NATIONAL PETROLEUM COUNCIL

112TH MEETING OF THE NATIONAL PETROLEUM COUNCIL

Salons I and II
Grand Ballroom
JW Marriott Hotel
1331 Pennsylvania Avenue, N.W.
Washington, D.C.

Thursday, September 25, 2003
2:30 p.m.

National Petroleum Council Members

BOBBY S. SHACKOULS, Chair
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and Chief Executive Officer
Burlington Resources, Inc.

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Chairman and Chief Executive Officer
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Secretary of Energy

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Assistant Secretary for Fossil Fuels

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JERRY J. LANGDON
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DAVID MANNING
Chair, Demand Task Group

MARK SIKKEL
Chair, Supply Task Group

SCOTT PARKER
Chair, Transportation and Distribution
Task Group

A G E N D A

1 P R O C E E D I N G S

2:34 p.m.

Call to Order and Introductory Remarks

Bobby S. Shackouls, Chair

CHAIRMAN SHACKOULS: Good afternoon. Would the 112th meeting of the National Petroleum Council please come to order.

I'm Bobby Shackouls. I currently serve as chair of the Council.

Welcome to all of you, members of the Council, honored guests, and members of the press and public. We have what we hope will be an interesting and worthwhile session for you today.

We also have what has become familiar to many of us but is new to the NPC, and that's an audience listening via webcast. The Internet audience will be able to follow along with our presentation today, and then they'll be able to download the slides and the draft report after the meeting.

The webcast experience is partly in response to the national interest in natural gas and partly to allow members unable to attend the opportunity to hear the presentations and the discussions live.

For a number of reasons, this meeting was called on relatively short notice, for which we all apologize. I know that there are a number of members

out there listening today. I've talked to several of them, and I'd like to extend them a special welcome.

In that regard, I'd like to ask all of you, as an administrative matter, just to turn your cell phones off while the meeting is going on because it will disrupt the webcast.

For the members of the Council in the room today, the check-in outside the ballroom will serve as our official attendance record. If there is no objection, I will dispense with the calling of the roll.

Any member or observer for a member who has not checked in, please do so after the meeting so that we'll have an accurate record of today's attendance.

Our primary business this afternoon is to review the work of the Committee on Natural Gas, discuss their findings and their recommendations, and vote on adoption of their report as a report of the Council. For this purpose, we've assembled at our head tables the leadership of the study effort.

To my right are the officers of the Gas Committee and the Council. Beginning on my far right, I would like to introduce Rich Kinder, Vice Chair, Midstream.

Next is Bob Card, Under Secretary of Energy

and Government Cochair of the NPC Committee on Natural Gas.

Next is Bob Catell, Vice Chair, Demand.

Next is Cal McSlarrow, Deputy Secretary of Energy.

Next is Lee Raymond, Vice Chair of the Gas Study for Supply, and Lee also serves as vice chair of the Council.

And then, on my immediate right, is the Council's government cochair, Spencer Abraham, Secretary of Energy.

Our table to the left represents the group that has worked almost nonstop for about a year and a half to make this day possible.

First is Jerry Langdon, who chairs the Coordinating Subcommittee.

Next is Mike Smith, Assistant Secretary for Fossil Fuels, who serves as the government cochair of the Coordinating Subcommittee.

Next is David Manning, chair of the Demand Task Group.

Next is Mark Sikkel, chair of the Supply Task Group.

Next is Scott Parker, chair of the Transportation and Distribution Task Group.

And then, on my far left, is Marshall Nichols, Executive Director of the Council and Secretary of the committee.

Before we get to the Gas Report itself, our first agenda item is to hear from the Secretary of Energy. As we all know from reading the papers, the Secretary has just completed a busy and very productive trip to Russia.

Less than five months ago, when the Council last met, natural gas was in the process of moving from an issue of importance to just a few of us to an issue that was on the front pages of most newspapers around the country. This was highlighted by Chairman Greenspan's testimony on the subject before two congressional subcommittees.

You, Mr. Secretary, understood the potential crisis and asked the Council to organize a natural gas summit to address the urgent supply, storage, and consumption issues that we faced. The summit was held a month later with tremendous participation from a number of interested parties and was very successful at increasing the awareness on this very critical issue.

Over the summer, favorable weather conditions and market forces have pushed natural gas storage back up to near normal levels for this time of year. As a

result, prices have retreated and the subject of gas is back below the fold in most newspapers.

We're honored to have you today, Mr. Secretary, and we look forward to your comments.

Please join me in welcoming Secretary of Energy Spencer Abraham.

(Applause)

Remarks

Honorable E. Spencer Abraham, Secretary of Energy

THE HONORABLE MR. ABRAHAM: Bobby, thank you, and I want to thank all of the members of the Council for -- for being here and, really, especially for taking as much time as Council members have over the last few months at working on these various issues.

In May, when I addressed the group and called for a summit in June, you were all quick to respond, and we appreciated that people came back together just a few weeks later to set in motion some -- some action steps to address our storage issues. We appreciate taking the time for this extraordinary meeting today to produce the final report of the -- of the Natural Gas Study.

And I recognize, as does everyone in our department and, I think, the American public, that everybody who is on the National Petroleum Council has

their own separate enterprises to run and commitments to keep, and so we appreciate that.

And to the people who have been directly involved in putting together the study, the folks here on the stage, I want to offer my special thanks and expression of gratitude. I know how much time has been put in. I know what the cost of this has been. As I said, when I asked the Petroleum Council to undertake this -- this new survey, it -- it really is an important thing, and we are very grateful for all of you who have put the extra time and to get it done in this -- in this period.

We all are very glad to be with you, and by that I mean myself; Deputy Secretary Cal McSlarrow; Bob Card, Under Secretary: Mike Smith, our Assistant Secretary for Fossil Energy; Vicki Bailey, who is here, Assistant Secretary for Policy and International Affairs. Almost the whole department, I think, is represented here today, and we are all equally appreciative.

We -- many of us were in Russia last week, and I'll comment on that in a few minutes. Of course, against the backdrop of so many other challenging developments, I think we came out of that trip with some very positive new progress.

Under any circumstance, I think we all know that this country faces a variety of energy challenges. It is time that's been -- we have been pressed to address things in a slightly different way, and I think that the efforts of the Council, as I said, especially the hard work of pulling together this important study, are to be commended.

I was also pleased to see that the NPC consulted with energy efficiency organizations and involved major gas consumers in the preparation of this report so that it offers the kind of broad base of diverse perspectives that we were looking for to make sure that the recommendations and conclusions encapsulated the kind of waterfront of views that people have on these issues.

