply right in each and every area of the country, because you can't distribute -- redistribute supplies from one area to another. That's the whole boutique fuel problem, which underlying that and driving that, causing that to increase is the mandate in the Clean Air Act that you have to add oxygenates to gasoline, something that we are opposed to, something that an EPA panel has found is unnecessary and called for the elimination of, and so far nothing has occurred.

MR. WROBLEWSKI: Okay, thank you.

James?

MR. PLUMMER: I guess I would just like to echo the problems with reformulated gasoline and mixing. The way this affects the market makes it very vulnerable to the distribution of fuel. Another thing the FTC in its capacity may want to take a look at is the patents on the process to mix these gasolines. Unocal is, of course, the main people I'm thinking of here, the idea that you can patent something that's required by government regulation I think is kind of

out there and might call for a rethinking of antitrust enforcement issues on that, you may want to take a look at that.

MR. WROBLEWSKI: Okay, thank you.

Glenn?

MR. JACKSON: Thanks.

Just as you mentioned earlier, I'm here representing the Renewable Fuels Association, and I'm not a technical expert, and there are many people here who are more knowledgeable than I am about gasoline blends and that sort of thing, but I did want to say that we agree that the balkinization of fuels or the proliferation of boutique fuels is a problem. We don't think fuels with ethanol are the problem. It's these -- in many areas have tried to avoid being tricked into nonpayment by, as Ed said, by developing their own particular fuel for their particular region, and that has put a strain not only on the ability of refiners to meet that demand but on the ability of transporters to transport the fuel and terminal owners to deal with the fuel.

But generally in the case of ethanol, if you're in a non-RFG area, you're adding ethanol at the terminal to a conventional gasoline, and I don't think that creates a problem. When we moved to phase two

RFGs I guess a year and a half ago, I think there were a lot of challenges that refiners faced and that we were very concerned about as well. I think what the size of the market was going to be, how easy it was going to be to make the base fuel and that sort of thing. I do think refiners have gotten more comfortable with that with experience, and we see more refiners now being willing to make the base fuel for the RFG, and particularly as markets move away from MTBE to ethanol, we think it will be easier for refiners to do that, and our own refinery in Memphis is planning to make base fuel for RFG with ethanol for the first time this year.

MR. WROBLEWSKI: Okay, thank you.

Why don't we start down this way and just go down the row.

Bob?

MR. SLAUGHTER: Okay, I was just going to add on the boutique fuel situation, essentially, you know, it wasn't meant to be this way. Congress essentially in the '90 Act set out what it -- what looks like a relatively simple two-tiered fuel system, so what we basically have been trying to explain to people what happened and how we got to where we are, which is a map with a multiplicity of different gasoline requirements

across the United States, but what we always say to them is this is what economics and politics have done to the simple two-fuel scheme that Congress came up with in 1990, and much of it is a reaction, people who felt that the prescribed fuel, particularly reformulated gasoline, which does have an oxygenation requirement, was for them uneconomic and, in fact, and/or too much for their particular air quality needs.

More politics intervened, and so people basically developed different fuels, but the important point that I want to leave with you is that the industry has largely learned how to optimize that system, as bad as it is. I mean, that's essentially the business of the refining and marketing industries is to optimize even bad systems. So, for instance, when we started talking about boutique fuels last year, we were trying to explain why cities in relatively close proximity in the upper midwest, you can't simply move fuel from one city to another, because there are different requirements.

Detroit, St. Louis, Chicago, all use different fuels. That particular situation may be a particularly difficult one and maybe needs to be addressed, but, you know, boutique fuels, you know, it's not something that I think people should just denounce, because unless you

do something with the underlying causes -- another of the underlying causes is that the EPA has been willing not to preempt any request for nonconforming fuels, and there's no indication they're going to change that policy, so I'm not sure how much we can do about it, but a lot of these problems that we're talking about today really have their root I think in the regulatory process or the legislative process.

And I want to just echo what Michael said earlier. I think that the FTC really needs to take a look at what's happening in the regulatory process and the impact of the regulatory process on the industry and, you know, that is a again -- I mean, I've read former Chairman Pitofsky's testimony before the Senate Commerce Committee this spring, which is an extensive discussion of how much in terms of money and staff time the FTC has put into investigating every area of the gasoline industry over the last three to four years.

It's expensive, and everyone should read that document, but I think one of the problems there is that much of this stuff is induced by regulations. The '90 Clean Air Act had the gasoline sulfur reduction, diesel sulfur reduction. Those are things that have a tremendous impact on our industry and yet the FTC is not a part of the consideration, and no real analysis

of competitive impacts of very important regulations are undertaken.

MR. WROBLEWSKI: Okay, thank you.

MR. SLAUGHTER: So, it comes right in with the boutique fuel.

MR. WROBLEWSKI: Okay, thanks.

Ed?

MR. ROTHSCHILD: Just one clarifying point I want to make, and that is when we talk about refining capacity utilization, and this is just so people can understand, even if it's in the high nineties, and I've read some of the analyses, there are refineries that run over 100 percent. So, I think we need an explanation of how refineries operate, because how do you operate above 100 percent and how long do you do it and how does that affect a refinery operation? I think we just need an explanation of that.

I just want to make one other clarifying point. I'm here today, by the way, just my personal views, they do not reflect the organization or the company I work for. So, thanks.

MR. WROBLEWSKI: Mine don't reflect the organization I work for either.

Tyson, go ahead.

MR. SLOCUM: It was mentioned earlier that

processing these boutique fuels may not be as much of a problem if refineries were operating around 85 percent as opposed to their current 95 or 99 or over 100 percent, and so I think it's important for us to turn back the clock a little bit and figure out, well, how come our refineries are operating at such high capacity rates? Well, it's because a lot of refineries were intentionally shut down by the industry.

There was a great investigation by Senator Ron Wyden, I don't know if any of his staff is here, but he got some great internal documents from the industry itself saying, look, we're not making enough money in the refining business, we are going to have to shut some of these things down to increase our margins, and I think regulators and Congress really need to take a hard look at how these actions affect consumers and affect the overall economy. It isn't environmentalists chaining themselves to these refineries that are causing the problems, it's industry themselves, and they are looking to maximize profits, and we have to look at how those actions affect the rest of the economy and how it affects consumers.

MR. WROBLEWSKI: Thank you.

Ben?

MR. LIEBERMAN: Yeah, I do agree that

regulators should be looking at these refineries shutting down. They should be looking at whether they're encouraging this process as a group, a number of onerous regulations that have particularly made it difficult for some of the older, smaller refineries to stay in operation.

One thing was particularly interesting is last year, the Premcore facility in Chicago, which was ground zero of high gas prices over the last year, they shut down. One of the factors that they cited was the enormous investment it would take to meet the new desulfurization requirements. We have a number of tough requirements both affecting fuels and affecting refinery operations that will take effect in the years ahead, and most people are predicting additional refinery shut-downs, and I think we need to look to the extent that that's being induced by a number of regulations promulgated under the Clean Air Act and other acts.

MR. WROBLEWSKI: Okay, thank you.

Phil, did you have something? You had turned your --

MR. VERLEGER: No.

MR. WROBLEWSKI: Okay, Mark?

MR. COOPER: Actually, I -- this is an area

where I think we have a certain amount of agreement. Consumers like big, competitive markets, and the boutique fuels market is a small market, and the smaller the market, the less flexibility you have. So, we -- in our report, we definitely are interested in finding a way to expand the size of the market. That is a good policy, but we need to make sure that we do it to the highest environmental standard, not the lowest environmental standard.

The second question is, clearly the industry has made a series of decisions, and the FTC report pointed out that in the midwest, in deciding how to meet the standard, a set of decisions was made about how to reconfigure refineries that dramatically reduced the amount of capacity available and the off-system sales available. There were other choices that could have been made which would have resulted in more capacity, and those were business decisions.

It's a part of public policy, we think, to go back and understand why those decisions were made and, in fact, what we had suggested, because one of the alarms that has been sent up is we need more refineries, we had asked that as a policy that the FTC or the Department of Energy should look at the last -- we closed 50 refineries in the last ten years. Those

are 50 good places to -- for one thing, to maybe build a new one or to rehabilitate those so that people don't think we have to build refineries in their backyards.

Those were industrial size refineries closed over the past decade, and they might encourage less resistance than going forward. But we'd also like to know the economics as to why those sites were closed, and as was suggested, we need to expand at those sites. We would particularly like to get people who own those refineries who are not already integrated into the industry, such as Mr. Robertson, but -- and these are areas where I think there's useful agreement. We need capacity, we need big homogeneous markets, we need to reconcile that with environmental policy.

MR. WROBLEWSKI: Thank you.

James?

MR. PLUMMER: Actually, Ben made most of my points already about regulation, so really lowering the rate of return that a company can get on refineries, they can only get 4 percent, they can make more money by throwing their money into a mutual fund, and that's going to cut down on the amount of production in a refinery.

I do think that one thing I think would help is that I believe earlier this year President Bush

suggested that a more integrated infrastructure against different countries, not just here, might help consumers, and that might be the other way to get around trying to get some of these regulations if you urge profits and economies and therefore put a real bottleneck on gasoline supplies across the country.

MR. WROBLEWSKI: Okay, thank you.

Tom?

MR. GREENE: Essentially, there's something in the nature of a report, when we did hearings on behalf of the Attorney General concerning gasoline in California, the switch to ethanol as the oxygenate for MTBE, but there were some physical questions here about volume, which may affect us as we go on to learn about how tight supplies are. Basically MTBE represents by volume about 11 percent of a gallon of gasoline. Ethanol will replace some amount of that, but there still appears to be some significant shortfall, so that may have a direct effect on the critical balance that we have been chatting about here momentarily.

So, this is one of those areas where environmental policies, particularly the question of what oxygenate might be used and, indeed, what you need in oxygenate will come into play in a very clear situation.

MR. WROBLEWSKI: Thank you.

Glenn?

MR. JACKSON: Well, if you use more conventional gasoline, it's going to free up that extra supply, so -- but actually the comment I would like to make, in my company six or seven years ago, we proposed building a grass roots, greenfield refinery outside of Phoenix, and our stock price immediately went down 25 or 30 percent because our investors thought we were absolutely nuts.

MR. WROBLEWSKI: Thank you.

Ed?

MR. MURPHY: Yeah, to move on in the sense that we need to expand refinery capacity, both in the existing refineries as well as new grass roots refineries, that is a major issue which we have right now with EPA. We can't get the permits right now to put the gasoline desulfurization units in that are going to be required to produce gasoline in a couple of years. The issue there is how do you get by the permitting and regulation process if you are going to install major industrial facilities? Stop talking -- you need to control the industry, but this is a major problem. This also was a factor on the East Coast. So, that is, in fact, a real difficult issue.

I want to get back to Tyson on one point he made. I think we can forecast right now that unless the existing diesel sulfur rule is changed -- and I don't mean if the end objective is changed, but unless it's changed to make -- to have a more logical implementation strategy, we will be back here in 2006, precisely in August of 2006, asking why there are shortages of diesel fuel, why prices have gone up to $2.50, $3.50 and $4 a gallon, why trucks are stopped in the Rocky Mountain area because they can't get access to diesel fuel.

The regulation does not make economic sense. We argued that. We were obviously unsuccessful. We are paying the -- we will pay the consequences, and we have paid the consequences for some of the regulations in the past. That's -- so, the long-term -- capital -- as John was saying, capital flows into and out of the industry until a competitive rate of return is achieved. Consumers pay the cost of regulations. High resource demand by consumers is an additional factor. Consumers are going to pay the cost long term for the low-sulfur diesel and the increased cost of the distillate.

So, I think -- and I think that was Bob's point, to enforce economic behavior on the idea that

somehow this is going to be taken out of the hides of stockholders is not correct.

MR. WROBLEWSKI: Just to clarify the record, would you please explain what the diesel sulfur rule is?

MR. MURPHY: The diesel sulfur rule reduces the sulfur content of on-road diesel, which now averages at 350 parts per million. It will reduce that to 15 parts per million in July -- July 1, 2006. At that time, the first truck that requires this fuel will roll off the assembly line. At the end of the year, maybe 5 percent will require this fuel. We as an industry will be required to have 80 percent of that -- of the total distillate, the total diesel supplies of the low sulfur fuel in July of 2006. So, it's just a tremendous economic waste and one that is not only going to cause large increases in costs but frankly is going to cost -- and that was part of the reason that Premcore closed down -- tremendous capital investment, and thus a loss of capacity and reduction in supplies, and consumers I think are going to feel the impact of it.

MR. WROBLEWSKI: Okay, thanks.

Jay, you had a question for our panel.

MR. CRESWELL: A couple of you have alluded to the small refineries, and that has happened, and if we

go through Tyson's list, for example, virtually all the refineries were closed by the smaller independents. So, I'm not sure how you can reconcile that with the view of an oligopoly, a tight oligopoly, but it does appear to be concentration.

The other question I would have for those familiar with the industry is whether the refineries, how many of them could be reopened in the foreseeable future, especially if they were considered uneconomic by independent actors in the recent past?

MR. MURPHY: Well, the point you make, Jay, is correct, that that made almost all the refineries shut down, simply low -- refineries with low capacity. One of the consequences of the regulations that were put in place is there are tremendous economies of scale in the regulations, so that over the course of some of these -- the low-sulfur diesel, the low-sulfur gasoline, the reducing toxins, for example, decreases with the size of refinery.

So, that has driven refineries -- the average refinery size about ten years ago was around 60,000 barrels. It's now a little over 100,000 barrels a day. So, the average refinery size has increased substantially in response to the economics.

MR. WROBLEWSKI: Phil, why don't you go ahead,

then Bob.

MR. VERLEGER: I think -- John Cook had a graph of the investment in refineries, and with regard to the notes from 1972 to 1980, we had this huge financial incentive to build refineries, sell refineries under the old entitlement program, as long as you were an independent firm, and the regulation had the desired effect. You can double a lot of these small refineries that shouldn't have been built, wouldn't have been built, in a competitive system that didn't have its regulatory hand out, and it has taken years to close many of them down.

We also through the regulations kept some of them operating, such as Texaco's oil refinery. So, mostly Ed's right in terms of the economies of scale, but if you look around the world, nobody builds a refinery today around the world of less than 150,000 to 200,000 barrels a day because of the economies of scale.

The other element in this is quite frankly there's a very huge shortage in labor. If you look at the National Petroleum Council, companies trying to meet the gasoline and diesel fuel regulations, what you find is we don't have enough pipefitters, we don't have -- there are only two or three companies left in the

world that make the vessels that you can use in refineries, and so a lot of these smaller companies are closing their refineries down because of the lack of an ability to get the capital equipment and bring it in. If anything, it's an oligopoly in terms of the supply side, just to get the capacity to acquire these vessels in Italy.

MR. WROBLEWSKI: Okay, thanks.

Bob?

MR. SLAUGHTER: One thing I'll mention, NPRA's membership runs from the largest integrated majors to the smallest refiners, and I think that America, you know, has a strong policy interest in maintaining an efficient, competitive and diverse refining industry, and our mixed markets in which smaller players, despite relative economies of scale, can compete and survive, provided that some attention is being paid to them. Getting back to the diesel sulfur role and kind of signaling back to one of Tom's comments about the impact of site changes and supply on a very inelastic price curve and what happens to price, you know, there is a major study that API was involved in on the diesel sulfur rule that predicts essentially a 12 percent nationwide shortfall in diesel fuel supplies during the first year that that rule is implemented.

You know, I submit that that is going to have a major impact on consumers, prices and getting there, because it's an $8 billion rule for this industry on top of another $8 billion rule to essentially reduce sulfur in gasoline. It's going to have a tremendous impact on the industry and on concentration in the industry.

The other thing I want to mention, we've talked about imports a couple times, and there was a discussion about how difficult it will be to continue to rely on imports, absolutely, because we are basically choosing more or less American boutique fuel formulations for gasoline but particularly for diesel where they're the most stringent in the world, and so imports are not going to be readily available for us, and plus, in the case of diesel, we are going to dramatically reduce domestic reduction.

One thing that you also need to look at in terms of supply is that a lot of -- there's going to be a lot more competition for imports, because there are a lot of areas in the world that are growing much, much more fast than the United States is at this point. For instance, someone was mentioning adding refineries in Mexico. Well, Mexico has a tremendously youthful and growing population, and the demand for gasoline in

Mexico is going to grow tremendously over the next few years.

So, I think, you know, this delusion that if we don't build refineries here -- more important, definitely, is adding capacity to existing sites, that somehow we are going to have sufficient demand to do imports. We are not going to be able to match the demand for these imports that's coming from other societies that are growing more quickly than ours. So, we may, in fact -- the product just may not be available if we don't pay more attention to actually growing domestic refining capacity.

MR. WROBLEWSKI: Okay, thank you.

Tyson?

MR. SLOCUM: Yeah, I just wanted to respond very quickly to Jay's point about that a lot of the refineries that were being shut down were actually independents. Well, a lot of the reason that the independent refineries were being shut down was because the bigger boys in the market were muscling them out. A lot of the documents that Senator Wyden acquired through discovery in a lawsuit showed that the industry were -- were engaging in supply sharing agreements, you know, between Exxon and another large company to specifically target smaller independent refineries, and

that's why a lot of them went under.

It was a deliberate attempt, using market power, to shut down the independents, and I think that that really speaks to a lot of the things that we at Public Citizen and what Mark does, talk about some of these effects of market power and market concentration, because of all the continual approval of mergers and what effect that has on the market and the rest of the American economy.

MR. WROBLEWSKI: How does that square with -- I think one of the slides that Phil Verleger showed was the market share of independent refiners had actually increased.

MR. VERLEGER: I didn't say independent refiners. What I did is I -- market capitalization, the refineries owned by market capitalization -- firms with market capitalization of over $100 billion had shrunk from 50 to 36 percent. Now, the firms with market capital of over $100 billion would include, after the merger, assuming approval, Texaco, Exxon Mobil and BP-Shell. The next level would be companies like Sun, ENRON-Hess and so on, and they have increased, as have the firms with market capitalization of 1 to 10, where you find firms like Valero and UDS.

Now, the reason this has happened is that three

companies, BP, Equilon-Motiva and to a lesser extent Chevron has been selling refineries, and particularly BP and Equilon-Motiva have jointly sold something like one and a half to two million barrels a day of refining capacity, and the buyers have been companies such as TOSCO, Sohio, Valero, shipping assets to them.

Now, frankly I think that makes them a more viable refining industry, because I think there is a scale limitation. Just going back, as Murphy's pointed out, you need to be at 150 or 200,000 barrels a day to be able to afford to make these new investments, and that means that it's very difficult for an undercapitalized smaller firms, like Tesoro, to succeed unless they essentially become captive and somehow or another become a well-capitalized firm.

Now, Murphy and Tesoro and now Sun are all effectively linking up with WalMart, there is going to be a link-up I think with Costco, which means that they are being independents, but they are being independents who are essentially working on the balance sheet side of companies with market capitalization that approaches Exxon-Mobil. Now, I'm not sure what the competitive implications are. I don't think we'll know for ten years.

MR. WROBLEWSKI: Okay, thank you.

John Felmy, you had a point you wanted to make.

MR. FELMY: Yes. We can argue forever about why refineries closed. Some believe it's a conspiracy, I believe it's markets. But the important thing going forward from a public perspective is more importantly what's going to happen over the next 20 years. We can argue about the past, but over the next 20 years, according to the Department of Energy, we are going to need about 6 million barrels per day of petroleum products, more than we consume right now. We consume around 20. So, a 30 percent increase roughly.

Of that, according to the Department, of that, about two-thirds is going to be imported. So, about 4 million, just roughly. So, that's if we have the right fuel specifications so that we can actually get that from abroad, as Bob had said, but the remaining roughly 2 million or 1.7 is going to be needed from additional capacity of refineries. So, it's a very, very real problem.

And in addition, they also say that we're going to move from 93 percent of capacity to 95 percent, which is another roughly 300,000. So, going forward is really what we need to focus on. How are we going to get this capacity? Is it going to be expanding existing capacities with all the hurdles that Ed was

just talking about, or is it going to be new refineries? I mean, that's the very real public problem, because if we don't get that capacity, going forward, just as Ed forecasts potential difficulties six years from now, 20 years from now we will face the same difficulties.

MR. WROBLEWSKI: What can be done to increase refining capacity?

MR. MURPHY: There's a big National Petroleum Council report of a couple hundred pages which has a very, very detailed set of recommendations. The permitting issue is one, as I mentioned, of what needs to be done. It talks about what's happened, we've lost excess refinery capacity, and we need to expand refinery capacity, and we need to change government regulations so that we're at least not hostile to expanding refinery capacity, as they are right now.

MR. SLAUGHTER: Could I throw in something on that, Michael?

MR. WROBLEWSKI: Sure.

MR. SLAUGHTER: Just quickly?

One of the things that you need, you certainly need a reform and resource review program, which basically governs major modifications that are made to existing facilities like refineries, and right now, EPA

has reinterpreted all its rules to make it even more difficult than before to add capacity at existing sites. They also are questioning significant capacity additions that were made pursuant to permits as old as those granted in 1981 and 1985, which are making substantial -- the owners of those permits are making substantial contributions to today's refinery production, and those are being questioned by EPA retroactively. They were given with the assent of the states, and companies are being fined for working with the states in getting permits that were approved at the time.

One thing I wanted to point out to you, I did work with a few numbers last night. If you consider, you know, whether a refinery is owned by an independent or an integrated, depending on whether or not the company has production, and that's a traditional rough way you would determine who's an independent, independents don't have production, they have to buy crude to refine. The current numbers are basically -- and this is rough, but the later curve was done on the back of a napkin, so -- but I came up with about 10.5 million barrels a day of integrated -- I'm sorry, currently it's 9.2 million barrels per day of integrated capacity and 7.1 million barrels a day of

independent capacity.

So, you know, this goes back and forth. There have been various shifts in the last few years. With one pending merger, there may be another shift to the integrator refiners' hands, but the independent portion of the refining community, which is part of our membership, is very strong today and I think would react negatively to the comment that was made that they were somehow victims of anticompetitive behavior, because they actually have -- have been holding their own quite well, and I think some of this is shown by the pending Valero-UDS merger, which is a merger between two major independent refiners, and if you look at folks like Value Line, who's been looking at the reasons for mergers over the last several years, they're suggesting that this year we actually have seen some people who may have merged on the basis that they thought that, you know, in speculation refining assets might be attractive.

That's not a major index of the reason for these mergers at this point, but it seems to be somewhat apparent, whereas in other years in the recent past, people seem to have merged for the purpose of reducing costs.

MR. WROBLEWSKI: Okay, thank you.

Larry, you had a point you wanted to make.

MR. CHRETIEN: Yeah, two quick points. Whether you're talking refinery capacity or whether you're talking -- whether you're talking refinery capacity or terminal operators, heating oil particularly, you don't have to be Exxon/Mobil to be considered a strong influence in a tight, small market at a critical point with a seasonal commodity, and that's why I'm asking FTC to focus on specific issues geographically. I know it's often tough to watch over every refinery, every terminal operator in the country regardless of product, but I think we're hearing some information about some hot spots we need to pay attention to.

I want to make the point that you don't have to be Exxon-Mobil to screw consumers in New England with respect to heating oil at a particular point in time.

The second point is I think what we're hearing collectively is that in order to solve the economic equation, whether it's through increasing capacity or trying to relax air quality standards that we're all trying to reach for, it's going to cost a lot of money, and my group, considering the fact that we're pro-consumer, not pro-consumption, we want to put on the table energy efficiency far more than we've talked about it today as a way to balance the equation so that

we can have our energy needs, even despite the fact that refinery capacity is constrained.

MR. WROBLEWSKI: Thank you.

Ed, you had a point you wanted to mention.

MR. ROTHSCHILD: Well, I think there are multiple reasons why refineries close, first of all. Some of them are due to the fact that there was a regulation that created refineries that should not have been there in the first place, and we all agree with that. Certainly independent refiners that were not in it, that didn't have the cash flow that integrated companies had, were much more constrained in their ability to make environmental investments and other investments to stay competitive and upgrade their refineries. That probably explains a lot of the closures.

But I don't think that we can disagree that there are pressures from other companies in a market, and California may be one place, and we may talk about that, with some independent refineries, with good refineries, with upgraded equipment, that went out of business, and that may have been not just because of market reasons but may have been more due to what Senator Wyden found. So, there's a mixture.

I think the other thing in terms of refinery

expansion, you know, back seven years ago, in January '94, EIA had utilization capacity of something on the order of 16 million barrels a day. As we saw this year, we're at 17.5. So, despite losing about 20 refineries that were shut down in that period and we lost that capacity, the market for -- the refining and distillation capacity grew by somewhere on the order of a million and a half barrels a day.

Now, refineries can grow without losing refineries. There is an explanation that existing refineries are expanding at their sites. We also need to understand the changing nature of the refining business, which we really haven't talked about much, which is that companies have much more sophisticated equipment, turning lousy crude oil, heavy, sulfurous , smelly stinking substance into gasoline.

Now, refineries can take that kind of crude oil and make 100 percent gasoline out of it if they choose to do it. So, the ability to make higher-value products in today's refineries has been greatly expanded and enhanced if you look at the trends. So, you have to take that into consideration, in addition to the fact that we can operate at very high levels for some period of time.

And one last point. I think we have to

remember that over the years that no company has more than 10 percent of the national gasoline market, what do we do? It's irrelevant. Nobody buys gasoline -- I don't shop in San Diego for my gasoline. I don't even shop in Massachusetts for my gasoline. I shop close to where I work and close to where I live. So, when you look at gasoline markets, we really have to be looking at metropolitan markets, and I really urge that when any kind of analysis is done, each metropolitan market must be examined on its own.

Within that market -- and I'll come back to this, because we're running out of time -- you have to look at how that market is structured. You can go around this city where you can find gasoline for $1.70 at one place and you can go two miles away and find it at $1.25. Now, that spread is not caused by higher real estate values, it's not caused by higher transportation costs, it's not caused by higher automotive costs. There's something else going on, and I leave that to the FTC staff to figure out.

MR. WROBLEWSKI: Thank you.

Glenn, do you want to comment on --

MR. JACKSON: I just want to say for the record that I'll -- that the ethanol industry is significantly expanding capacity to add volume in anticipation -- the

MTBE, for example, I think at last count it was like something like 35 existing plants were being expanded and something like 12 new plants were being constructed. The state of California just recently released a survey that found annual capacities projected to come on line in the next couple years to meet growing markets. So, there is tremendous growth in the -- in the capacity there.

MR. WROBLEWSKI: Thank you.

Jon?

MR. RASMUSSEN: Yes, I would just like to follow up on something John Slaughter said about vertically integrated companies. He noticed the same thing that we did. In fact, when EIA first developed a criteria for drawing a matrix over the financial reporting system, we had 26 companies, 24 vertically integrated, and that was about 1979. Today, companies that are reporting to us in the year 2000, nine are vertically integrated. The rest are refiners who probably have -- specialized refiners and specialized upstream producers, and they -- they do have a company which sells both gas and power energy services, companies like ENRON, El Paso.

MR. WROBLEWSKI: Okay, thank you.

John, did you have one final comment? Okay, so

that was that. Mark, I'm sorry.

MR. COOPER: One observation, one of the first jobs of an antitrust agency is to define market, and then to suggest that it may be lightning politics if markets are local.

The second point, also of concern is that the minimum efficient scale for a refinery is 150,000 to 200,000 barrels today. That's obviously a lot smaller than most refineries out there, so in theory, at that level, it proves that competition is possible, but it really asserts that the minimum efficient scale of companies as much bigger than that, on the order of Exxon-Mobil.

It seems to me that the FTC has to, in fact, identify the markets and the minimum efficient scale for each of these different segments, refining and certainly gasoline stations and ask the question how many competitors can there be in a market, because if we conclude that you have to be Exxon-Mobil in order to exist, then there's clearly not going to be a lot of companies out there.

On the other hand, if the minimum efficient scale is a lot smaller than that, we could have a lot more competition, and that's sort of a fundamental economic question that needs to be answered.

MR. WROBLEWSKI: Okay, thank you.

Phil?

MR. VERLEGER: I think I should correct a characterization when I said that Exxon-Mobil, $100 million dollars, to scale, I do think we should pay attention to the fact that capitalization that these firms gets are large, but the expenses, as Bob Slaughter mentioned ^ (sirens going by, cannot hear anything).

MR. WROBLEWSKI: Okay, thank you. I think that concludes our discussion for this morning. We will reconvene at 2:00 this afternoon to discuss transportation and retailing and marketing.

Thank you very much.

(Whereupon, at 12:15 p.m., a lunch recess was taken.)

AFTERNOON SESSION

(Resumed at 2:00 p.m.)

OVERVIEW ISSUES: TRANSPORTATION, MARKETING AND DISSEMINATION

PRESENTERS:

MARY COLEMAN, PRINCIPAL. LECG LLC
JUSTINE HASTINGS, Assistant Professor, Dartmouth College
DARRELL L. WILLIAMS, Principal, Economic Analysis Group
WILLIAM NISKANEN, Chairman, CATO Institute

P R O C E E D I N G S

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MR. WROBLEWSKI: We would like to get started for this afternoon's session which will focus on transportation, marketing and distribution issues.

Before we start with the panel discussion we'll have four presentations to discuss these issues. The first will be my Dr. Mary Coleman. Dr. Coleman is a principal with LECG LLC where she has been since 1993. She's not a stranger to the FTC as she was on the staff of the FTC's Bureau of Economics for several years prior to joining LECG.