I also want to thank the NPC and the natural gas industry more broadly for stepping up to the plate during recent months and helping this country deal with the challenge of low natural gas reserves. As Bobby said, we've made a lot of progress since I appeared before the NPC in May and warned about the low stocks of natural gas and underground storage. In fact, more than anything, I tried to make it clear to you that we had gotten a message many of you were already sending that this was a challenge ahead of us, concern that

this might adversely affect the economy.

We all worked together to undertake a number of measures to try to deal with the situation. We held the summit that I've reference and Bobby mentioned in June to discuss trends and identify ways to manage the short-term storage issue.

That was followed by a campaign to educate consumers, homeowners, and business owners about helpful steps that they could take to use natural gas resources wisely and energy more broadly. This campaign will remain ongoing, our Smart Energy campaign. We think it is yielding very encouraging results.

At the end of March, we had 696 billion cubic feet of gas in storage; today we have nearly 2.7 trillion in storage as the winter heating season draws near. That's still short of, maybe, where we would ideally like to be and, clearly, an unusually cold winter could be problematic, but clearly, significant progress has taken place in a very short time.

Of course, low storage, price spikes, and short-term volatility are symptomatic of a larger problem than what the price of natural gas will be in the coming months. That's why last year, in March of 2002, I asked the NPC to conduct a comprehensive long-

term study on natural gas markets in the 21st century.

I asked the NPC to investigate the potential implications of new supplies, new technologies, new perceptions of risk, and other evolving market conditions for the next 25 years and beyond. And so today I'm very happy to be accepting the completed study.

As you know, I've been anticipating it for some time. I look forward to sharing it with President Bush and others in the administration, as well as Congress.

What I think this report makes unmistakably clear is that we are challenged by and we have facing us a number of significant issues with respect to gas. If we don't do anything, the problems which we've experienced in recent years are only going to get worse.

Our administration has been making this argument from the very first weeks we were in office. The President's National Energy Policy, released in the spring of 2001, argued that a fundamental imbalance between supply and demand defines our nation's energy crisis and went on to say that this imbalance, if allowed to continue, will inevitably undermine our economy, our standard of living, and our national

security. In particular, it questioned our nation's ability to meet projected demand for natural gas in the next two decades.

The three main conclusions of the NPC study buttress this contention. First, increasing demand for natural gas, coupled with continued decreasing domestic supplies, will mean price volatility and a potentially serious drag on the nation's economy.

Second, at our current pace of consumption, North America will become increasingly less self-reliant in meeting our growing natural gas needs. That's because production from traditional American and Canadian basins have reached a plateau, while known reserves on federal lands or in remote parts of North America are presently inaccessible or off limits to development.

And third, expected gains in energy efficiency and conservation are absolutely necessary, but they will not by themselves be enough to meet expected growth and demand.

All of this put together is troubling news, and it suggests problems for our economy and for American consumers unless the right actions are taken.

The situation is not hopeless. It's certainly not too late to take corrective action, but I

think today should be the day we start in that direction.

And so the recommendations presented in the study make a compelling argument for industry and government to work together on long-term measures to prevent a crisis in the future. We must provide greater energy efficiency and conservation for natural gas usage. We must continue to diversify our fuel mix, including coal and oil and nuclear and renewable energies along with natural gas, even as we develop and bring online a new generation of energy sources.

We must produce new domestic gas supplies from the Rocky Mountains, offshore, and unconventional bases. We must expedite construction of an Alaskan pipeline. We must upgrade our aging energy infrastructure to increase domestic natural gas transmission capacity. We must ensure regulatory certainty so that investors will have the confidence to invest in new infrastructure. And we must bring in new liquefied natural gas supplies to take advantage of supplies available all over the globe.

Clearly, LNG offers tremendous potential, and our administration is already investigating ways to expand our international energy partnerships to increase worldwide natural gas trade. In fact, later

this year our department will be sponsoring an international LNG summit that will examine anticipated market growth, market opportunities, and barriers to the development of global markets.

As I said and as Bobby indicated, I just got back, along with most of our team, from the second U.S.-Russia commercial energy summit, this time held in St. Petersburg. It was a very productive session in which a number of American and Russian companies had an opportunity to sit down and discuss opportunities that they might work on together in the future. The area of gas prospects was certainly a highlight of many of those discussions, along with the formal parts of the meeting.

And on a separate day, Secretary Don Evans and I had the chance to meet with President Putin and our counterparts in a small meeting to discuss additionally the importance of these priorities. There is no question in my mind, as I indicated in those sessions, that the American marketplace is a place that provides tremendous opportunity for international trade in gas and other energy commodities and that, certainly, the opportunity for Russia's reserves to find a potential source of delivery in America are great, especially if LNG capability is developed in

Russia. So I think the results of those meetings, again, provide a lot of promise for us as we move ahead.

But today, with this report, we are reminded that we face these serious natural gas challenges. They are challenges which affect real Americans, from senior citizens struggling on fixed incomes to pay their heating bills to workers in natural gas-intensive industry. We know there are no quick fixes to the price spikes and volatility which we've witness in recent years and that there are no simple solutions.

What is necessary is a balanced and comprehensive approach to ensuring greater energy efficiency and new sources of natural gas supply and the resolve to see it through.

So in closing, let me again thank the NPC for preparing this report. We certainly are resolved to see it through at our department, and I know the president is as well. I can assure you that the report will get the attention it deserves as we continue to aggressively pursue our energy security agenda.

Thanks for all the hard work. Good to be with you today.

(Applause)

CHAIRMAN SHACKOULS: Thank you, Mr.

Secretary. We will provide you an opportunity to add any additional comments that you may feel appropriate after the presentation, and also, please feel free to interrupt if you have any questions or comments to interject during the presentation.

As I said earlier, our primary agenda item today is the consideration of the proposed final report from the NPC Committee on Natural Gas. The committee's government cochair, Bob Card, and Vice Chairs Bob Catell, Rich Kinder, and Lee Raymond have provided outstanding leadership and significant commitments of their personal time and their organization's resources.

Our committee reviewed and approved the results of this study earlier this month in Denver. A draft of the summary of findings and recommendation volume of the study report was sent to Council members on September 10th, along with instructions on how to access the integrated report volume on the NPC website.

In front of you today is a copy of the summary report that has some minor editorial improvements and corrections incorporated. Also in the material before you is a copy of the proposed letter of transmittal to the Secretary. This letter will become a part of the report and would be bound into the document as its first page.