Dr. Coleman specializes in antitrust and intellectual property litigation and regulatory proceedings in petroleum and natural gas industries. She's going to talk to us today about the many challenges that the industry faces in the transportation and in the oil industry.

Dr. Coleman, thank you.

DR. COLEMAN: Good afternoon. I'm going to talk you about the substantial impact that oil pipelines have on refined product prices.

Pipeline capacity constraints and pipeline tariffs can substantially impact or define product prices.

MS. DESANTI: Speak up in the microphone a little bit. I think there are some people in the back having trouble hearing. Thank you.

DR. COLEMAN: Sure. The linkage between pipeline and products price is more predictable and direct than that between crude oil pipelines and refined product prices. Therefore, I'm going to focus my presentation primarily on crude oil pipelines but we'll talk briefly about crude pipelines.

Pipeline tariffs and restrictions on pipeline shipments can have large effects on refined products prices. Capacity constraints can arise due to the size of the pipeline relative to demand for products on that pipeline, seasonal demand fluctuations or unexpected outages. Pipeline tariffs can also have an impact on refined product prices. However, these tend to be smaller as tariffs are a relatively small fraction of the refined product prices.

When looking at the impact of product pipelines on refined product price, it's important to consider specific geographic areas and the importance of the pipelines to those areas.

The importance of pipelines can vary substantially across different geographic areas. In some areas pipeline supply is very important to the

area as the geographic region either relies exclusively on pipelines for refined products or the pipelines are a substantial fraction of their supply.

In other areas pipelines have little importance to the supply of refined products to the area, and therefore have little impact on refined product pricing.

When considering the effects of pipeline capacity on refined product pipelines in a particular geographic area, it's important to consider the extent of excess refined products, supply capability in the area and who are the marginal sources of supply to that area.

Supply alternatives to consider are not only the pipelines, all the pipelines that feed product into the area, but potentially waterborne sources such as barges and tankers and of course any local refineries that might supply the area.

Limitations on pipeline supply can have significant long-term effect on prices in areas where there is limited excess supply capacity, product supply capacity for the area, or where the pipeline is the key or one of key marginal sources of supply to the area.

However, in other areas where there's many alternatives sources of supply and the pipelines are

not the marginal source of supply, limitations on the pipeline's capacities or shipments are not likely to have significant effects on refined products prices.

There are several ways in which pipeline supply can be limited. One way may be that the capacity of the pipeline itself is small relative to the potential demand for products on that pipeline. For instance, the pipeline may be one of the low cost sources of supply to an area, but the potential capacity on that pipeline is smaller than the demand in the area, and some year rounded capacity tends to run pretty -- the pipeline tends to run pretty much at capacity.

In some areas there are seasonal fluctuations and demand for a refined product. Generally in the summertime demand for gasoline is at a higher demand. Therefore there may be higher demand for products coming over the pipeline. In those cases it may be in the summertime the pipeline runs full while in the other months it does not.

That can cause differences in the relative prices in the summertime versus other times of the year when the pipeline is the marginal source of supply in the non-peak months and other sources, potentially more costly sources, are the marginal source supplied in the summer months because the pipeline is running full.

In addition, if there are major unexpected outages in the pipeline, that can have short run but very spectacular effect on prices as if the pipeline goes out and it's a significant source of supply to the area, that can cause a major disruption in short-term supplies, and therefore cause prices to spike up in the short run.

However, usually these spikes tend to be short lived and will be dissipated quickly either because the pipeline comes back online or the purchasers in the area are able to shift to other sources of supply.

Frequently when they're planned outages in the pipeline, there are no discernible effects on refined products prices either because it's at a relatively low demand time of the year or because people can plan for these outages and either have inventory or set out to have other sources of supply.

In addition, if there are few available shippers for the pipeline and the pipeline is an important source of supply to an area, it may be in some circumstances in the individual interest of the shippers to restrict their shipments in order to have higher refined product prices. That of course depends on how many alternatives are available and how many shippers and the alternatives the shippers have for

their products.

Pipelines can also impact refined product pricing. For that to happen the pipeline must be one of the marginal sources of supply to the area or the prices of its products are not going to be the ones impacting the market pricing.

However, a pipeline tariff rate increase, even if it were passed along into higher wholesale refined product prices, is not likely to have a substantial effect on those prices. Pipeline tariffs on average are about one and a half cents per gallon while the average rack price for wholesale price for unleaded regular gasoline is about 100 cents per gallon or about a dollar per gallon.

So a 10 percent increase in the price of a tariff would only result in a .14 percent increase in a wholesale refined product prices.

In addition, most refined product tariffs are regulated by FERC and are subject to a price cap mechanism that limits the amount by which pipelines can increase their tariffs.

There are some pipelines that have obtained cost based or market based rates, and in addition, there are some proprietary pipelines who can charge what they wish for the tariffs. However, by

definition, by being a proprietary pipeline, the pipeline is shipping product from its own refineries and therefore has little incentive to increase its own cost.

It's also important to consider the impact of industry trends on the pipeline industry and on the available capacity in that industry. The U.S. petroleum refining industry has become more centralized over time with more product being produced in the coastal refineries and fewer product being produced by inland refineries with many refineries shutting down.

As a result many of the coastal refineries are seeking to ship product, more product, greater distances and into new geographic areas. This is putting pressure on existing pipeline systems causing constraints on some pipelines and providing the incentive for expansions of pipeline systems as well as the construction of new pipelines.

There are several major pipeline projects underway or completed that are bringing product from the Gulf Coast to the mid continent to the midwest and into the western and mountain states.

These expansions or new pipeline construction can lower refined product prices as they either relieve existing capacity constraints or bring low cost product

into areas formally served by higher cost refineries.

Delays in these constructions can, of course, delay the benefits of bringing lower cost product to these areas. Delays are generally caused by environmental concerns. Constructing a new pipeline does not require FERC approval, and right of aways have generally been readily available, but in constructing the pipeline environmental permits are needed and the times has caused substantial delays in the opening of pipelines.

Crude pipeline capacity and tariffs can have an impact on refined product prices, although this tends to be more limited and whether it will have an impact is much more uncertain.

Many of the major refineries in the coastal areas are not reliant on crude oil pipelines for product, and it's really only the inland refineries that rely heavily on crude pipelines for their product.

Even there, to the extent that crude pipelines are important sources of supply for a region, whether a capacity constraint on a particular pipeline would impact refined product prices is uncertain because it may not substantially impact crude prices in that area and it also -- there are sometimes other sources of refined product supply to the area other than the local

sources who have alternative crude sources themselves.

In addition, there are several reasons to think that crude capacity constraints are not likely to be significant. There are substantial excess capacity on many crude pipeline systems in the inland as refineries have shut down and therefore put less constraints on those systems.

In addition, many times the inland refineries own the pipeline systems that serve their refineries, and therefore have little incentive to increase their own cost.

Finally there have been some increases in crude pipeline capacity to serve the inland areas, particularly from western Canada.

Thank you.

(Applause.)

MR. WROBLEWSKI: Thank you.

Next we'll hear from Justine Hastings. Dr. Hastings is an assistant professor of economics at Dartmouth University. She has written extensively on vertical relationships in the gasoline industry and their impact on competition.

We are pleased she could join us today to discuss her two most recent papers in this area. Thank you.

DR. HASTINGS: We fixed it earlier. There it is. Okay. All right.

So today I'm going to briefly summarize two research papers that I've worked on over the past couple years. Both papers focus on vertical relationships between refiners and their retailers and their effects on wholesale and retail gasoline prices.

The first paper I'm going to summarize is entitled Vertical Relationships and Competition In Retail Gasoline Markets: Empirical Evidence From Contract Changes in Southern California.

This paper focuses on the vertical contracts between the refiners and retailers and their impact on retail prices.

As a motivation for the paper basically over the past five years or so, West Coast metropolitan markets have experienced substantially higher retail gasoline prices than have markets in other regions of the country.

Not only that, but there have been sustained differences in the city average retail prices between West Coast metropolitan areas above transportation costs, so one often cited example is that San Diegoans, if that's a word, people who live in San Diego, tend to pay 5 to 15 cents more per gallon for gasoline on

average than do people in Los Angeles.

So this upward or these trends in gasoline prices that don't seem to be consistent with perfectly competitive markets have sparked an intense political debate over their potential causes.

Most of this debate has focused on regularly the vertical contracts between refiners and retailers. Why has the debate focused on that?

Well, politicians, consumer groups and industry groups have noted corresponding increases in the market share of fully vertically integrated gasoline stations in markets in which they have experienced higher city wide average prices.

Because of this some form of divorcement legislation has been proposed in most metropolitan areas and at the state level in California and Arizona.

What is divorcement legislation? Okay. Basically proponents of divorcement legislation claim that an increase in fully vertically integrated stations, which are referred to as company-operated or company-op stations has allowed refiners to raise retail prices. This is because at these types of stations and only these types of stations the refiner sets the retail price directly.

This increases -- an increase in this type of

station increases the market power of the refiners and basically leads to less competitors in the marketplace, and therefore higher prices. This is the claim. Okay?

Divorcement legislation basically prohibits this type of vertical relationship between a refiner and retailer so they can't directly set the retail prices of their stations. What the refiners would be forced to do instead is divest these stations to dealers who have leased the property or own the property and the dealer sets the retail price.

And then the idea is that this type of divestiture divorcement would lead to lower average retail prices and more competition at the retail level.

Another argument that was not focused on or has not been focused on as much is the effect of independent retailers, so this paper basically documents that all of the increase in fully vertically integrated stations over the mid to late 90s came from integrated refiner's purchases of independent retailers, okay?

So at the same time we're seeing this increase in company-operated stations, we're seeing a decrease in independent retailers. What is an independent retailer and why do we think they might effect retail prices?

Basically an independent retailer is a guy who owns his own station and can buy refined product or wholesale gasoline from any refiner. Whoever has the lowest price they can purchase from. They can't, however, post a brand name on their station.

So an example on that would be Rotten Robbie or Gas City. Anyone know of the one in D.C. area, an independent station? FreeState, FreeState. So we know what I'm talking about.

So because this independent guy can buy the lowest price gasoline at wholesale and because they can't post a product brand, they compete heavily on price with little to no nonprice product differentiation.

When they are replaced in the marketplace by branded integrated stations of any vertical contract type, price competition might be soft ended, and we might expect to see a rise in local retail prices.

Okay. So the purpose of this study was to essentially assess the effects of both company-operated and independent stations on local retail prices. And the analysis, the empirical analysis uses an event that caused sharp changes in the market share of independence and vertically integrated firms in order to credibly identify their effects on local retail

prices.

This event was the long-term lease of an independent retail marketing chain called Thrifty Oil Company by ARCO, Atlantic Richfield, now it's BP Amoco, but at the time it was ARCO.

This basically provided a unique opportunity to test how local competitors respond to changes in contract types. Why does this provide such a great opportunity? Thrifty stations were scattered all over southern California, so using station level data for Los Angeles and San Diego -- the other thing is Thrifty stations were converted to integrated stations of various contract types, fully integrated where the refiner sets the retail price and those where the retailer sets the retail price instead.

In fact, this one event accounts for almost all of the increase in independent marketers over the late 1990s in southern California, so using station level data, basically what happens is that I'm -- we're able, this event provides us with a pre post comparison across affected and unaffected markets to identify how local prices are impacted by a change in the market share of company-operated stations and a change in the market share of independent retailers.

Okay. This research design, because we have an

effect pre post periods and unaffected and affected markets, we're able to have a credible identification of both of these effects controlling for any other factors that affect prices and the variables of interest at the station level or the city level over time.

The results indicate that independents have a significant negative impact on retail prices, and that company-operated stations have no significant impact on prices.

What do I mean by that? Okay. Basically the analysis compares markets that weren't impacted by the loss of a Thrifty independent competitor against those that were, and when we look at the price patterns we a significant drop in the independent competitor, and the average price went up by 5 cents a gallon compared to those that were unaffected by this buy out.

That 5 cent a gallon increase was not dependent on whether the subsequent station was a company-op or a dealer run station. So the analysis provides no evidence that company-ops prices over dealer run stations.

What was important was that there was no longer an independent unbranded guy selling gasoline in the local market. The analysis also points out the

purchase of these Thrifty stations by ARCO most likely resulted in a consumer welfare loss.

What are the policy implications? First we don't find support for divorcement legislation, okay? Company-ops and lessee dealers, another way to look at this is a dealer relationship with the refiner. The refiner has enough instruments in the contract to sufficiently set the retail price.

In other words, it could be the fact that refiners are just really good at designing contracts which we hope they would be, okay? Independent retailer are important for competition is that -- I think this is an important part of the paper or most important part of the paper.

What does this paper say for merger policy? Basically the FTC did not consider looking at this acquisition. Why? Why wouldn't they consider it? The reason is that Thrifty only had about 250 stations out of over 4,000, so if we do a traditional approach to why we should allow a merger to go through, an acquisition to go through, we look at a simple market concentration change at the retail level, we would see there is no market concentration change from 200 stations changing hands out of 4,000 total.

However, Thrifty stations comprise about

one-third of the independent marketers in southern California, okay? So given that this analysis suggests we should be using an alternative to the Herfendal Hirschman (phonetic) index, which only looks at competition, we should be including vertical components in merger policy as well.

The second paper is going to point out the same thing. The second paper I would like to summarize, it's entitled Vertical Integration in Gasoline Supply: An Empirical Test of Raising Rival's Costs. This is joint work by professor Gilbert at U.C. Berkeley.

Motivation for this paper basically came from the same thing. You see similar trends in wholesale gasoline prices so there are sustained and substantial differences in wholesale prices at distribution racks across the country, and when we're looking at wholesale gasoline prices in this study we're going to be looking at unregulated wholesale gasoline, okay?

These wholesale price differences are larger than transportation cost. If unbranded gasoline is a homogeneous product, and it is, we would assume that the competitive market should equate the price to the cost of production and that the prices between markets should not exceed transportation costs. Otherwise there's an arbitrage situation that's not being taken

advantage of.

There are some potential sources to explain this wholesale price variation. One is environmental regulations and fuel requirements which was brought up quite a bit this morning. So there are different types of gasoline requirements in different regions of the country, and let me explain some of the differences in wholesale prices but certainly not all of them.

One counter example to that argument is that if you look within California where every distribution rack has CARB gasoline, you will see differences in the rack price for unbranded gasoline that are much higher than the transportation costs between the two racks, and those differences don't get competed away.

A third explanation which this paper focuses on is vertical market structure, wholesale suppliers degree of integration into retail markets and their incentive to raise rival's case.

What is raising rival's cost? Basically the idea is if you are an Acme Refinery and you have Acme retail stations and you sell unbranded gasoline to independents, if those independents compete with your retail station, you have an incentive to try to raise the wholesale price to them, if you can.