You now will see a shorter version of the presentation that was made at the committee meeting in Denver. After discussion, the NPC members will be asked to approve the report for presentation to Secretary Abraham. This will be our response to Secretary Abraham's request for our advice on this very important matter.

On behalf of the committee, I am very pleased to present the results of this comprehensive study. Jerry Langdon, who, as I said earlier, chaired the study's Coordinating Subcommittee, will lead off the presentation.

Jerry.

Consideration of the Proposed Report of the NPC Committee on Natural Gas

MR. LANGDON: Thank you very much, Mr. Chairman.

Mr. Secretary, members of the Council, it's my distinct honor and privilege to be here today as chairman of the Natural Gas Study. Just to briefly add to the chairman's earlier comments, while there were only going to be four of us today who were going to make the delivery of this presentation, many of the people who contributed significantly to the presentation or the work are in this room. There are

more than 200 companies that participated in this work, over five governmental -- more than five governmental agencies, two foreign governments, several -- and several hundred people who made significant contributions to this work over the past 18 months. And I appreciate the work -- as chairman of this committee, I appreciate the work that -- hard work that went into this. Many, many tireless hours.

And at the end of the product, I'm very proud of the quality of the work and the diversity of the views that are made to appear and married together into this consensus report. The three task group chairs and I will provide you with a summary of our work as we move forward.

As the chairman mentioned, Secretary Abraham asked the Council to undertake a study and provide him with insights on the picture for natural gas over the next 22 years. Very daunting task. He asked us to assess the implications of evolving conditions and to give advice to industry and government to enhance the benefits of natural gas for consumers.

Our work over the past 18 months has persuaded us that the request could not have been more relevant. Moreover, as policymakers at all levels of government seek reliable information to help them

address the pending energy issues, the study we present today, in our view, could not be more timely.

The North American gas market has changed dramatically over the past 15 years since restructuring of the industry. Demand has grown considerably, and it remains strong today. However, despite a strong domestic gas industry and increasing drilling levels, we've seen a plateau in production from traditional North American supply basins. In the past three years, we have transitioned into a world of a tighter balance of supply and demand. The result has been higher natural gas prices and more volatility, as you'll see from this chart.

We can't accept the status quo if conflicting policies at multiple levels of government that favor gas use over other fuels while hindering efforts to enhance available supplies place increasing restrictions on the ability of consumers to respond.

This study is based on the knowledge that the market, suppliers and consumers, will respond. More importantly, the basic scenarios we evaluated assume that action beyond the status quo has to occur, facilitated by -- facilitated by a lesser or greater degree by policymakers at various levels of government. Said differently, we believe the status quo is simply

not sustainable.

I'll speak -- I'll speak to the cases here in a second that we evaluated, but I'm -- I want you to know that in order for the -- for us to consider what we're doing, Arctic pipelines -- in our opinion, Arctic pipelines will be built, substantial LNG will be imported, access to lower 48 for new exploration will improve, energy efficiency will increase, and additional generation capacity will be built.

We framed our analysis by considering two scenarios for public policy at the local, state, provincial, and federal levels. The first is the reactive path where we continue to experience conflicting policies with decisions made in reactions to the events as they unfold.

Then there is the balanced future, where public policies at all levels are more aligned to benefit consumers. This study is rich in detail on the natural gas supply, demand, and infrastructure in North America.

Again, I want to note that each of these scenarios is different than the status quo, what we're dealing with today.

More importantly and probably most importantly, when we did these two scenarios, we took

into account that there was no degradation to the environmental quality that's out there right now. The environmental quality at -- at current levels was a given in each of the scenarios.

The task group chairs will provide you with the details, but let me give you the bottom line. The reactive path, that you see in the dark green on top, results in higher consumer costs and greater economic risk in contrast to the balanced future, which is a lower price environment. You'll note that while we've seen spike prices in the excess of $10, the -- the line leading up to the current path is annualized cost of gas and the numbers represented in the chart itself are annualized cost of natural gas as well, not -- that doesn't account for spikes.

As this study supports, we'll provide the following recommendations: that we improve demand, flexibility, and efficiency; increase diversity of supply; sustain and enhance our infrastructure; and promote efficient markets. If implemented, this will lead to higher economic growth, higher employment, and stronger industries in North America.

With that, I want to turn it over to the guys who did the real work here, and for that I am very thankful.

My friend David Manning, Senior Vice President with KeySpan, will lead the demand -- I'm sorry, the -- yes, the demand findings. After that, Mark Sikkel, Vice President with Exxon Mobil, will talk to supply and walk you through the supply picture. And finally, Scott Parker, Vice President with Kinder Morgan, will talk about infrastructure and the pipeline segment.

Thank you very much.

MR. MANNING: Thank you, Jerry.

The Demand Group found that there has been a change, a significant change, within the market structure between the power and the industrial sectors, and we have chosen to reach out -- and we're quite proud of this effort, those who participated. We've reached out to all sectors. We've done sector-by-sector analysis of the electric power industry, looking at their capacity, fuel use, looking at the -- the gas-intensive industries and their applications which are gas-intensive, including cogeneration.

But very importantly, we have found that there is -- we have evaluated the role throughout of energy efficiency in all sectors. And very importantly, we have relied -- not only have we done a -- a collective approach on the Canadian and U.S.

demand side, we have relied on the relationship of the DOE with their Mexican colleagues to get some real insight into that growing market.

Now, we have to state -- this is a gas study. We have to state that natural gas is an essential part of the U.S. economy. Very importantly, 60 million homes are served by gas. Our industries receive 40 percent of their primary energy from gas. Natural gas has become the answer, as we know, to the economic and environmental goals we've set for -- for power generation.

This is the basic projection of future demand for natural gas. Our scenarios assume that the U.S. returns to its historic GDP levels, which of course drives growth, but relative to the two percent growth in natural gas demand over the last decade, we are seeing with these higher price scenarios -- our modeling suggests that we have lower overall growth and future gas demand. Power generation, of course, now begins to drive that growth, particularly if there is a greater proportion of high-efficient gas-powered combined cycle -- natural gas-powered combined-cycle technology in place.

But you also see that the industrial sector has eroded in recent years, and our modeling suggests a

low- or no-growth scenario for industrial demand.

This brings us to our first finding, and we're going to present our findings and recommendations from this point forward.

This finding describes the importance of energy efficiency in the natural gas supply-and-demand balance. We found a significant amount of efficiency gains which have been accomplished in a business-as-usual case, just driven by simple economics. The continued efficiency gains, of course, are very important and are modeled into our scenarios, primarily on the power and the industrial side. And we recognize that in the near term, the significant supply of energy is going to be coming from energy efficiency and conservation.

As you can see, there is a very significant ongoing trend. If that is not achieved, there will be dramatic results. Therefore, our first recommendation is, encourage increased efficiency and conservation through market-oriented initiatives and consumer education. That, of course, is a real opportunity to moderate prices and reduce volatility.

Next finding. Power generators and industrial consumers are more dependent on gas-fired equipment and less able to respond than they've been

able to do in the past to higher gas prices by utilizing alternate sources of energy, and let me explain. Let me elaborate on that.

There you have key demand sectors. As we've shown, demand has grown in the last 15 years, but look where that growth is occurring. Industrial growth was very significant and it has now tailed, and, of course, power generation in recent years has -- has come forward. So there has been a growth shift over to power generation, and note that that is less than it would have been had there not been the installation of significant amounts of higher efficiency power generation technology.

But with this growth has come less flexibility to use other fuels and natural gas. This type of flexibility is very important to providing consumers competitive options in how they can moderate their volatility. You'll see here that we have both the industrial consumption of gas and, where you have flexibility, percentage of capacity, and over here you have on the power side.

And of course, among these restrictions are -- are -- citing restrictions particularly on the industrial operations, power generation facilities, and it's very difficult now to cite -- in many regions of

the United States to cite new power generation capacity to -- that is allowed to even use low sulphur liquid fuels for backup systems.

The outreach efforts that we've done in the Demand Group, which show that fuel switching has dropped significantly since the 1995 -- the '95 DOE numbers and statistics, and of course, this is not surprising given that there have been remarkably -- this remarkably small number of new generation facilities were able, as I said, to have backup fuel.

Now, if I were able to characterize the outlook for demand, it would be the following. Gas consumption will grow, but such growth will be moderated as the most price-sensitive industries become less competitive, causing some industries and associated jobs to relocate outside North America. This is happening now, and there are some -- here are some of the major reasons for that picture. Major elements are as follows.

Note in this picture we have had a rapid build-up of power generation capacity. You'll note that slope. That capacity is installed now. Well over 200,000 megawatts of natural gas-fired capacity has been added since 1998, either completed or is in the mill.

And of course, also, look at renewables. In our study, in our balanced future case, we have given a number of 150 gigawatts renewables. Even in the reactive path case, we have -- we're calling for 70 gigawatts. So this certainly ranks with some of the most aggressive statistics which have been put forward by other studies.

And of course, there has been a tremendous capability for natural gas created, as I've been discussing throughout. But importantly, note that we are assuming in our study nuclear and hydro is maintained at current levels and new coal -- new coal remains competitive.

The previous picture, however -- that's capacity -- cannot be viewed in isolation. Here is an illustration of how these competing sources will actually produce power in the future. It's likely that coal will continue to be a major source, with natural gas increasing, but while that renewable capacity, which we've alluded to there, is very significant, because of the relative efficiencies of that technology, we do not see it making up in total a significant impact in overall numbers.

But very importantly, any reductions in hydro, nuclear, any weather-related increases in power

demand will probably impact significantly the use of natural gas.

On the industrial side, perhaps the most significant effect of these recent prices has been impacting the gas-intensive parts of the industrial sector. We had a very robust team of industries who have supported us with this report.

We found that chemicals, primary metals, and paper are likely to use less gas in the future. Some of this, of course, will be fuel switching, others will be actual demand destruction.

The chemical industry is particularly hard hit. We have seen some shutdowns already in ammonia and methanol. Up to 75 percent of their product -- of their total production costs come from natural gas.

Very importantly, that the ethylene capacity in the United States, about 60 percent of that capacity is built and based on natural gas technology whereas in Europe, in the global markets that these companies must compete with, that is more like 15 percent, and of course, the alternative being where oil is the dominant feedstock.

So we have -- these factors have led us to our next recommendation. We must increase the capability to utilize alternative fuels in power and

industrial applications.

This graph shows the relative sensitivity analyses we've done within our reactive path scenario.

In every respect, by the way -- and I want to reiterate what Jerry said -- environmental standards are a given in all these -- in all this analysis. But we do believe that the analytical results are very significant because increased fuel flexibility has the potential to reduce the natural gas cost by a dollar, but similarly, there are a number of factors which will limit the ability to have fuel flexibility and those place upward pressure on the price of gas.

In summary, demand is likely to grow but at a slower pace, and of course, power generation is to be much more significant in demand as we go forward.

Now Mark Sikkel will take over and give us the supply picture. Thank you.

MR. SIKKEL: Thank you, David.

As Jerry did, I'd like to begin by thanking everyone who was involved in pulling together the supply outlook. It was very much a collaborative effort, and I sincerely appreciated all the support from the folks that were involved and helped in this effort.

This first slide summarizes the overall

approach that was taken by the supply task group. Obviously, our objective was to analyze just how much supply could be available to meet the potential demand. So we began our analysis with a comprehensive review of the North American resource base, and we coupled that with an extensive analysis of the costs of developing that resource base.

We also put considerable effort into analysis of historical performance of producing basins in North America to help calibrate what we might expect from future investment in those basins.

We evaluated new sources of supply, in particular liquefied natural gas imports and Arctic resources. We also analyzed the potential for new technology to contribute to the future supply outlook, as well as the impact that today's regulatory environment has on access to and development of our domestic resources.

Finally, we really focused on the production outlook: what kind of supply did we actually expect to be produced and commercially available.

And this next slide shows our overall projection. Future supplies will come from traditional as well as new sources. The lower part of the graph shows the lower 48 in blue, and at the robust prices

contemplated in our projections, these supplies remain essentially flat but, as you can see, are extremely important to the long-term outlook. Growth from the Rocky Mountain area as well as the deep waters of the Gulf of Mexico offset the climbs in some other areas.

Canadian production, which is shown in green and has grown over the past decade and provided supplies for export to the U.S., has reached a plateau and will also be relatively flat.

To meet further projected demand growth, new supply sources are needed. Our outlooks assume that actions are taken and support is achieved for major new supply sources, such as significant LNG imports and new pipelines from the North Slope of Alaska and MacKenzie Delta in Canada.

So this next slide shows our first supply finding. At the outset, we felt it important to respond to the question of, could traditional producing basins keep up with this projected demand. And our finding was that the traditional North American basins will provide about 75 percent of our long-term needs but that they will be unable to meet this projected demand.