Why? Because if you raise their wholesale

cost, they have to raise their retail price in order to cover their cost. If they raise their retail price, what can you do at your retail station? Raise your retail price, but your costs haven't gone up so therefore your retail profit margin has just increased by this action.

So what we would like to do is take a look at do we see evidence of raising rival's costs in wholesale gasoline markets, again we're going to look at unbranded prices and we look at an event that again provides discrete and differential changes in the downstream competition with independent retailers. This event was Tosco Corporation's purchase of Unocal's West Coast refining and marketing assets.

Basically what happened is that Tosco had a very low market, retail market share in many markets where Unocal had a very large retail market share. When Tosco purchased the refineries and retail stations from Unocal, Tosco experienced various increases in their downstream competition with independent retailers after the merger, okay?

So now they have this incentive to perhaps change the price of unbranded gasoline that they're going to charge these independent retailers, so again we have Tosco company specific unbranded wholesale

prices at each distribution rack for a year before and a year and a half after the merger, and when what we find is the wholesale price of gasoline to independent competitors increased in proportion to the degree of downstream competition with independent retailers after the merger, so this event study provides strong evidence supporting refiners' incentive to raise rival's costs.

We then turn in the same paper to look at a broad panel analysis, so basically we have this great event study that allows us to very carefully and seriously identify the raising rival's cost incentive and impact on prices, and now we're going to look at something that econometrically isn't as desirable.

The answer looks at, examines very interesting questions, so for the period '93 to '97 there is a large wave of mergers in the United States. We have detailed data for 26 metropolitan areas on the West Coast, the Rocky Mountain and Gulf Coast states. These waves of mergers generated significant changes in the number of competitors at each rack and also at their downstream -- at their downstream market share.

So when we take a look and we do an econometric estimate, a regression analysis, we find evidence consistent with the event study, namely that wholesale

prices vary positively with the extent of wholesalers' integration into downstream market. We also find the known effect that wholesale prices are -- or that the more classical effect that wholesale prices are negatively correlated with the number of wholesale suppliers.

So more guys competing at the rack means prices are lower, okay? And this is what current merger policy is aimed at looking at, horizontal concentration. However, the really interesting thing is that the effect from raising rival's costs is as strong as the horizontal concentration effect.

So we make some comparisons in the paper you can look at that show, How can we compare the magnitudes of an increase in vertical degree of vertical integration and a decrease in the number of suppliers, and they're very comparable.

So in conclusion, basically we find in both papers that there is a significant vertical component to horizontal mergers that should be considered an antitrust policy. I can give a concrete example.

Suppose it was a few years ago and Exxon and Mobil were deciding to merge, and the FTC had concerns about the effect in retail price -- on retail prices and retail concentration, wholesale prices and

wholesale concentration on the West Coast. Perhaps the FTC might decide to require them to divest a refinery and retail stations.

These papers would suggest that the policy to follow that would have the most impact on increasing concentration would be to divest the refineries separately and the retail stations to independent retailers, okay?

Thank you very much.

(Applause.)

MR. WROBLEWSKI: Thank you. Next we'll here from Professor Williams. He's an economics professor at UCLA, department of economics economic and vice president of Economic Analysis LLC.

Professor Williams has conducted research on industrial organizations, contractual relationships between firms and the regulation of markets. His litigation consulting experience is in a number of industries including the petroleum areas.

We are happy that he can join us here this afternoon to discuss a variety of state laws and regulations that can affect the price of refined petroleum profits.

Professor Williams?

PROFESSOR WILLIAMS: Thank you. Good

afternoon. Can you hear me in the back? Good.

I was asked to discuss regulatory factors that are likely to have an effect on gasoline prices, and I'll be focusing on regulations that are likely to affect retail gasoline prices, some of which -- some of the regulations that I'm about to discuss will affect them in an indirect way, but affect them nonetheless.

Let me start out by saying that there are two economic characteristics of retail markets that are important for assessing the effect of these regulations on prices.

The first is what I'll call the incentive problem which Justine Hastings just talked about a bit, and basically the incentive problem is the following: That in a vertical relationship between the manufacturer and their dealer downstream, their downstream retail dealer of gasoline, there is an incentive for the dealer to impose a margin on gasoline that is higher than what is in the interest of the manufacturer, and economists just call this the double markup or the double marginalization problem.

That basic vertical problem is the reason that we observe vertical constraints in many other circumstances, and it is also the reason why we typically observe the empirical irregularity that

company-operated stations charge lower prices than do lessee dealer stations or contract stations, which I think is a result consistent with what Justine Hastings just reported.

So this vertical problem or this vertical externality, if you will, implies that the contractual relations between the manufacturer and the downstream dealer is very important and likely to have effect on the level of retail pricing downstream.

Another economic characteristic of the retail market that is important and interacts with regulations to determine retail price is the fact that retail markets, the geographic markets, tend to be relatively small, and the reason that this occurs is because consumers face high switching costs relative to what the savings are from going to another station.

That's a high volutin way of saying when you drive down the street in your neighborhood, you typically see a lot of variation in prices across stations. You can drive a block, and there could be a two, three, four cents difference in retail prices for exactly the same brand, and if consumers were willing -- saw those two stations as perfect substitutes, that difference could not exist.

So we know the mere existence of price

differences downstream among the same brand is consistent, and there's been economic evidence to support this, that consumer switching costs are important in determining retail prices of gasoline.

So given those two economic characteristics, let's take a look at a few regulations that I believe are likely to have an important effect on retail prices and are worthy of consideration by the FTC in their study.

The first set of statutes is the Petroleum Marketing Practices Act and Divorcement Statutes. The reason these -- the reason these statutes are important is they indirectly affect prices in the following way: I just mentioned that one of the problems that the manufacturer faces is in how they control the price setting behavior of the dealer downstream when they have an incentive to place a higher margin on the retail gasoline is in the manufacturer's interest, and obviously that is in the consumer's interest as well.

The Petroleum Marketing Practices Act, the legislative intent of which is to prevent major oil companies from exerting control over price through termination of dealers, in a indirect way can have just the opposite effect. To the extent that the PMPA leads to an inefficient distribution of contracts, that is

that there are too many lessee dealers or contract dealers downstream relative to company-operated dealers, then it will tend to make retail prices at -- the retail prices of gasoline higher on average than they otherwise would be.

Divorcement policies obviously have the same effect to the effect they lead to an inefficient distribution of contracts. Why would they lead to an inefficient distribution?

Quite simply because to the extent that there are constraints on the refiner at all in setting their -- in choosing the contractual forms for particular stations, then that could have an effect on price.

Now, of course there could be other instruments that the manufacturer could use, but if those instruments are perfect substitutes for contractual form, then again there will be a significant effect on price.

And in effect economic studies of divorcement induced changes in the contractual form have shown their retail prices have increased as a result of government induced changes in the contractual form, and I believe Mike Vita has a study with similar results.

The other -- in addition to the Petroleum

Marketing Practices Act and Divorcement Statutes, the other area of regulatory concern is sales below cost statutes or below cost sales statutes which exists in about 11 states, and those states typically put some minimum on what the retail margin can be. It sets a minimum retail margin downstream.

These statutes obviously tend to put a constraint on how low the price can be downstream. They're typically justified because it is believed that to be company operated stations may even sell gasoline below costs, which most economists will tell you is a pretty incredible claim.

But the fact of the matter is company-operated stations tend to have lower costs even though they're still -- lower prices even though they're still above cost.

The below cost sales statutes are problematic not only because they require a minimum margin, because they also affect one of the instruments that manufacturers have to control or to put downward pressure on the retail price and therefore resolve this incentive problem that I described earlier.

One way manufacturers do that is through dual distribution, that is by locating a company-operated station in the vicinity of a lessee dealer, the

competition from that station can prevent the lessee dealer from adding this additional markup.

These sales below cost statutes tend to prevent the use of that tool to some extent and therefore can lead to higher retail prices.

Then the final regulatory issue that I want to raise are so-called zoning laws. These are laws that restrict the number of gasoline stations. These are quite prominent in California, for example, and in San Francisco and in San Diego, and usually they are attributed in part to the reason why average prices of retail gasoline are a lot higher in San Diego and San Francisco than they are in Los Angeles.

In Los Angeles the number and density of retail stations is considerably higher than it is in those other areas where they do have zoning restrictions on the number of stations.

The zoning restrictions are important because of the second economic characteristic that I mentioned just a moment ago, that is because consumer switching costs result in the geographic markets that retail dealers compete in being relatively small.

Because they're all small, the density of stations is very important because consumers are unwilling to travel long distances for small price

savings, and these zoning restriction reduce the density of stations, and therefore it can lead to higher retail prices on average.

And in fact there have been economic studies which were not looking at this issue in particular but have consistently found that density of stations leads to lower retail prices.

Then finally I want to mention another regulation, which we're all aware of which are environmental restrictions, for example, in Los Angeles, in California that call for reformulated gasoline, and it is generally accepted and commonly known that these regulations tend to add something around 5 cents per gallon to the retail prices of gasoline.

So just to sum up, these regulatory restrictions tend to lead to higher average prices either because they impair the manufacturer's ability to have an efficient mix of contracts downstream, either through the PMPA or Divorcement Statutes or because below cost statutes impose minimum margins downstream or finally, because zoning restrictions reduce the density of stations and therefore the degree of competition within these small geographic markets that we typically observe in retail gasoline markets.

Thank you.

(Applause.)

MR. WROBLEWSKI: Our final speaker in this over saying is William Niskanen. Mr. Niskanen is the chairman of CATO Institute, a position he's held since 1995. The CATO Institute is a non-partisan public policy research foundation headquartered here in Washington, D.C.

Prior to joining the CATO Institute, Mr. Niskanen was acting chairman of President Reagan Council of Economic Advisers. He is a noted expert in many policy areas including defense, trade and regulation.

We are pleased to have him here this afternoon to discuss regulatory issues facing the petroleum industry.

MR. NISKANEN: My voice may sound like death warmed over, but I assure you it's not a problem of the microphone.

May I first say that my views are not necessarily consistent with that of any of CATO's many sponsors or members. Two oil companies are among our many sponsors, but their valued contributions are a small percent of our total funding.

My views, however, are strongly influenced by

the valued contributions of the staff and others that write for CATO.

My remarks focus on the primary conditions that affect the retail margin for gasoline first on a routine basis and then those that have especially affected this market in recent years. Gasoline prices have always been unusually variable over time primarily because of the low elasticity of demand. This makes retail prices unusually volatile with respect to supply changes.

A 10 percent reduction in supply, for example, often leads to a 50 percent increase in the retail price after tax in the short run and a 25 percent increase in the long run. In turn this makes retail prices especially volatile with respect to the relative level of inventories which have been unusually low in recent years.

Gasoline prices have always been unusually variable over space for several reasons. Retail prices have always varied substantially over space as a function of land rights, higher in urban areas than rural areas, higher in domestic -- in high density cities than in low density cities, and the transportation costs of moving gasoline among these stations is irrelevant.

The relative transportation cost is the cost of moving your car from one station to another station to get your gasoline, not the price of moving the gasoline from one station to the other.

Second, state excise taxes are very substantially, from 7 and a half cents a gallon in Georgia to 36 cents a gallon in Connecticut, both in 1998. I don't have more recent data.

The third major change is a new development which is the segmentation of the gasoline market by region, a consequence of the proliferation of the gasoline types required by environmental regulation.

This has both raised the relative price in some states, and it's increased the vulnerability of prices in all states to supply disruptions. Since we no longer have a gasoline market, we have a dozen or so relative, different brands -- not different types of gasoline, but with different physical characteristics that are not substitutes for each other and cannot be -- you cannot meet a demand in the midwest by gasoline from somewhere else in the country as a rule.

Now, what to do? For federal officials I suggest their first obligation is always to make sure that they are not part of the problem.

In that regard let me read the conclusion by my

CATO colleague Jerry Taylor in July 2000. Of the approximately $1 per gallon increase in gasoline prices that Milwaukee Chicago area drivers experienced over the past year, about 50 cents can be attributed to OPAC production decisions. 25 cents can be attributed to unfortunate pipeline breaks during particularly inopportune times, and 25 cents can be attributed to the market complications imposed by the reformulated gasoline mandate originally imposed in the 1990 Clean Air Act and put into place this June. That means last June.

Congress would be best advised to eliminate this reformulated gasoline mandate in its entirety. Not only has it been responsible for an albeit largely temporary 25 cent per gallon increase in gasoline prices, it accomplishes absolutely nothing in the way of air quality. The fuel injection systems that replaced conventional carburetors in 1983, since 1983, include computerized oxygen sensors to determine when the fuel air mix is optimized from an emissions perspective.

By automatically mixing gasoline in such a way as to minimize carbon dioxide emissions, fuel injectors accomplish through technology what the mandated reformulated gasoline attempts to accomplish through

fuel design.

Now, Eric Stork, the head of the EPA's Mobil Source Air Pollution Control Program from 1970 through 1978, told the New York Times recently that reformulated gasoline was a good idea 30 years ago, but in cars built in 1983 or later, he says, the fuel is "obsolete and pointless."

Second, Congress should also demand that environmental regulations shift through command and control basis to a performance based regime. Federal agencies must still require that no more than X amount of this or that pollutant comes from the facility or gasoline blend, but they should allow plant managers to undertake whatever actions they wish to meet this performance standard.

As long as companies are required to verify that their emissions and allow public verification of their findings, such a regulatory reform would dramatically reduce regulatory burdens on refiners while maintaining current strict air quality standards.

And third, Congress should force regulatory changes, one to expedite the issuance of federal air permission permits and to reconsider the onslaught of new fuel recipe mandates that are in the hopper.

As a recent report from the National Petroleum

Council, that's an official advisory board to the secretary of energy, warned "these mandates threaten to replay the dislocations that hit the Milwaukee Chicago market and other markets on and off for years to come."

I think the major implication of that for the Federal Trade Commission is that you should initiate a participation in the review of proposed regulations that is conducted in Office of Management and Budget and make sure that your analysis of these regulations coming from whatever source is a part of the deliberations that lead to the decisions by OMB.

Finally, let me conclude with a note of optimism. Government hearings and reports on price changes in a specific industry are almost always a lagging indicator of the conditions that lead to these changes.

In this case, the future price of oil is now substantially lower than the spot price. The retail spot price of gasoline has already peaked. Several weeks ago before this hearing I filled my SUV in Prince Anne, Maryland, at 1.18.9. Now is the time to focus on future problems, not yesterday's price spikes.

Thank you.

(Applause.)

PANEL DISCUSSION: PIPELINE TRANSPORTATION, MARKETING AND DISTRIBUTION

FTC MEMBERS:

SUSAN S. DESANTI
MICHAEL WROBLEWSKI
NICK FRANCZYK
MELVIN ORLANS
CHRIS TAYLOR
MIKE VITA

PANEL MEMBERS:

ROBERT S. BASSMAN
THOMAS G. BROWN
MARY COLEMAN
R. TIMOTHY COLUMBUS
BENJAMIN S. COOPER
MARK N. COOPER
JUSTINE HASTINGS
JAY MCKEEMAN
WILLIAM NISKANEN
TODD SPENCER
PHILIP VERLEGER
DARRELL WILLIAMS

MS. DESANTI: Thank you very much. We certainly have presentations that are going to give us a lot to think about and discuss in this next hour and a half.