Several components of our analysis contributed that to this finding. The first of these

is the work we did to assess the North American resource base. As in prior studies, we found the resource base to be large and diverse. We conducted an extensive workshop process to evaluate 72 resource regions, which are consolidated into the 17 regions illustrated on this map.

As the basis for this evaluation, we used the best publicly available data we could find from the MMS, from the USGS, from the Canadian Gas Potential Committee. We sought out experts in all the key gas-bearing basins, and we collaborated with the government assessment experts who actually developed the base data.

I think you'll find that our final report extensively documents this work and the basis for our conclusions as well as provide a good foundation for the future on assessments of this type.

And this next slide shows the bottom line of that work. Represented here are the assessments of technical resources in North America in trillions of cubic feet for the current and prior NPC studies. The 2003 results are lower than the prior assessments, but all the assessments are over 2000 trillion cubic feet.

Recall that this represents technical resource, which is not what can be produced

commercially but rather what's potentially there for development. I'll speak to those commercial volumes further in a few minutes.

Relative to the '99 NPC assessment, the 2003 result is lower in two key areas. In the lower 48, which is shown in green, the expected growth to -- reserves in existing fields is projected to be lower based on observed declines in well recoveries in recent years.

And in Canada, the assessment is also lower due to reductions in the resource potential in the far north Arctic off shore as well as reductions in the nonconventional resource potential.

Mexico, which is shown at the top of the bar, was not assessed in '99 but was modeled as a net import-export in our analysis, so was not a critical component of the evaluation.

But there is a lot more to this analysis than just the technical resource base, and I get into that on the next slide.

A second key component of our analysis was the evaluation of the production performance history of the key basins. Our production performance analysis involved analyzing all wells drilled since 1990 on a basin-by-basin basis and estimating their expected

recovery of natural gas.

The summary of the results are shown on this chart. Overall, recovery for the lower 48 has fallen by a third since 1990 while western Canada has experienced a more significant reduction. While the recent drop in the western Canadian recoveries have been influenced by a large number of shallow, lower-cost, lower-recovery wells, you still see an obvious overall trend of decline. These trends are just an indicator of how mature a resource base we're working with in North America.

Another aspect of this production performance analysis was a determination of the annual decline rate for the lower 48-based production. The base decline rate, which measures the annual rate of production decline from wells producing at the beginning of each year was around 15 percent at the beginning of the 1990s. That rate of decline is now 25 to 30 percent, thus requiring additional production from new drilling just to maintain production levels.

The results of this type of analysis were used to help establish the expectations in our modeling for future drilling and well performance on a basin-by-basin basis.

Finally, as one measure of the production

response to a higher-price environment, we analyzed the industry response to the higher natural gas prices we saw in 2000 and 2001, when the rig count essentially doubled. Our analysis of this increased activity identified much of the additional drilling occurred in areas with lower production rates and reserves. The result was a modest production response that was not sustained once those activity levels declined. This just further demonstrates the challenge that we face in maintaining production levels from this mature resource base.

So taking these factors and many others into account, including the effects of advancing technology and the robust price environment in our projections, it brought us to this overall projection of today's major North American producing regions. As I indicated previously, overall production from the non-Arctic United States and Canada is projected to remain relatively flat. The mature regions of the mid-continent, permian, Gulf Coast, and Gulf of Mexico shall -- or shallow water are all projected to decline during the studied period.

Production growth from the Rockies and deep water Gulf of Mexico is really required to help offset these declines and sustain overall production levels.

Even with this outlook for relatively flat production, an important transformation of the domestic natural gas production base is underway. As conventional production continues to climb, nonconventional production from such sources as coal bed methane, tight gas, and shell gas increases and makes up a growing share of overall production. By 2025, these nonconventional supplies are projected to contribute 40 percent of the total non-Arctic supply, almost twice the current share.

Of course, technology development will continue to play an important role as industry works to bring this about.

Related to these projections of the production outlook is the next supply finding, that increased access to U.S. resources, excluding designated wilderness areas and national parks, could save consumers $300 billion in natural gas costs over the next 20 years.

Basically, what we're saying here is that our domestic resources could be better utilized. This slide shows estimates of the technically recoverable resource that is impacted by significant access restrictions, whether on public or private lands.

Our Access Team set out to expand on the very

good work that was done in this area by the '99 NPC study team as well as the EPCA study work that was undertaken by the Department of Interior. In the Rocky Mountains area, previous studies have evaluated the effects of federal leasing stipulations. We undertook a new analysis to look at post-leasing conditions of approval to try to more fully quantify the effect of the regulatory process on cost and timing and access to key resource-bearing areas.

Overall, post-leasing conditions of approval were found to be more of an impediment to development than the lease stipulations themselves. The study found that 69 TCF, or about 29 percent, of the Rocky Mountain technical resource base is effectively off limits and that access-related regulatory requirements impacted an additional 56 TCF.

When coupled with a leasing moratorium impacting the eastern Gulf of Mexico, the Atlantic offshore, and the Pacific offshore, over 200 TCF of resource is impacted.

Hence, one of our key recommendations is to increase access and reduce permitting impediments to development of lower 48 natural gas resources. We evaluated the effect of removing the OCS moratoria beginning in 2005 and -- and without reducing any

environmental protections, improving the processes to reduce the effect of conditions of approval in the Rocky Mountain area by 10 percent per year over the next five years. These changes increase lower 48 production and reduce the price projections as depicted by the green line in this plot.

Also shown is the effect on the price projection of a case which assumed continued reductions in access over the decade ahead.

It really may be most appropriate to kind of consider the difference between those two lines as the opportunity we have to make better use of our lower 48 resources.

The next finding relates to new supply sources. New large-scale resources, such as LNG and Arctic gas, are available and could meet 20 to 25 percent demand but are higher cost, have longer lead times, and face major barriers to development.

Worldwide natural gas resources are vast, and liquefied natural gas provides access to these resources. The technically proved reserves of natural gas for the world are currently estimated at over 6000 TCF, which is almost 25 times the size of the North American proved reserves. The annual rate of global consumption is less than two percent of that,

demonstrating ample supplies for many years to come.

As a result, the international LNG business continues to grow, with many new supply sources under construction or being proposed, as shown on the map.

To evaluate LNG imports, a dedicated team was formed for the study. In addition to global supplies, this team reviewed potential North American LNG receiving terminals and the factors that will impact the rate of LNG import growth. These factors include the volume of uncommitted LNG supplies, available shipping capacity and the pace of new ship construction, and the citing and permitting obstacles faced by the developers of new LNG receiving terminals.

Weighing all these factors, the LNG team developed an outlook for future imports as shown on the graph. There are currently four existing LNG receiving terminals, and the outlook projects all four will be at full capacity by 2007, including expansion of three of those terminals.

In the reactive path case, seven additional terminals are assumed built by 2020, and those additional terminal locations are shown on the map.

In the balanced future case, the permitting process is improved and new terminals are built faster than in the reactive case, and two additional terminals

are also built. This raises total LNG import capacity to about 15 BCF per day, or 17 percent U.S. supply by 2020. This outlook should be viewed as a success case related to permitting and overcoming some of the opposition to LNG receiving terminals. It's certainly higher than many of the other published forecasts.

Given the significant role that LNG imports could play, the major recommendation for this study is to improve the permitting processes such that these facilities -- the applications for the receiving terminals are processed within one year.

Recognizing the uncertainties these terminals face, a case was run that had only two new terminals being built, resulting in the higher annual price projection that is shown.

Conversely, with the additional LNG provided by the balanced future with faster permitting and additional terminal, you see the prices are projected to be lower in the future.

The other significant sources of new natural gas supplies are from the North Slope of Alaska and the Canadian Arctic. Large volumes of gas have already been discovered in these areas, and projects to develop these resources and transport them to North American markets are under consideration.

For the study, we've assumed that the frameworks that are needed to see these significant investments go forward would be achieved and that conditions would support them. Both products -- projects were brought online at the earliest feasible dates, with MacKenzie Delta starting in 2009 at a BCF per day, expanding to one and a half BCF per day in 2015, and the Alaska pipeline starting in 2013, reaching a capacity of 4 BCF per day the following year. Together these two projects could meet about seven percent of the U.S. demand for natural gas.

In this area, foremost in our recommendation is the need to enact enabling legislation this year for the Alaska natural gas pipeline.

That's really the supply story. Demand is met from diverse sources of supply. The lower 48 and non-Canadian Arctic provide the bulk of supply for many years to come, driven by the Rockies and deep water Gulf of Mexico. LNG imports and Arctic pipelines provide gas for additional growth. I think we'd all agree the challenge provided by this outlook is significant. It'll take a strong industry effort, supportive government policies, and support from parties affected by oil and gas development to achieve this outlook.

Now Scott will carry us through the transmission and distribution section.

MR. PARKER: Thank you, Mark.

I'll start, as Mark did, with an overview of the approach we took in the transmission and distribution section.

First, we took a look at the pipelines across the United States and Canada and looked at 317 different pipeline transportation corridors. When we talk about a corridor, what I really mean is, a corridor may have one or more pipeline companies within that corridor, and that company may have multiple pipelines within that corridor. We looked at all those corridors and we analyzed the max rate for each one of those pipelines, the fuel utilization, and the age and cost of maintenance of those lines. We rolled that into our study.

As far as reviewing storage, we used the EIA storage numbers for the U.S. We did significant upgrade work to Canadian storage numbers. We went out, surveyed Canadian storage operators, acquired the data, and built it into our study.

As far as distribution is concerned, we took the distribution data. It's demographically driven by number of homes added and the model proofs that they

had going forward.

As far as how we incorporated new infrastructure into the model, through 2005 we basically looked at the marketplace as it stands today. We said, what pipeline infrastructure investment opportunities have been announced, what projects are out there. We picked representative projects that we thought would be constructed based on the supply and demand required in the study, and through 2005 we modeled them in.

After 2005, the model takes over and looks for pricing differentials. If those differentials are there and support the investment infrastructure, the infrastructure is built and supply is moved to the marketplace.

Finally, besides new infrastructure, we did analyze the cost to maintain the existing infrastructure. We rolled into that what we consider new costs, which are being incorporated in the recent pipeline safety improvement acts.

Of course, the map you see in front of you right now reflects the pipeline infrastructure of 24-inch or larger pipes, and we have an extensive infrastructure existing in the United States. There are over -- in the U.S. alone -- over 290,000 miles of

pipeline. There's over 16 million horsepower.

The important thing to remember as I go through this presentation is that, of this infrastructure you see on the screen and I just told you about, 88 percent of that infrastructure was installed prior to the '70s, a significant number.

Our first finding, that pipeline and distribution investments will average about $8 billion a year, and I'll get into the details on that. What we wanted to point out also was kind of the distribution and the way that investment is shared between investment in new infrastructure and investment in sustaining.

A couple numbers to throw out before we look at the slide itself. From 2000 to 2002, we estimate that we spent 21 percent of our total expenditures and capital on sustaining capital for all transmission, storage, and distribution. In our projections, by 2020 we more than double that number to 45 percent on sustaining cap ex.

As you can see the numbers on the slide, new infrastructure shown on the bottom, sustaining capital, which I just talked about, and then the Arctic pipeline shown in a slightly different color because of the significant investment.

The recommendation that we have coming out of this slide is that federal and state regulators should provide regulatory certainty by maintaining a consistent cost recovery and contracting environment where in the roles and rules are clearly identified and not changing. The pipeline companies, their customers, and the distribution companies need to be able to count on, when they do infrastructure investment and they do long-term contracting for that, that both sides, the customers and the infrastructure companies can count on those contracts being maintained for the long term and not changing.

As you see in the actual cost numbers, early in the first 10 to 15 years of the study the costs associated with sustaining a new infrastructure are relatively the same as they have been in the past. Towards the tail end of our projections, the costs flatten out a little bit, as you have LNG, as Mark presented in his presentation, coming on and the infrastructure to connect those LNGs is not as significant as in the past.

In the U.S. alone, throughout the study we project that we will spend $35 billion for new pipeline and storage development and over $70 billion for distribution facilities. It's also projected that

we'll spend $70 billion alone in sustaining cap ex for all transmission, storage, and distribution.

This map reflects the pipeline and infrastructure ADS across the United States and Canada. The ADS are primarily from new supply sources that Mark talked about: Arctic, LNG, Rockies, offshore Mexico.

What does the timing of this new infrastructure look like? I've shown you the capital costs. Well, the way we analyze the projects, as I said before, it takes about 12 months of price signal for our projection to then kick in and actually build infrastructure. We look at about 30 months to build infrastructure, from the time you move forward to try to permit, to actually build, construct, and place in service. So in totality, you need approximately 42 months from start to finish, from price signal to placing new infrastructure in service.

Now, we made some exceptions in our study. The Rocky Mountains, we believe, right now are sending the price signals for new infrastructure. And so when we put our projections together, we lowered the Rocky Mountain construction and permitting process to 24 months from the 30.