To begin let me note that we will run this discussion panel in the same way that we did the morning's discussion panel. That is, if you have a point you would like to make and you would like to speak, please take your name tent and turn it up on its side, and that way we can keep the discussion somewhat orderly.

I'm going to begin by going around and introducing all of our panelists as we did in the morning, and then we'll handle the issues in order starting with pipeline and then moving into marketing and distribution and some of the regulatory issues that Darrell Williams and Bill Niskanen have raised for us.

So, to begin on my far right, your left, is Bob Bassman. Bob is managing principle at Bassman, Mitchell and Alfano, chartered, and counsel to the Petroleum Marketer's Association of America, which is a federation of 42 state and regional associations representing over 7,000 independent marketers of petroleum products throughout the nation.

Next to him is Jay McKeeman. Jay is executive

vice president of the California Independent Oil Marketers Association. That association is a nonprofit state wide association of independent wholesale and retail marketers of gasoline, diesel fuel, jet fuel, lubricating oil and other petroleum and energy products.

Next to him is Tom Brown. Tom is marketing issues manager for the downstream industry segment of the American Petroleum Institute and has been involved with these issues for many, many years.

Next comes Benjamin Cooper who is executive director of the Association of Oil Pipelines and is appearing on behalf of that association and also the Oil Pipeline Company Members of the American Petroleum Institution. The Association of Oil Pipelines is an unincorporated trade association representing 58 common carrier oil pipeline companies.

Next to him is Phil Verleger who we heard from this morning, once again an economist and consultant, president PKVerleger LLC and senior advisor for The Brattle Group.

Next to him is Dr. Mark Cooper, who we also heard from this morning, director of research of the Consumer Federation of America and president of Citizens Research, an independent consulting firm.

Around going around the corner we have Tim Columbus, who is a member of Collier, Shannon, Scott, PLLC, and a counsel for the Society of Independent Gasoline Marketers of America, SIGMA, which is a national trade association representing independent chain retailers and marketers of motor fuel both branded and unbranded.

Next, we have FTC staff Nick Franczyk from the midwest region, and Mel Orlans from the general counsel's office, both of whom were key members of the team that put together the Midwest Pricing Investigation Report. Michael Wroblewski you know.

Next to me and on my left, and to the right for you, is Chris Taylor and Mike Vita of the Bureau of Economics. Both of them have been significantly involved with these issues, and Mike in particular, as Darrell mentioned, has a paper on divorcement that is well known, quite well known and very well regarded.

Then we come to the people who have already been introduced this afternoon, and finally when you go down the row past Bill Niskanen, Darrell Williams and Mary Coleman, we come to Todd Spencer, who is the executive vice president of the Owner Operator Independent Drivers Association. He began his career in trucking in 1974, and in 1992 he was elected to his

current position as executive vice president, and then finally on the end as you know we have Justine Hastings.

I would like to start with the pipeline issues. We'll try work through the issues in the same order that the speakers worked through them, and I have some follow up questions for you, Ben, or for you, Mary, or for anyone else who wants to jump in.

You mentioned, Mary, that there have been instances of pipeline breaks, and that's certainly something that we've seen in the reports.

Is there an issue about the pipeline infrastructure and its age and how soon it may need replacement in any significant degree?

DR. COLEMAN: In general, no. As pipeline expansions and introduction of new pipelines or conversion of sometimes crude pipelines or gas pipelines to refined products service, that often these older pipelines are still in very good shape and don't require substantial renovation in the segments that they still want to use.

At times they replace the pipe more because they want to expand the size of the pipeline than because of the problems with the pipeline itself.

Of course there are instances where there are

old pipelines that need to be replaced, but because of the nature of the product flowing through the pipeline, it's not an abrasive product, that actually the pipelines last for many, many years without substantial problems as a general matter.

MS. DESANTI: And I have a question about -- maybe Mr. Cooper, you could speak to this issue. Just for the clarity of the record, your organization represents common carrier pipelines, and I'm wondering if you could give us a short description of the extent of that pipeline system, the common carrier pipeline system, and to what extent are pipelines common carrier versus proprietary pipelines do you have a sense of that?

MR. BENJAMIN COOPER: All the companies in my association are common carriers. I don't have proprietary pipelines in my system, so I can't really comment on that, and they're regulated by the Federal Energy Regulatory Commission under the Interstate Commerce Act and it says tariffs must be just and reasonable and not show undue discrimination.

And programs are typically provide as you heard earlier for about a two cent a gallon to 1, 2, 3, 4 cent a gallon tariff for shipping so most of the pipelines don't own the product. It goes to shipping

for third parties.

And the FERC relies very heavily on protests from the shippers, competing shippers to -- FERC of course regulates natural gas transmission, electric transmission, hydroelectrical power and oil pipelines just to give you a sense of the magnitude of the effort. I think the FERC budget is about $160 million. About 3 million goes into the oil pipeline regulation.

MS. DESANTI: We heard a lot of discussion this morning about the reformulated gasoline, the boutique fuels issued at the refinery level, and I'm wondering if we -- if there any effects at the pipeline level? Are there issues that come up because you have different types of fuels? I think Mr. Niskanen said something about 16 or 18 different types of fuels that may need to be transported.

Do those raise issues for pipeline transportation? I'll throw this out to anybody.

DR. COLEMAN: I'll answer and then leave time for others to as well. Yes, they can. When you're shipping product on the pipeline you have to ship it in a way to keep of course the different products separated, and to the extent you have more different products to ship then you can reduce the effective capacity of the pipeline and therefore also increase

the cost of keeping track and making sure that the pipeline is functioning properly.

So, yes, the different -- the different formulations can have a significant issue. It also can have an issue to the extent that a pipeline serving in the area in, some months where they may have plentiful sources of the alternatives, of gasoline that's okay for that area, but it may be that at other times of the year when the specs kick in, that pipeline may not be able to supply as much if the refineries at the other end are not producing the particular type of gasoline that that area requires.

MR. BENJAMIN COOPER: Let me underline, this is a substantial issue, and it's both an issue as to what the situation is today and even more an issue because it's changing very rapidly. 16 is a small number of fuels that you might have in your pipeline. You may have 40, 50, a hundred different fuels that you keep in your pipeline, not all because of the government, sometimes your customer want it.

A lot of people don't focus on the fact that they're not separate pipes you run. It's like a train, different cars in the train, two football fields of regular grade gasoline followed by three football field length of diesel followed by one football field length

of jet fuel and military followed by jet fuel for the jets that you fly in followed by -- so on and so forth.

And as this gets more complicates, it gets more complicated. You have to have more tankage, and you have to keep track of these things and pulling them off when -- and every pipeline doesn't just go from A to B. It goes from A to B 1, B 2, B 3, B 4, so you pull this stuff off in different places, and it has to be a place for it to go, and it has to go to a place where it doesn't get mixed up with other stuff.

And as this -- as the proliferation of fuels increases, the management of it becomes a bigger problem, and I think Mary summarized it in a very nice way, reduces the capacity of the pipeline. You just don't get as much out the other end as fast as it goes in the front end.

And it's something that I guess our industry doesn't particularly have a position on this. I suppose you could take the attitude that if you want to make life more complicated, you'll just have to pay for it, but on the other hand you can get to a point where this gets hard to do, and you might question whether there's a benefit or the cost of this is getting to be where it's exceeding that.

MS. DESANTI: Is this an issue that's going to

lead to a need for an expansion of pipeline capacity?

MR. BENJAMIN COOPER: Yes, I think we would argue that the pipeline system faces a number of challenges that should -- that indicate there ought to be more pipeline today, and you see that out in the market. You see people trying to build. There's a number of pipeline projects being proposed now to do a number of things. You need to have different pipeline configuration because the pipelines don't move like trucks. They can't go wherever you want. They go where they're laid down.

So if the demand changes regionally, which it is doing, there's a lot of growth in Florida. There's a lot of growth in places like Las Vegas, Salt Lake City, in Denver. There's, surprise to me, a lot of growth going out petroleum demand through the old rust belt, and you see people trying to build pipelines and go into those areas. That happens even independently of this proliferation of fuels.

Also as the demands or quality of fuel increases, that means refineries have to make upgrades to supply this higher quality fuel, and not every refinery can do that, so what happens is you'll see refineries go out of business, and then somebody else has got to bring the product to that area, and that's

happening.

So there are a number of reasons why you need to on the product side have pipelines that go different places or have more capacity and go to places they used to be going and less to others, and that's happened.

MS. DESANTI: Are there any other pipeline issues that anybody else wants to bring up because if they're not then I think we'll move on? Yes, Jay?

MR. MCKEEMAN: In relation to the boutique fuels, a problem that we're looking at out in California is the issue of ethanol. Basically all the fuel -- a majority -- a great majority of the fuel in California is pipelined through common carrier, and ethanol is going to have to be mixed at the terminals because of problems in moving the ethanol through the pipelines.

Right now I think I would characterize it as a stare-down between the refiners and the pipeline operator going on about who's going to fund the construction of the tankage at the terminals for the ethanol.

And basically the refiners are in a position of kind of holding back a little bit because they're unsure of whether the ethanol requirement is going to be ultimately required or not. I think the handwriting

is on the wall on that, however. And the terminals and the pipeline people are waiting until they've got firm commitments and obligations by the major oil companies to use the ethanol storage.

But I think the main point is is that ethanol is going to add another factor into pipeline movements and into storage and terminals that really needs to be considered.

I guess one other thing that while I'm on the ethanol band wagon, one thing that I would like the Commission to take a look at is the cost concentration of market -- in the marketing of ethanol.

I think if you take a look at the competitive forces in the ethanol -- in the marketing of ethanol, you would find a very significant concentration, a market force there, and it might be something worth looking at.

MS. DESANTI: Thank you. Tim?

MR. COLUMBUS: It depends for part of you and certainly for the rest of you. We're looking supposedly in 2010, no later, starting 2006, 15 parts per million diesel fuel. 15 parts per million to the best of my knowledge is significantly lower than anything else that goes through members pipes.

And it might be worthwhile if Ben would be

comfortable to postulate a little bit about what that means in terms of just logistics when you can't run 15 parts per million fuel right behind jet fuel. What happens to that product and what kind of interface do you think you should get?

MR. BENJAMIN COOPER: I think what we should do, what the Commission should do, if you want to delve into -- the purpose of this meeting we're having here today is to sort of stock rather than have me pontificate on this, rather than just to get you a general reaction, we'll try to get somebody who is actually going to have to do that in the pipeline he or she manages.

But this is an added significant complication to the one we talked about earlier because the question of do fuels of higher sulfur going through the pipe contaminate later on lower sulfur level, and you could work on this as long as you're not close to very, very low sulfur because you can always dilute.

But if you're down to a very tiny sulfur percentage, the only thing you can dilute with is absolute purest. Do you get my point?

MS. DESANTI: Yes.

MR. BENJAMIN COOPER: It makes a difference that you're -- near zero tolerance makes a difference.

Tolerance of 10 parts per million between stuff that's a hundred parts per million and 50 parts per million, you can sort of work that out, but if you're down to 15 parts per million, that's it, then it's a bigger problem.

MS. DESANTI: Thank you.

MR. BENJAMIN COOPER: This land end issue, I have to get that point in. You can't just go out and get land and put more tanks on any more than you can just go out and get land to put pipeline around, not until after the fight because it's a really tremendous constraint on the industry to react.

MS. DESANTI: Thank you, and we will be following up when we get into these issues in more detail.

I would like to move into the marketing and distribution issues, but I'm wondering if just for the clarity of the record, if one of you would volunteer to just describe for us briefly what happens to gasoline as it comes out of the end of the pipeline and how does it then end up at the gas station?

So if someone could just give us a brief description of terminals and racks or tanks so that we have this on the record that would be very useful. Bob?

MR. BASSMAN: Gasoline comes out of refiners, and it either goes into a pipeline or goes to the terminal at the refiner, some generally does both, and it is -- that is called above the rack. Once it hits the terminal rack is when different trucks get -- take the gasoline.

The closest terminal rack here is the Fairfax Terminal. The Fairfax Terminal is a Colonial Pipeline Terminal. The gasoline that gets to Fairfax on the Colonial Pipeline is a 15-day run from Gulf Port? It's about a 15-day run. You put gasoline in --

MR. BENJAMIN COOPER: Yes, as fast you walk.

MR. BASSMAN: -- 15 days ago and it will be in Fairfax now. Colonial ends in New Jersey. One reason New Jersey has such low state tax is all the gasoline that is on Colonial when it gets to New Jersey has to come off at New Jersey because there is no place else to put it, and you can't dump it in the ocean so you have to sell it today.

Okay. So now you're at the at the terminal rack. Who pulls at the terminal rack? We talked about that. Dr. Hastings talked about the different distributions. You can either get one of the people such as Tim's members or mine who are generally wholesale or wholesaler retailers. They pull up to the

terminal rack and bring it to their stations or the customer's station.

The customer, if it's a retail customer at the end, it's called a retail dealer, either buys from his jobber or another distributor or member of the Petroleum Marketers Association of America, he buys from the major oil company itself.

Generally speaking in this country, for those who don't know it, the vast bulk of the major branded service stations you see in the United States, of which there are almost a hundred thousand, give or take, either way, are not supplied by the major oil company.

They are supplied by an independent branded jobber, members of the Petroleum Marketers Association of America.

DR. HASTINGS: Except on the West Coast.

MR. BASSMAN: We can talk about that, too. So when you get to the terminal rack, you have either the person buying the gasoline who uses a credit card, just as you use, to purchase the gasoline. A truck driver normally if it's a common carrier truck driver, he has a little thing like this full of cards.

He can either put in the Texaco card and get Texaco gasoline or put in the Exxon card and get Exxon gasoline, depending who he's hauling for, and the card

will be billed to whoever the customer i s, and that is how the gasoline gets to the station.

Now, if it is an Exxon station in Washington D.C., it will be an Exxon truck generally, sometimes they use a common carrier bringing it to an Exxon dealer. This is a divorcement state, if you will, but that will be a retail dealer that is directly supplied by Exxon.

If it's a Texaco station in the District of Columbia, it's a Texaco jobber who picks up his product at the Fairfax Terminal and brings it to a Texaco station.

Does that explain what happens?

DR. HASTINGS: Another useful thing that people might want to know about is the difference between branded and unbranded gasoline, so at what point does this gasoline become branded versus unbranded?

So let's say that you are Unocal on the West Coast or you're Tosco Corporation, who now owns it on the West Coast, and you sell both unbranded and branded gasoline. That gasoline could be refined by Tosco or any other refinery on the West Coast.