Similarly, Arctic is -- Arctic gas that Mark

described earlier is built down to Alberta. From that point, we assume a just-in-time enhancement of existing infrastructure. That amount of enhancement is basically determined by the decline in western Canada and the demands that the oil -- puts on in Canada itself. The capacity that is in the model to the new and existing pipelines away from Alberta is reflected.

Storage itself takes approximately 24 to 36 months from price point to construction timeline to in-service to build, and that really depends on the type of storage. Aquifer storage is very quick; so are depleted fuels.

What do we recommend coming out of this data? Well, currently, we believe that the permitting process for major infrastructure projects need to develop under a joint project review. We've been very pleased and happy as we analyze the data that the FERC has done a great over the last couple of years of speeding up the process that these projects go through. But we think more work can be done in this area, and also, as these projects come forward, they need to be prioritized so they can move through the ones that bring the biggest bang for the buck from a supply-demand connection.

What do we mean by "more work can be done"?

Right now the companies investing in infrastructure go and work through the FERC process on the interstate side to receive permits. The problem and the reason we're asking for a joint policy review is, after a permit is received from the FERC, there are other parties outside of the FERC process challenging the pipeline construction and slowing the process down dramatically.

What we are hoping for and asking for is a process that includes all those parties up front and along the way, speeding up the total process so that once a company, an investor, gets a FERC permit, they can actually build the facility but still maintain all the environmental requirements under the permit.

I've talked about pipelines; now I'll talk a little about storage and the operational challenges we'll face with storage.

As David mentioned in his demand outlook, stable 24-hour industrial loads are declining. Electric generation is the largest growth sector, and from our standpoint in storage, the most volatile. Many of the electric generators operate on an eight-, 12-, 16-hour day versus the 24-hour days in an industrial operation.

While total demand in the U.S. is growing by

roughly 20 percent through the study, 24-hour industrial demand actually declined by six percent 2005 through 2015. In 1997, power generation was just a fraction of the industrial load. In the future, power generation peaks will approach industrial demand in the winter and surpass them in the summer.

That's what you see on this slide right here. The middle of the slide reflects gas utilization in the summertime. The outer edges are wintertime.

What we're used to today -- in today's marketplace and what we have been used to is storage fills in the summer. With the high utilization of gas-fired electric generation in the future, it will drive up that utilization in the summer, so storage fills may not be as readily available. It also, in our projections, flattens out the price on an annual basis of gas. So although today we're used to, normally, slightly higher prices in the winter and lower prices in the summer, that tends to flatten out in the out-years because of the high utilization of electric generation.

What does this mean to the storage operators, developers, customers, and investors? There's going to have to be a lot more flexibility in the way storage operates. Injections are going to have to occur not in

the peak summertime but in the shoulder months. Currently, storage fields aren't constructed, built, or operate in those manners, so investments will have to be made and tariffs and services that are offered by storage developers will have to be enhanced.

Our recommendation coming out of this is, the FERC should allow operators to configure transportation and storage infrastructure and related services to meet the changing market demand and profiles, and the companies and their customers need to work together on this.

Finally, it's -- especially on the distribution side of the business, we find that regulators should encourage collaborative research into more efficient and less expensive infrastructure options that enhance safety, improve replacement technologies, locating technologies, and environmental remediation.

This is especially important from a distribution standpoint. These companies operate in high -- densely populated areas where it is very difficult to work. In our model, we also added an improvement on the distribution side for this type of work, and this must happen.

Another finding we had was that regulatory

barriers to long-term contracts for transportation and storage do impair infrastructure investment. I've shown you that there's going to be significant infrastructure investment per year, where it's going to occur. But you can see that the contracting practices across interstate pipelines have changed throughout the years.

If you look at this chart, 1998 numbers reflect a pretty even profile between contracts that were less than five years and contracts that were more than five years, about a 50/50 split on interstate pipelines.

Now what we see in 2002 is a dramatically different number, a shift to much shorter term contracts, which makes it much more difficult for companies to invest in long-term infrastructure and invest in infrastructure on their systems.

Along with this shift that you've seen in the past years, you need to take into account that 71 percent of the LDC contracts on interstate pipelines are coming up over the next five years. What we've seen over the years is a change in the way contracting practices evolved on pipelines. Marketers in the past years took positions and contracts on pipelines on a long-haul basis, and LDCs began buying at the

marketplace from these marketers. Now the marketers' presence in the marketplace has dwindled, and LDCs are moving back to take capacity on pipelines.

But during these changed times, regulatory barriers have come forward, and they need to be addressed to allow local distribution companies to take long-term contracts on pipelines when they feel the marketplace is such that it makes good business sense to do that.

I'll finish with the slide I started in the beginning with on the existing infrastructure. It's significant. We need to be able to maintain and grow this infrastructure. Pipeline and distribution companies need to enhance their systems to meet the growing needs of the economy.

Thank you. I'll turn it back to Jerry.

MR. LANGDON: Scott, thank you very much.

The concluding portion of our section of our report, Secretary Abraham had asked us to give some consideration to today's gas markets and some thought about how -- how efficiently they're working, particularly in light of the recent upheavals in the many large trading participants.

We -- we found that -- that gas prices are quite volatile as a result of the tightening supply and

demand for natural gas and that, while volatility is likely to continue, that there are many physical and financial tools available to participants in the marketplace to mitigate the impacts of -- of price volatility.

Despite the -- several large trading firms, there is substantial -- that have exited the business, there -- there is substantial liquidity in the market in -- in the natural gas market, and fundamentally, after we examined it, we believe the market is working quite well and sending the right price signal.

Having said that, there still can be improvements, and the NPC supports efforts by federal, state, and local agencies that would help to improve price transparency and the accuracy of price reporting.

Additionally, several initiatives to improve the timeliness and accuracy of production, consumption, and storage reporting data would also help enhance the well-functioning market, in our opinion.

Consequently, our -- our overall, overarching finding that we come to as part of the work is that a balanced future that includes increased energy efficiency, immediate development of new resources, and a flexibility in fuel choice could save a trillion dollars for U.S. natural gas consumers in their costs

over the next 20 years. But public policy has to support these objectives.

Finally, the recommendation included in the report is that all the necessary -- that all of these initiatives are necessary for the -- to reach a balanced future. Clearly, economic growth, higher employment, and stronger industrial activity are important goals, but they're simply not attainable with a piecemeal approach to energy policy.