When it gets to the terminal, Tosco's going to post an unbranded rack price and a branded rack price. If you have a Union 76 Station, if you're a dealer for

example, you have to buy at the branded rack price, not at the unbranded rack price.

What makes the difference is an additive so two trucks can pull up to the rack. One is a Rotten Robbie or Joe Blow's Gas or something like that. The other one is a Unocal jobber and has a Unocal truck.

Gasoline can come out of the same spigot and an additive is mixed in to the tanker truck right before it leaves the terminal. The gasoline is the same to that point. One pays a premium and can officially sell it as Unocal gasoline, and the other one cannot post a brand name because they didn't pay the branded rack price, and they don't have a contract to sell that brand.

Many refiners, I might get in trouble for saying this, would claim that the additive is immensely important and that Chevron with Texron or Union 76 with Pro Power really does something very special to the gasoline which you should be paying a premium for.

An interesting story, at least I think it's interesting, is that at one point in Phoenix, this is the story I've heard, feel free to correct me if I'm wrong, Tosco owned both the Circle K chain. They also supplied to independents, and they also owned Union 76 branded gasoline.

They did not have an additive, and right across the street from each other, the Union 76 station could charge and get away with a premium for the exact same gasoline that was being supplied to an independent station.

Someone sued them on some type of consumer fraud something or other,, a lawsuit was brought, that this was not legal to defraud consumers. They think that paying for something and they're not, and so Tosco came up with something to put in the gasoline so that they could credibly call it 76 gasoline, if that gives you some type of idea about the differences.

I like to talk about that just to educate people because every time I get a topic on gasoline, people come up and say, you mean Shell really isn't different, why have I been paying for more it, and that's a fun debate, but it's an interesting topic.

MS. DESANTI: In the absence of a Tosco representative to respond, we will reserve the record open for any responses that are necessary.

DR. HASTINGS: I don't mean to pick on them in particular.

MS. DESANTI: I think that was very helpful. Thank you both. And I think that will be helpful for keeping our record clear.

Now, we have a number of representatives of independent marketers here, and I think it would be helpful for us to focus on their role, and I would like to through the floor open for you all to let us know what you think it is the FTC should be focusing on in this area.

MR. MCKEEMAN: If I start. I know I'll never finish, but you'll cut me off in time. SIGMA historically has represented what was known as the private brand retail industry, at least are normally large chains. Thrifty was one of them, who over the last 50 years competed exclusively almost on the basis of price.

I think the Sixth Court's opinion in Mobil Marathon back in 1981 said this was the market segment, and it was identified as the most price competitive segment in the industry. They don't advertise, and whether or not there's an additive in gasoline I'm telling you the price differential proves that it does pay to advertise.

It's consumer acceptance, all those things. The market still works. That's nice. But the reality is the private brand marketers have historically competed based on their marketing efficiencies. They invented stuff like self-serve gasoline in Denver many

years ago.

They have historically been high volume, relatively low margin operators. Their idea is to minimize the amount of fixed cost in a per unit sale price that has to be recovered. Make no mistake about it, they live on the marginal barrel.

It simply makes no sense, under any set of circumstances, for an integrated competitor to sell to its customer competitor at a price that will let that customer competitor beat its brains in in the street unless there is a decision made by the integrated marketer, that refiner market I'll pick out a refiner today, that if it doesn't make that sale, then that independent marketer is going to find that product someplace else at a cost that lets it do that and the refiner shrinks his volume.

The big problem private marketers have is we don't have stuff anymore. This country used to be long on refining capacity, and in those markets where it wasn't long on refining capacity, there was ready and easy access to foreign manufactured product.

Over the last 15, 20 years, we've seen a lot of stuff happen. The sources are restricted. There has been a substantial increase in concentration in the manufacturing end of our business. Moreover, due to

primarily things in the Clean Air Act, there are very significant non-tariff barriers in and the importation product which make matters worse not better.

So to make a long story short, the private brand segment has over the last 15 years substantially branded up. In the 1970s, and, yes, I was alive then, it's okay, I was -- I had hair then, but what we saw was that California was a hot bed of private brand retailing, and that reflected a number of things.

Number 1, California was a hot bend of independent refiners. They're used to be 10 or 15 independent refiners who supplied motor fuels to private brand marketers up and down the West Coast.

The California Air Resources Board to a substantial extent took care of that, and that doesn't make anybody bad. That just means there's no doubt that smaller facilities are more expensive to upgrade on a per barrel basis than bigger facilities, and as those independent refiners left the market, there were fewer marginal barrels around.

And you saw what happened to Thrifty happened to a lot of people. There were a number of very significant chains that used to be very prominent in California, the old Regal chain, Quick Land Family, Thrifty sold out. The reason is they couldn't make a

living finding product that was available to them at a cost that would let the marketing efficiency deal with retail markets, so they're gone.

The one thing I would ask the Commission to start to do rather, above all other things, is start to take a little stronger role on behalf of the consumer in the federal policy regulation process.

I understand the Environmental Protection Agency is not your responsibility, and I am not arguing that what's happening under the Clean Air Act is anything other than good for America.

What I'm telling you is it has consequences. As those marginal barrels disappear, the most competitive segment of the retail marketer has been disappearing, and with the consequence people probably are paying more for gasoline than they would if there was a greater source of supply.

I don't think people have adequately taken in that into account over the last ten years, and you could do a lot of folks a lot of good by taking that into account with respect to how you analyze things that land in Bureau of Competition.

Historically you all have concluded the terminal cluster analysis. We put a compass point inside a terminal, draw circles, and where they overlap

we figure we have alternative sources of supply. That is not necessarily true given the various fuels throughout the United States now.

Secondly, there has always been an assumption that fuels would be readily available from non-U.S. sources if we really needed it. Ask Jay and his friends in California what it takes to get a cargo of CARB II gasoline out of the Gulf Coast to California. It takes a big premium.

The second thing you could start to think about doing is taking a look at your remedies in some of these acquisitions. Historically everyone will stand up and say divest that refinery.

From the perspective of people who live on having a little extra stuff around, you may be in some instances better off to say, Keep that refinery but you keep it on the condition that you run it, upgrade it and make sure that a certain percentage of its production goes off into a non-affiliated market.

And I realize that the bureau of enforcement people, they want to beat their head against the side of a wall. I don't want to see that problem, putting it in its most technical basis. We don't have enough stuff in a lot of places when we need it, and as the sources of that stuff comes into fewer and fewer hands,

you are over going to have some roll outs that last summer seem typically rather than atypical.

(Pause.)

MR. BASSMAN: But anyway, if I can build on that a little bit there's a couple things. Dr. Hastings studies came up with some modest examples By the way, I thank you for that, it's a pleasure to read.

And the three conclusions seem evident. A lot of times economists take a lot of paper and a lot of statistics and say that's proof, and proof is important because otherwise it's just anecdotal, but let's talk about the three conclusions that were reached in the two studies.

First of all conclusion that has been so articulated summarized, very quickly, if I have a refinery and I have retail stores, I'm not going to sell at my wholesale rack price to some other retail source so they can be ahead. That was the conclusion of the -- with the Tosco purchase of the 76 stores.

The second one was, again saying what Tim said, that if there is a chain of independents that compete solely on price and it is tuned over so a branded, integrated vertically integrated manufacturer, in this case ARCO, the price of everybody goes up, and that was well documented in the study.

The third also and which was the last thing that Dr. Hastings said was we can show horizontally that where there are more competitors for Tim and my client members' business, more rack sellers, the prices at the racks are lower than where there are fewer.

California is the exemplar. When this was being put together, I really wanted Jay to be here because we talked about California in terms of shipping and what was the rest of the country -- one of the trends that we see in California for a long time, well before what we've talked about PADD V, the country is -- petroleum allocation PADD V is the West Coast.

PADD V has always had shortages and higher prices than the rest of the country and higher refiner margins. Why? Because Ben's people can't put a pipeline over the Rockies. You simply can't get fuel to PADD V from the rest of the country as easy as you can get anywhere else.

So in PADD V we've always had refining -- refining has always been a better business. Refining margins have always been well above the refining margins of the rest of the country, and the biggest cause of the price increases that we have seen in the past two -- April May June has been the environmental change over that we talked about, and you can see how

pipelines work on that.

When this happened last year in the midwest, well before you did your study, I was talking to an assistant Attorney General in Illinois who wanted to know why the prices -- when the prices would change and what was going on.

I said, Don't you worry, in nine days your prices will drop, and he started taking notes about the conspiracy how did I know. It's a nine-day pipeline run from Gulf Port Texas to the Chicago area, to the Chicago market.

It was a 50 cent premium on gasoline. You could get 50 cents more on gasoline in Chicago for that week than you could in Gulf Port. Everybody with barrels of gasoline to ship were shipping them to Chicago, and it takes nine days to get there, happened just that way.

So generally speaking the market works. There is no voodoo. There is no magic. The market does work. There are however some anomalies, we haven't taken enough account, the FTC has not taken enough account into the overlay of environmental regulations, and you really do have to do that.

But there are some areas where other things weren't looked at. One of the thing that Phil Verleger

talked about this morning, he talked about the terminal market on the Ohio River in Kentucky West Virginia. He told me at the break he only said that because Tim told him to say that.

MR. VERLEGER: Tim told me the story.

MR. BASSMAN: One company has been allowed to become a company with market power in that region, but that is nothing compared to the market power that same company has because of something the Commission allowed them to do just a few years ago, the same market power they have in the lower upper peninsula of Michigan, and they take advantage of that market power.

PMA is trying to introduce another player into this industry and to set up -- I'm sorry, for profit hopefully if it ever succeeds, sub to create a new supplier and new brand. They surveyed all their members throughout the country to see who was interested in buying product from this.

Lo and behold the two most interested areas of the country to buy this product new yet to be born player were California and Michigan. Why? Because the independent marketers in California and Michigan can't get any product.

Then we go back to the last part of what Dr. Hastings said about more suppliers to our marketer

clients, the prices are low. It's also true down at the wholesale and retail level. It's an old law of economics by French economist in 1833, the more sellers you have the more competition you have.

And because of the concentration that we are seeing upstream in this industry, and every major refiner since 1995, everyone of the 15 major suppliers of gasoline in the United States except one which is Sunoco, and we question why that is, everyone has either merged or tried to merge.

We have seen tremendous, tremendous concentration in this industry, and we're paying the price.

MS. DESANTI: Thank you. Jay, I'll get to you next and then, Justine, I'll let you had respond.

I do want to note just for the record that we don't have everybody here today who might be relevant in discussing these issues, and to the extent that there are anecdotes and stories and allegations of various things that are happening, I just want to note that the record is not in a position to be completely filled out, but to the extent that it's necessary later on and the Commission determines to do so, then we will do that.

Jay, go ahead. .

MR. MCKEEMAN: There are several things that I think the Commission could do or could engage in that would help fill their role as protector of the consumer.

First of all, as already has been touched upon, the issue is unbranded fuels, and especially in California, that is the white blood of the independent marketer, and access to adequate volumes of unbranded fuels at reasonable prices is -- that's critical to our survival.

There have been times this last spring when the street price of branded fuel has been lower than the wholesale price, unbranded wholesale price without tax. That's basically a 30 to 40 cent differential between retail price of branded and the wholesale price of unbranded, and that puts our members -- basically we've had members that have just yellow taped their pumps and said we're not in business while this type of market condition or this kind of price condition exists.

And the point there is the independent retailer is typically a small family owned business. They do not have the capital resources to maintain or withstand very many price situations like that.

In addition they're also confronted with environmental costs, and these go beyond the boutique

deals. We have a penchant for innovation and other environmental regulations like vapor recovery and underground storage tank requirements that are quite expensive to meet.

So we've kind of got the double whammy out there in the sense that we've got very expensive and continuing environmental expenses and then a market condition that stretches our ability just to stay in business.

So I would urge the Commission to look closely both in their role as protector of the consumer and in their role as evaluating mergers and acquisitions to make sure that adequate volumes of unbranded fuels are still available for supply, and that goes both to the issue of competition and pure barrels.

Really in the end that's the -- the more barrels we have, the chance of having unbranded fuels is greater. It's that simple.

MS. DESANTI: Well -- I'm sorry, go ahead.

MR. MCKEEMAN: The second point is something that we've notified and Tim alluded to is the decline of the independent marketer in California, and there is a practice that's employed by the major oil companies in their contracts where they basically contract out the ability of independent marketers to grow in the

branded market.

It's something that's called red lining that basically in the contracts, the branded suppliers say that they will dictate whether you can grow or maintain your market share within a market.

So if you're a branded jobber, you're totally at the discretion of the supplier to maintain your market, and with the compression of alternatives or the reduction of alternatives, that makes it harder and harder for our members to actually find new brands or to figure out exactly what they're going to do in a market, and that will lead in reduction of market by attrition very simply.

Third, I would suggest that the Commission needs to take a little bit different view on our customer base. Not only do we have retail outlets but we provide fuels to farmers, to construction sites, to local governments. These are -- in rural areas. These are markets that have low volumes, are difficult delivery runs and a very limited ability to pay the significant price increases or spikes that we see in the state.

And without the independent marketer, I doubt that those marketers are going to get served. They're going to have to drive further. They're going to have

to pay more for their fuels because our ability to operate efficiently will disappear, and I just ask the Commission to understand the plight of the small volume purchaser in their consideration of both the market and mergers and acquisitions.

Finally, there are some things that the Commission should look at, and I know you've done this before, but things like credit line protection. When two companies merge, typically the credit line that an independent marketer has with both companies, two plus two does not equally four. The credit line gets shrunk, and in these days and times, it's difficult to get outside credit so protection of credit lines is an important issue.

Adequate remuneration for loss of brand value, allowances for branding, rebranding or reimaging is very important, and the willingness of companies to provide unbranded fuels under contract or other creative ways of allowing our members to continue to purchase unbranded gasoline is also a test for us in the sense of are we going to be able to do fixed forward contracts or maybe mid max or something like that that helps protect our members from the steep conditions in the market.

We thank you for inviting us and appreciate our

opportunity to present our viewpoints to you.

MS. DESANTI: Thank you. I have one quick question as a follow up. Then we'll go to Justine and Mark and Tom. The quick question is at the very beginning, towards the beginning you mentioned a situation that I think you've called inversion sometimes, where the wholesale cost to the unbranded guy is higher than the branded price on the street.

And my question is this: When that happens, are independent marketers constrained from switching to branded fuels in the short run for some reasons that are contractual or otherwise?

MR. MCKEEMAN: Well, I can let Bob or Tim talk to those, but basically you need to have a supply contract with a branded marketer, and that takes time to get, so you also lose your ability to shop for the unbranded -- the cheapest price of fuel at that plant as well.

MS. DESANTI: Justine?

MR. BASSMAN: Just to follow up on that very quickly. I also think in markets where there are jobber dealer owned stations, for the branded or unbranded, one jobber can hold supply contracts from many suppliers at the same time. That facilitates switching to be able to supply the unbranded station

through its supply contract with the branded refiner.

In those market though you don't see the rack price in person, so it's in California markets where jobbers or dealer owned stations are such a small percentage of the market. You're seeing these rack inversions, and it's precisely in those markets that jobbers don't hold enough of a portfolio of supply agreements because there aren't enough dealer owned stations to supply that they can't do that type of switching.

So that kind of ties in with the main point that I wanted to make. A lot of people have brought up the idea that having different types of fuels or the EPA regulations have caused higher prices in many markets because of supply shortages, et cetera.

I want to make that point distinct from the point that if we had the same type of fuel across the board, we would then see a return to competitive pricing. There's a step that's missing in between in that logic, namely that it is perhaps the case and it is the case in California because of the environmental regulations, the market structure has changed.

Now, we're in a new equilibrium. Suppose we got rid of CARB gasoline tomorrow? Would that bring prices down in California? It might not for the

following reasons. Suppose we brought a pipeline from the Rocky Mountain states in to California.

If you're looking at markets where 90 percent of the stations and greater than that in volume are owned -- like the station itself is owned by the refiner and directly supplied by the refiner, why does that refiner have an incentive to bring in gasoline to lower the price?

Well, we can see that they don't. That's why they're sustained price differences at wholesale racks within California. They're able to price discriminate at the wholesale and retail level within it, so if environmental regulations have, as Timothy said, caused independent retailers to sell their station to branded refiners or to brand up so to speak, you may now be in a situation where if you got rid of the violation regulation to bring supply from outside there is -- it's not economically feasible for that to be done because there aren't enough retail outlets to sell it through that aren't already owned by the refiners who are obviously profit maximizing with the current situation.

So I don't think that's the case in many of the other markets. I don't have data on retail composition in the midwest, but let's say Dallas has a reformulated

gasoline requirement and Austin doesn't. That market has not moved to a regime where you have 80 to 90 percent of the stations owned by the refiners. It's the reverse. They're owned by jobbers and not as many by refiners.

So in that market perhaps there would be a benefit to having the same type of gasoline in order to increase competition. I don't see that many problems in that market. It's a very competitive problem, so I just wanted to make the point that just because environmental regulations may have caused the situation we're in, it's not the case of getting rid of them or making them more uniform is going to get us out of the situation we're in because the market has now proved to be a different equilibrium market structure.

The second point I wanted to make is also on the raising rival's cost scenario where firms have the incentive to raise the cost to independent rival's, this also assumes the ability to do so.

The FTC should be concerned about mergers where a company is going to gain a significant increase in their retail market share, their competition with independent marketers if they are in a concentrated enough market that they can't raise the price.

So Austin, Texas, would not be a concern. The

reason is because there are many unbranded competitors in a core equilibrium where you have 13 people competing at the rack, if one decides to hold back supply a little, you're not going to see a change in price.

If you have three people competing at the rack you will see a big change in price. That's just a basic core outcome. There's an interaction between that result. And the number of upstream competitors.

MS. DESANTI: Thank you. Mark.

MR. MARK COOPER: Justine's conversation gets me pointed to where I wanted to go, and I have two observations, simply stated market fundamentals matter and market structure matter, and I have a way of saying this to people.

I say I believe firmly in the Ed Meese, Landees and Posner (phonetic) tests, and I use the Ed Meese test, and actually when I described it to him early on as the Attorney General, he published a new version of the merger guidelines, and in those merger guidelines, as you well know, we defined a market as in order to be unconcentrated you have to have an HHI of a thousand or less.

Now, that is the equivalent of 10 equal sized competitors, and I have taken that and given Ed Meese

credit as one of the great consumer advocates of my time in Washington, because ten equal sized competitors is a place I will say I am happy to live, and I have taken that 10 equal size competitors to heart.

And every time I see an industry with fewer than 10 equal size competitors, I say, I'm worried about market power and I wish this agency would take that as seriously as I do. That's the Ed Meese test. That's the market structure test, and I encourage you to really take it seriously from now on. You will stop an awful lot of mergers if you do an HHI of one thousand.

The Landees and Posner test is the following: Go back to the famous 1981 article on antitrust, and you will see this in the gasoline paper, and especially in the electric utility papers that I've been doing, they discovered that if the elasticities of supply and demand are less than one, then market power is inevitable.

The formula comes apart in their words because market forces that we always talk about are supply and demand elasticity, and when they're less than one, it always makes sense to raise prices. Mr. Niskanen used an example -- he described the elasticities of supply in the gasoline market, and I think his short one was

.2 and his long one was .4, which is about what the literature says.

And so this is a market in which -- the demand side is even less than that, in which the market structure and the market fundamentals are prone to problems, and you really need to look carefully, and you've seen all of the examples here. This question of you have to look at horizontal concentration and you have to look at contracts, not only ownership, you have to look at vertical because it gives you leverage.

So I would encourage the agency -- I have a specific idea for you. Take the ten most expensive markets in the country and the ten least expensive markets in the country, and analyze the supply train into those markets, refineries, transportation, terminals and stations, do them, apply the Ed Meese and Landees and Posner test, and you will find why the price of gasoline in California it a buck more than it is in some city in Ohio that's Senator Metzenbaum drove through and couldn't believe the prices.

So as straight forward and classic analysis, which this afternoon was all analysis, the morning was all rhetoric unfortunately, but the afternoon was all really solid observations about what effects market structures and fundamentals.

MS. DESANTI: Mark, I know now that your perception of what is being discussed depends on how well it coincides with your point of view. Tom?

MR. BROWN: I would like to mention three things. First of all I would like to thank Bob Bassman for saying the market works because it does work. It's all based on supply and demand, not maybe what we heard down at the end of the table but it does. It's probably the most competitive industry we have in the United States today, and it's just fundamentals of supply and demand.

Bob mentioned there's 100,000 service stations in the U.S. actually, the number is 175,132, so it's even more competitive than maybe most people think, and since we have a general audience here from the public, I guess that would be an interesting figure for you to keep in your mind. It has reduced a little bit. I think it was about 500 stations more last years so the decline in the number of stations is low I think.

Secondly, since this is a marketing session, Mr. Niskanen mentioned some excise taxes, and American Petroleum Institute publishes a brochure entitled how much we pay for gasoline. It's an up to date, good brochure that everyone in this room should have, and it will give you the latest and greatest excise taxes by

states.

The other issue I would like to raise is Jay mentioned underground storage tanks. I would like to give the FTC some background on that. Environmental Protection Agency required underground storage tank owners and operators to meet new tank standards, upgrade or close all substandard underground tanks by December 22, 1998.

API member companies reached compliance with the EPA's December 1998 requirements and are committed to stay in operational compliance.

An issue of great importance to API is that the EPA recently estimated around 15 percent of the underground storage tanks do not comply with requirements. API members feel very strongly that any location that is not in compliance should no be put into operation. Further API has been a strong supporter of state laws and regulations that prohibit deliveries into tanks that are not in compliance.

API member companies have spent over 1.6 billion dollars upgrading 60,000 tanks to meet EPA's December 22, 1998 requirements.

To ensure a level playing field in the marketplace and in order to continue to provide quality products to consumers in a timely fashion at

competitive prices, it is incumbent upon the EPA to ensure that all U.S. tease are brought into compliance.

Allowing any entity that fails to abide by the EPA requirements to operate out of compliance erodes the value of the significant investments incurred by those meeting EPA's requirements and committed to ensuring the environment to protect it.

It's just an issue I wanted to raise.

MR. DESANTI: Thank you. Mr. Niskanen?

MR. NISKANEN: Two points. The elasticity to which I referred were demand elasticities, not supply elasticities. I did not make any mention of supply elasticity. My own views is they're very close to infinite in the long run.

Second, a question to Dr. Hastings. In the paper published in the volume, you concluded by saying the impact to vertical market structure in wholesale and retail prices is in general difficult to predict.

And then you say "thus investigation of the impacts of vertical market structures requires a careful empirical analysis that is guided by theoretical predictions."

Now, the implication of that to me is we really don't have any guidance to give to the FTC about which vertical mergers or even which horizontal mergers it's

important to investigate in this industry because the theory doesn't suggest whether there's a direction for concern about it at all.

In the particular study that you did you found that the prices were raised by vertical integration, but you conclude by saying that you can't predict that ahead of time, and it looks as if maybe your trying to create a business for yourself for the rest of your lifetime to make sure that there's a carefully empirical study guided by good theoretical considerations on every proposal in this area.

I presume we've got more to say on this matter than that. I just don't know.

DR. HASTINGS: Shall I go ahead?

MS. DESANTI: Yes.

DR. HASTINGS: So I think the point of that sentence is in the economics literature, there has been an intense debate over the effects of vertical merges and the effects of vertical integration or the vertical component to horizontal mergers on wholesale prices.

There has been to date no empirical analysis on this topic. We provide that careful empirical analysis, so what it's saying is that first half of the paper, the theoretical section, says here's a debate that's set out. Here's a model that follows in that

literature.

Now, we notice that this seems to be a hot debate in regulatory circles or in industrial organization. However, because industrial organization, the field, has focused mostly on theory, in game theory we have not taken and looked at this in an empirical way to find, Is there evidence that we even see raising rival's cost.

This paper says, yes, there is so that's kind of the context in which that statement was written.

It does not mean that we cannot say anything ahead of time. I think we can say something ahead of time for a lot of mergers, so, for example, this merger would have -- or I mean, this analysis would have implications for Diamond Shamrock's merger with Valero or other ones, so what we're suggesting is the empirical literature should grow in this area so we can instead of just doing theoretical models have real empirical evidence that supports the theory one direction or the other.

Two -- can I make my other points for which I have my sign raised or should we go on?

MS. DESANTI: Let me just ask Chris Taylor to follow up, and then I do want to bring in Todd Spencer with his perspective, so I think we'll try to keep this

relatively brief, but I believe you had a follow up question.

MR. TAYLOR: This is related to what you were just talking about. In both raising rival cost theory, and this relates to something that Dr. Williams was saying, that maybe we do the opposite of what we did in the saying, there's a trade-off between the increased efficiency of the vertical method by eliminating double marginalization, but then there's the potential for raising the other firm's wholesale price.

And the only way to really judge about whether there's consumer harm is actually looking at consumer prices, so I was wondering if in effect have you looked at both wholesale and consumer and retail prices at the same time, since your paper really looked at retail prices, you didn't actually examine the wholesale prices in the same markets, and the paper where you looked at retail prices there was nothing about -- excuse me, wholesale there was nothing about retail.

And I guess I was interested in some of the background for this conference. In reading some of your papers, we looked at the paper you're looking at it in terms of retail, there was a price inversion and some extreme fluctuations in unbranded gasoline during that period.

So I was just wondering if you would comment on, Dr. Williams, if you would like to as well, at the importance of examining both wholesale and retail prices in the context of vertical integration.

DR. HASTINGS: Okay. So there are a couple questions in there. The one I remember most recently, you're going to have to remind me exactly what you asked, was for the retail paper let's say.

You noticed that there were some fluctuations in wholesale prices around that. Yes, I did look at those, and that's one of the great things about the research design, so there may have been an overall -- and in fact there was an overall increase in price in those markets, Los Angeles and San Diego at all stations.

And the five cent increase in local retail prices is identified above and beyond that, so what you just pointed out is maybe there's higher wholesale prices for the period -- the very first period right before.

If you have read my paper carefully, you can look at the two graphs, I'm not saying you haven't, but you can look at the graphs that show price differences between stations in the treatment group that were affected by the loss of an independent competitor and

those in the control group.

Those prices track for about -- I actually have pulled them out to the previous October so for a long time, not just right before where there was an increase in wholesale price.

Secondly the Thrifty stations were distributed as it says in the paper evenly among different types of competitors. You may be concerned, aside from the fact that the graphs already rule this out, that there was a temporal change at jobber supplied stations that were branded around the same time.

Thrifty's weren't located all near jobber supplied stations. Any kind of wholesale shop would have affected the treatment stations and the control stations evenly. If anything it might add some noise, noise because of that fixed effect estimation. And within the regression analysis, the five cent differential is identified above it, beyond that. That's one question.

What's another question? I can't quite remember. Sorry to be technical.

MS. DESANTI: Before we get too far into the clicks, we're going to pull us back to earth and get a real consumer perspective here.

Mr. Spencer, would you like to add your

thoughts to these issues?

MR. SPENCER: Certainly, and actually I can kind of -- I can rationalize, but I remember a lot of the instances from the 70s, and my perspective comes from that of a small business trucker running throughout the country, 125,000 miles a year in a truck that gets roughly four miles per gallon, and diesel fuel is by far the largest expense per year.

Our organization represents 67,00 owner operator small business truckers which is significant, but our industry overall, 80 percent of the truck, all the trucks are owned in the large -- the large trucks that deliver the major products are owned by people who own six or fewer trucks.

And this is an industry that is dramatically impacted by fuel prices, energy costs, and it has been since this first became an issue.

It's key for us because ours is an organization that grew out of the very first Arab Oil Embargo in '73 and '74, and then trucks simply shut down because the price of fuel doubled virtually overnight. We heard people talking about black market fuel and you could buy fuel then for a dollar per gallon and we'd been paying on the area 29 cents.

Those were the stories that floated around.

People said, We're going to be totally out of fuel by 1980. Well, we didn't run out of fuel by 1980, but we did get nailed again with tremendous increases in price in 1979 and some 40 percent of the trucks stopped then simply because there wasn't money to offset those increased costs.

Now, both of those instances Congress saw fit to address the issue in giving truckers a mechanism to pass along the increased cost. Trucks don't do discretionary driving, and if we all want things we're going to have in the stores to eat to wear, anything else, you better hope the truck driver can afford the fuel to get to the store.

We don't have that environment anymore where law makers are eager to jump in that situation. They say, Well, let the markets work. I think there is -- this is an example where markets work, but markets have become very, very proficient in maximizing profits and when it comes to oil and fuel and end user products.

Our people see that at every level. In the 70s we talked to small fuel distributors that talked about the independents, the independent fuel stops are being run out, and we've seen that since then. There are less and less competition. For our folks the highest fuel cost state has always been California, and it's

that for a number of reasons.

One, there aren't many outlets out there. There aren't many, and I suppose CARB regulations have an impact on that. They specifically effect diesel fuel and for diesel fuel it never makes since to me where CARB regulations come into place simply because the truck that delivers in Los Angeles bought his fuel in Arizona or Colorado or Oregon.

So why would there be higher fuel requirements and costs just for California when most of the trucks come from outside anyway? When it comes to diesel, I prefer to think that that's a regulation that doesn't really have any practical benefit.

That's one of the reasons costs are higher. There are fewer stops out there, and big oil companies I'm quite certain play a role in their being minimized competition, but the local communities do as well. They don't want fuel stops -- no one wants a truck stop anywhere, and of course when this debate about refiners and stuff comes up, people don't want it in their big yards. They don't want truck stops in their backyard either, but if you don't have competition, if you don't have suppliers, you're going to have higher costs.