Mr. Secretary, I hope this study satisfies your request for advice and thoughtfulness on the part of this industry and our natural gas markets. Again, thanks for the opportunity to provide input.

Mr. Chairman, I return the floor to you. Thank you.

CHAIRMAN SHACKOULS: Thank you, Jerry.

And I would like to thank Jerry, Dave, Mark, and Scott for an excellent presentation and for all the hard work that you all put in -- into this study.

At this time, I'll ask the vice chairs if they have any observations that they would like to add.

First, Bob Catell.

MR. CATELL: Thank you.

I'd like to also congratulate the task force on doing a really excellent job. And from the demand

side, I'm pleased that we've been able to provide a broad perspective from the entire consuming end of our natural gas market, and it is a large marketplace.

The tremendous contribution of natural gas consumers has provided a depth and perspective to really enhance the quality and relevance of this report. This included a wide range of power generators, led by Keith Barnett of AEP, and a host of industrial gas consumers in chemicals, refining, steel, aluminum, paper, food, glass, and other industries, led by Dina Wiggins from Southerland Ashland Wiggins.

When added to the voice of the residential and commercial consumers offered by the local distribution group and the very thorough work done by the supply and TND teams, I'm very proud to have signed this report to the Secretary.

I've already been asked what's the most important thing to do, and the answer, I think, is clear. The report offers an excellent foundation to a public policy debate. The answers really lay in multiple components of an overall solution, the foundation of which is clearly, I think, presented here. Thank you.

CHAIRMAN SHACKOULS: Thank you, Bob.

Lee.

MR. RAYMOND: No, nothing, Bob.

CHAIRMAN SHACKOULS: Okay. Rich.

MR. KINDER: No.

CHAIRMAN SHACKOULS: Cal, you, Bob, Mike, would you all like to add any comments at this time?

MR. McSLARROW: No.

CHAIRMAN SHACKOULS: Okay. Great.

Consideration of Administrative Matters

Bobby S. Shackouls, Chair

CHAIRMAN SHACKOULS: The members of the Council have the committee's proposal for the study summary and integrated report volume. We propose to send you drafts of the detailed task group reports upon which the study and the integrated report are based later this fall for your approval by ballot. These task group reports document the detailed work performed and the massive data collected during the course of this study. They will be a tremendous resource to the department and anyone interested in fully understanding demand, supply, and infrastructure involving natural gas.

Accordingly, and on behalf of the committee, I move that the NPC approve the report subject to final editing, approve the transmittal letter, and approve the process for finalizing the task group reports.

Do I have a second?

AUDIENCE MEMBER: Second.

CHAIRMAN SHACKOULS: Are there any Council members who have any questions or comments on the proposed final report?

(No response)

CHAIRMAN SHACKOULS: We have a motion and a second to adopt the report of the Committee on Natural Gas. All in favor, please say "aye."

(There was a chorus of "ayes.")

CHAIRMAN SHACKOULS: Opposed?

(No response)

CHAIRMAN SHACKOULS: The report is adopted.

I thank the vice chairs of the committee, the chairs of the subcommittee and task groups, and the numerous volunteers who have helped complete this work. You've all done an excellent job on this report.

Mr. Secretary, it is with great pleasure that the Council submits this report to you. The effort that went into this study is exhaustive and thorough. It recommends actions to ensure adequate and reliable supplies of energy for consumers and to allow natural gas to continue to play an important role in achieving our nation's economic and environmental quality goals.

The findings of the study represent an

outlook for North America natural gas that can be expected based on policy decisions that can be made in the near term with long-term implications. These immediate policy actions can provide producers the ability to convert our natural gas resources to supply as well as develop large new supply sources. They can also enhance the pipeline infrastructure in order to make those supplies available to consumer markets. Finally, these actions can provide industrial users and power generators the option to make more rational fuel choices.

This will translate into reasonably priced fuel and feedstock that will make the United States more competitive in the global economy and preserve jobs here at home. Inaction will clearly result in an outcome that the American public will find unacceptable. Given that, proactive steps must be taken now in order to ensure support of the nation's environmental and economic aspirations.

We are particularly grateful to you for the cooperation and support that we've received from within your department and also from Interior, Agriculture, and many other departments in the government. We trust that you and others in the national, state, and local governments will find our advice useful in addressing

natural gas policy decisions.

As we conclude this piece of business, would you like to add any additional comments, Mr. Secretary?

THE HONORABLE MR. ABRAHAM: No.

CHAIRMAN SHACKOULS: Okay. Thank you.

Given the extensive amount of detail in this study and the high level of interest expressed in the subject, we have scheduled an open house briefing for all interested parties tomorrow afternoon across the street in the ballroom of the Willard Hotel. The Coordinating Subcommittee leaders as well as a number of the subgroup leaders will be available there to answer questions and share their insights on the work that has been done. The briefing starts at 1:00 p.m., and details are on the NPC website.

Finally, printed copies of Volume I will be distributed to the membership in late October, and they will be available for purchase by the general public from the NPC. In the interim, electronic copies of the draft approved today may be downloaded from www.NPC.org.

Ladies and gentlemen, this brings to an end the formal agenda of our Council meeting.

Discussion of Any Other Business Properly Brought Before the National Petroleum Council

CHAIRMAN SHACKOULS: Does any Council member have any other matter to raise at this time?

(No response)

CHAIRMAN SHACKOULS: Does any non-member wish to be recognized?

(No response)

CHAIRMAN SHACKOULS: Before we move to adjourn, let me announce that the press conference will begin in about five minutes. I would ask that the members of the press come up to the front rows after the meeting adjourns.

There being no further business, do I have a motion for adjournment?

AUDIENCE MEMBER: So moved.

CHAIRMAN SHACKOULS: Second?

AUDIENCE MEMBER: Second.

CHAIRMAN SHACKOULS: All in favor, say "aye."

(There was a chorus of "ayes.")

CHAIRMAN SHACKOULS: Opposed?

(No response)

CHAIRMAN SHACKOULS: The 112th meeting of the National Petroleum Council is hereby adjourned. Thank you.

(Whereupon, at 3:50 p.m., the meeting was adjourned.)

REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before:

NATIONAL PETROLEUM COUNCIL

In the Matter of:

112TH MEETING OF THE NATIONAL PETROLEUM COUNCIL

were held as herein appears and that this is the original transcript thereof for the file of the Department, Commission, Board, Administrative Law Judge or the Agency.

Further, I am neither counsel for or related to any party to the above proceedings.

Charles Kera
Official Reporter

Dated: September 26, 2003