I mentioned awhile ago I believe that everybody has become very good at maximizing their profits, and

their is almost no reason for inventories to be around. They say it costs us money, but it also creates the opportunity where they can respond very, very quickly and increase their cost.

Our members saw that most significantly the winter of '99-2000 when there was a two-week increase or drop in the temperature in the New England in what was the warmest, the warmest winter across the country in this whole century, and the prices of diesel fuel went to 2.55 a gallon, and the prices of home heating oil went way up, and people hollered and screamed and made no sense to me, although I was kind of shocked because I was shocked because we talk about being able to predict things.

Well, we look at inventories. Inventories were down then for heating oil and people say, Well, they were betting on another warm winter. Well, it was a warm winter, and we got gooned anyway. Mr. John Felmy with the American Petroleum Institute said earlier, in his comments this morning, that heating oil level inventories reserves are down now below where they were last year.

I think these things really are predictable, and the scenario where price spikes can occur that devastate the economy, devastate our people

specifically over the past 18 months, 200,000 heavy duty trucks, the big trucks have been repossessed, repossessed. 200,000, that's a 10th of a whole over the road truck fleet.

Thousands and thousands and thousands of small businesses are gone. Over 5,000 big trucking companies are gone just in the past 18 months, and of course this is an industry that everybody needs badly if we're going to have what we eat and what we wear.

And even the government plays a role in there. If you go back to 1980 and look where taxes were, 4 cents a gallon federal tax, and I don't know that any state had a state fuel tax that would be any closer to 8, 9, 10, 12 cents a gallon max.

Now, it's between 40 and 50 cents tax at the state level, another 6 cents on top of that for diesel, and I don't know if FTC can do anything to promote competition between states and government entities with their hands out, but we do need to see some competition in that area.

And I think there needs to be some things done to stimulate competition between the suppliers and the retailers of fuel because I don't see any other way to hold prices down and to address the situation where we are today.

Our fuel, our energy crisis for the end consumer will keep coming back. It has since 1974. We forget about it when prices go back down again but it will be back. Hey, we're all good Americans and good capitalists. We learn how to make money, and the people in this business have become very good in knowing where to find it, knowing how to maximize profits.

I believe there's a role for FTC.

MS. DESANTI: Thank you. Phil Verleger, I would like to bring you in at this point, and I have a couple follow up questions in addition to whatever it is you want to add here.

MR. VERLEGER: I was just going to make a comment following up on what Chris Taylor was saying, and that is as I read the report the agency has already done, is you want to differentiate between the impact of an action on competitors and the impact of the action on consumers, and this afternoon we've heard a great deal about the impact on particular segments of the retail marketing industry, and hidden behind that is the potential for entry which is something that one also looks at.

And in particular I think hidden in this is the role of the very big hypermarkets, and what their

potential -- as I said the French had this argument between 1985 and 1995, and in 1985 there were no hypermarkets, and 50 percent of the gasoline was distributed by independent businessmen.

Now, the independent businesses are essentially gone, and the hypermarkets have about 60 percent of the market, and the consumer has realized fairly substantial gains in France.

In the United States we are seeing Wal-Mart, Costco, Albertson's, Kroger and a number of other companies coming in, and what has happened is that the margins are sufficient that these large companies will come in, and they do offer the consumer substantial, very substantial savings, sufficiently large that we're seeing the consumer's search expand dramatically.

In Los Angeles in some areas there are now Costco's that are underselling the general price by 30, 40 cents a gallon. The volume I know on a couple of the hypermarkets in Las Vegas are now running a million gallons a month versus 220,000 gallons a month, and the consumer is clearly benefiting from this.

So what we're talking about is some small competitors, some of the smaller people are going to be put out of business by these, and they're bringing through substantial price reductions.

I doubt there is substantial resistance we've seen in the UK from the integrated companies to do this, but the integrated companies resisted by having to match their prices, so that Exxon has what it's called price watching in the UK and that they keep their prices down.

And again the benefits have flown through. The one area where one -- where this could be stopped and it's certainly slowing things in California is the access to terminals. It is hard to bring in CARB grade gasoline to the southern California on the ship. There's not enough terminaling capacity.

And to the extent that terminals -- it's impossible to move product, and again it may not be possible to get it into the terminal areas, that is a barrier to entry. That's why I came this morning, I was focusing on. I think the critical facility area question is really access to terminal.

But I was coming back to, I thought that was what Chris Taylor was raising, the issue that really is what are the impact of consumers versus what is the impact on competitors.

MS. DESANTI: Thank you. You covered the two points I was going to ask you about. Mary Coleman.

DR. COLEMAN: Yes. I wanted to make a couple

points. We've been focusing a lot of this discussion on the independent retailers, and lost I think a little bit in the analysis is that there's significant competition among the branded retailers.

And while their prices tend to be higher than the unbranded retailers, there are things that consumers seem to be willing to pay for that -- not only just the additives, but also the programs that the branded companies are willing to put behind their stations in terms of credit cards and providing access to the types of stations that consumers want to go to.

Another thing I also wanted to bring up again, as a bit of a counterpoint to some of the conversation that has gone on, is that we've been talking a lot about the mergers that have occurred during the 1990s, and what should not be lost in that discussion is some of the rationale for those mergers are that the refining and marketing industry in the middle -- early and middle 90s was at very low profitability rates for most of the major marketers and in general.

And one of the impetuses has been, and it's been discussed publicly by many commentators, behind the merger activity is a desire to combine and try to get costs out of the system, and that has been a main impetus of much of the merger activity that's gone on.

That is not to say there cannot be other effects of that activity, but it's something that shouldn't be lost in the analysis.

MS. DESANTI: Thank you. We have people who have been waiting for awhile. Justine?

DR. HASTINGS: I wanted to make just a couple really quick points. One is I think the FTC for a little while was getting the short end of the stick or is getting beaten over the head, so I want to make a statement that ties in to terminal supplies, it did make a really good decision on challenging Equilon's purchase or request to purchase GatX, which is or was or the last independent distribution terminal in Los Angeles.

And they did that on the basis that having that independent distribution terminal purchased may increase the cost of securing supply for independent marketers, and we have evidence that there's independent retailers lower retail gasoline prices so that was a very good decision. I wanted to put that out there.

And the other thing I wanted to make is the point -- and some of these are a little out of context because I wrote them down while other things were being said. A while ago I heard a lot of that all of this is

just supply and demand. Supply is supply. Demand is demand, and supply and demand interact, and that's what gives you prices.

Well, supply is supply only in a perfectly competitive market. Otherwise supply is a strategic choice variable. That's the whole point of oligopoly. If the number of firms is smaller than some amount, supply becomes a strategic choice variable, so it's no longer supply is supply and demand is demand.

Supply is no longer a supply curve. It's a point, a profit maximizing point from a reaction function for these various firms. So when we're talking about supply and demand, we need to keep in context when supply is just supply and when it's actually strategic choice variable. That's it.

MS. DESANTI: Bob Bassman?

MR. BASSMAN: Just a couple quick things, one which will end up just about where Dr. Hastings is at. First, Tom, I said a hundred thousand major branded outlets, okay, and there are about 73,000 supplied or independent or branded jobbers.

Second, and that's what Dr. Hastings just said, markets do work when there are free markets. When there aren't free markets they don't work. The California example is the kind of example we don't want

to spread to the rest of the country. It's too concentrated. There's not enough competition either at the refining level or the distribution level.

And third, because of that, the Commission has gotten inventive in other areas. The classic example is the actions taken in judging the Staples Office Depot perspective merger which the Commission finally came down against.

Using out of the box things, not just looking at the office supplies, but the market was big box office suppliers, doing work wonderful to come up with what the results would be.

That same kind of out of the box thinking, let us not just use the HHI as we have done in the past. What is indicated here is in really very, very concentrated with an overlay of in those retail markets, and a lot of people here put up a lot of good things in the pending mergers now before the Commission and just competitive investigations and complaint investigations the Commission needs to do.

We can't do what we did before. We've got to look at the new world differently just as was done in Staples Office Depot.

MR. DESANTI: Thank you. Mark?

MR. MARK COOPER: The point I was going to

make. I was accused of not believing in markets. I am a capitalist. I believe in markets. The problem is people keep telling me there are markets when there are no market forces, that is independent supply, and there is competition without competitors. That was just a small point.

I really do, and I always analyze the market. The really interesting thing, I want to get back to your work at the Commission. We heard that there are 175,000 gas stations. That's a great PR shot, and it confuses all the reporters.

But the answer is the average American consumer probably buys 90 percent of their gasoline at three or four stations, so gasoline markets are local markets. They're city markets and may be even smaller than that, and you have to define your markets properly.

Second of all, you have to take your supply and demand elasticities as your fundamental because they are about as conservative as you possibly could get, so let's calculate what supply elasticity you need in gasoline markets where the demand of elasticity is pointed to. You need an awful lot of supply function in order to discipline that.

Final point, storage. I've actually been given today the definition of how much storage I want as

public policy. And I can define it precisely in each market and it's the length of the run on the pipeline, and basically if I know it's nine days, then I want that market to have a nine day supply because when it gets short, someone ought to be putting it.

In a competitive market someone is putting it in that end, on the other end before the price starts to go up because they don't want to lose their business on the other end.

MS. DESANTI: Tim?

MR. COLUMBUS: A couple things. Number 1, all the behavior we described that some of us find disconcerting --

MS. DESANTI: Move closer to the mike, please.

MR. COLUMBUS: All the behavior we've described today which you might even find disconcerting, doesn't make the people engaged in this bad folks. It makes them business folks. Every one of my clients, given the opportunity to get a competitor out of the market would do it in a heartbeat. , absolutely, positively. Doesn't make them bad folks. It makes them business folks, how the world looks.

Secondly, it is a supply problem. Everything you talk about, this is going on, this is going on, we have markets and group. You don't have market

inversion. There's a whole bunch of supply around inverted prices on wholesale racks, whether that be branded or unbranded, very simply is a reflection of allocation and shortage by price.

That's all it is. Doesn't make anybody a bad person sensible way to go about it. The concern you ought to come up with is where do we go from here. Bob accurately describes about California -- this is nothing new in California. The president of my client is the guy who runs Rotten Robbie. He is Rotten Robbie, and he looks over to me and says, You guys are going to have to get used to it, it's on the way.

California has been a supply island for awhile. My concern is when the Commission does its analysis of what's going on in the rest of country it recognizes that we are in fact isolating ourselves from the world. We have a highly concentrated base. That's not necessarily bad. That's just reality, and three may be a thousand reasons for that.

But if we're going to get lots of product from offshore, I want to tell you two things to think about that. Starting in 2006 we're going to get 15 parts per million diesel sulfur content. The Canadians are going 50 parts per million in 2004, excuse me, 2005. Europe is at 50 parts per million.

But it is a quantum difference to make 50 parts per million and 15 parts per million. It is an order of magnitude or more in terms of complexity and cost. We're not going to find a lot of 15 part per million diesel fuels floating around in the market unless the U.S. market is paying a fabulous, fabulous premium for it.

When you look at gasoline, Europe is at 100 parts per million of sulfur content. Canada hasn't gone there. These are the markets are pooled from when markets were short.

So don't be surprised on what's going on. Just when you're doing the analysis, the assumption has always been if it's not made right here, then this much price spike is going to draw plenty of stuff. Don't count on plenty of stuff as being an alternative.

I want you to go over and pet the guys at the division on the back selling VISA and MasterCard. Having a pet project for people to look at, I want somebody to tell me what I'm supposed to tell our clients about a server that the consumer demands, make no mistake about it -- probably 80 percent of credit card sales made at the pump, at least my folks, are made on VISA or MasterCard.

We for the life of us can't find anything to justify the prices, other than you know why they do it? Because they can and again, it may not make them evil people. It makes them business people.

But if you're looking at things and say maybe giving a consumer a break, final point to Dr. Williams, you talked about the major concerns about dual marginalization, and I understand that.

I would urge you to think again in light of Safety Con. You remember the United States Supreme Court overturned vertical resale, maximum vertical status as a per se violation, and you would be surprised how many strong competitors who fly oil company flags today make sure that they're able to compete on an inter brand basis is done by agreement and under contract with -- if you sell at this price this is your cost. If you sell at a higher price, then that is your cost, thereby taking out the opportunity for that double margin.

Again that doesn't make anybody bad but the phenomena they think about is I think it's very real for a long time. Safety Con took care of a lot of that.

MS. DESANTI: Thank you. We have five minutes left, so I think we will give, Darrell, you an

opportunity to speak, and then we will end where we began, with Mary Coleman.

MR. WILLIAMS: Actually I'm not sure whether you're saying State v. Safety Con was consistent or inconsistent with my comments. It's actually consistent with my comments because it provides another tool for manufacturers to resolve the double marginalization problem.

But the other comment that I wanted to make, the more general comment, which is just following up on what Mary said earlier. I know this conference is about the level of prices, but manufacturers, especially at the retail level, compete in a number of non-price ways, and I'm sure the FTC have a number of able economists will take that into account.

But much of the discussion here has talked about the distinction between independent and branded products, when in fact the price differential would be expected there just given the existence of the brand.

And brand names as we all know as economists serve important functions in the economy, and they are pro competitive in many ways, and that differential

reflects the benefits to consumers, and I didn't want to us to lose site of that general point.

MS. DESANTI: Thank you. Mary?

DR. COLEMAN: I just wanted to make a brief point about the discussion about having so much storage capacity and having so much inventory at whatever levels that one cannot lose site of the fact that while that may be useful potentially in helping to alleviate short-term disruptions, there is a cost of the inventories, and that cost will then be reflected in the product.

And so to the extent you hold more inventories, you will potentially drive up the cost of the product as well.

MS. DESANTI: Thank you very much. I really want to thank all of you panelists who have contributed so much. We've learned a lot today. I'm sure we will be thinking and chewing on all this for quite some time.

We are now adjourned.

(Whereupon, at 4:24 p.m., the hearing was concluded.)

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C E R T I F I C A T I O N O F R E P O R T E R S

CASE TITLE: FACTORS THAT AFFECT PRICES OF REFINED PETROLEUM PRODUCTS WORKSHOP, No. P010101
HEARING DATE: AUGUST 2, 2001

WE HEREBY CERTIFY that the transcript contained herein is a full and accurate transcript of the notes taken by US at the hearing on the above cause before the FEDERAL TRADE COMMISSION to the best of OUR knowledge and belief.

DATED: AUGUST 9, 2001

CONSTANCE A. WILSON

DEBRA L. MAHEUX

C E R T I F I C A T I O N O F P R O O F R E A D E R

I HEREBY CERTIFY that I proofread the transcript for accuracy in spelling, hyphenation, punctuation and format.

DIANE QUADE