MEETING OF

THE NATIONAL PETROLEUM COUNCIL

TUESDAY, APRIL 18, 1989

DOLLY MADISON BALLROOM

THE MADISON HOTEL

15TH AND M STREETS, N.W.

WASHINGTON, D.C.

9:00 A.M.

PARTICIPANTS

EDWIN L. COX, CHAIRMAN NATIONAL PETROLEUM COUNCIL

HON. JAMES D. WATKINS, SECRETARY OF ENERGY

HON. W. HENSON MOORE, DEPUTY SECRETARY OF ENERGY

WILLIAM E. SWALES, CHAIRMAN COMMITTEE ON PETROLEUM, STORAGE AND TRANSPORTATION

LODWRICK M. COOK, VICE CHAIRMAN, NATIONAL PETROLEUM COUNCIL

HON. J. ALLENWAMPLER, ASSISTANT SECRETARY OF FOSSIL ENERGY

MARSHALL W. NICHOLS, EXECUTIVE DIRECTOR, NATIONAL PETROLEUM COUNCIL

QUESTIONERS FROM COUNCIL:

RICHARD J. GONZALEZ

BOB L. PARKER

JOHN LICHTBLAU

C O N T E N T S

P R O C E E D I N G S

(On at 9:02 a.m.)

CHAIRMAN COX: The 95th meeting of the National Petroleum Council will please come to order. You have a copy before you of the meeting's agenda. And if there is no objection, the check-in outside the room will serve as the attendance record, so that we will not call the roll, but if you did not sign-in, before entering the room, please do as you leave.

I would like to introduce the persons seated at the head table. On my far left is Allen Wampler, who is the Assistant Secretary for Fossil Energy. And next to Allen, is Bill Swales, Chairman of the NBC Committee on Petroleum Storage and Transportation. And sitting next to Bill is the Honorable W. Henson Moore, Deputy Secretary of Energy. On my far right is Marshall Nichols, the Executive Director of the Council and next to Marshall, is Lod Cook, the Vice Chairman of the Council.

On my immediate right, is the Honorable James Watkins and we are very pleased that Secretary Watkins could join us this morning. We think this nation is indeed blessed by having him to be the Secretary of the Department of Energy, and for those who have not had the pleasure of meeting him and knowing all about him, I

would like to state that he is a native Californian, graduate of the Naval Academy and he holds Masters Degrees in Mechanical Engineering and is a graduate of the Reactor Engineering Course at Oak Ridge National Laboratory. He served for three years with the Atomic Energy Commission, as Admiral Rickover's assistant, for Naval Nuclear Propulsion.

And his tours as Flag Officer included Chief of Naval Personnel, Commander of the Sixth Fleet, Vice Chief of Naval Operations, Commander in Chief of the Pacific Fleet, and Admiral Watkins was selected by President Reagan to become the 22nd Chief of Naval Operations in 1982.

His military decorations include several distinguished service and Legion of Merit medals, the Bronze Star with a combat V, and many others.

Following his retirement in 1986, Admiral Watkins has been extremely active in various forms of public service, and in October of '87, Admiral Watkins was appointed Chairman of the Presidential Commission on the AIDS Epidemic. And he submitted his report to the President in June of last year.

Admiral Watkins has now taken on this as another challenging public service as our Secretary of Energy and it is a very crucial time in our energy's

history and we are blessed, I think, truly by having someone of his character, and his caliber to be the Secretary of Energy.

At this time, it is my pleasure to present the Honorable James Watkins.

STATEMENT OF THE HONORABLE JAMES WATKINS, SECRETARY OF THE UNITED STATES DEPARTMENT OF ENERGY.

SECRETARY WATKINS: Thank you, very much, Ed.

It is a great honor for me to be here this morning, as Secretary of Energy, and to have been asked to address this prestigious group, very important to me, as a Secretary, on the subject of energy.

Before I start, I would like to just shift the agenda, if I might, Ed, a minute, and I would like to just bring Henson Moore up and let him say hello to you so that you know that he can talk.

He is a wonderful person, is a former Congressman from the great state of Louisiana, and he is my oil and gas right arm. He and I are going to make a great team. We have grown very fond of each other, professionally and personally since we have been together the last couple of months and he was no sooner baptized as Deputy Secretary of Energy last week, then we launched him onto Capitol Hill the next day and he gave a

fantastic testimony to the electricity problems in the northeast region of the United States. Very important in light of the questionable decision being made up there on the Shoreham plant.

So, yesterday we launched him again over there, or the day before, on the issue of gasoline prices vis-a-vis the Valdez incident. Another commendable job; a tough assignment to sift out all of the issues regarding the increase in crude oil prices and how they effect the price of gasoline.

So, Henson, if you will come over and let them know who you are and just say hello this morning, then I will proceed on with my remarks.

DEPUTY SECRETARY HENSON: Hello.

(Laughter.)

SECRETARY WATKINS: He didn't have that same reputation for brevity on Capitol Hill, but that is typical over there.

Now, let me state from the outset this morning that I plan to use the collective wisdom and expertise of the National Petroleum Council in the role for which it was intended, and that is to advise the Secretary of Energy on national energy policy objectives.

You have an important voice, and as I mentioned, with your Chairman yesterday and the

respective chairman and your executive director, that on my watch that voice is going to be heard.

We, in the Department of Energy, are going to put together an integrated national energy strategy for this country. And we have been asked by the President to do that, and we have all long awaited such a strategy and we are going to do it.

When I sat down at my desk a couple of months ago, I was presented with a stack of very impressive documents, all describing energy policies, energy projections, energy programs, energy budgets and there were a number of NPC reports in that stack.

And as I began to look through them, I was impressed with the enormous amount of information we have to draw from. We don't need to reinvent any wheels. Many of these are excellent documents, but there is clearly a missing component. There seems to be no common thread to permit conversion to an action plan.

No integrated link between policies and programs and budgets that presents not so much a discussion of energy issues -- that is easy -- but a strategy that can pave the way for those programs and policies to be brought to fruition over time.

On the other hand, I don't believe that our role in the Department of Energy is to plot a strict

unbending course of energy in this country. That has been tried before and the changing nature of the market kept getting in the way and outdating such plans before they could be placed into effect.

But I believe this government needs to have an approach to carrying out energy policy that recognizes the interrelationships of energy resources and that of energy to other elements to our economy and our society. For example, we would need to lay out for the American people the fact that natural gas decontrol can be an integral part of not only energy policy, but also environmental policy.

We need to be able to make the case that the ill-considered, what I called, Alice in Wonderland-decision, to close the Shoreham Nuclear Plant is totally contrary to calls for action on global warming and concerns about declining utility margins in the northeast.

We need to be able to fit conservation and renewable energy resources into a coherent national energy program. And we need to be able to take to the Congress and energy budget that flowed from an integrated set of sensible objectives rather than a budget that dictates outcomes, which even if achieved, would probably not satisfy near and long-term national objectives.

So, that is the overarching challenge that I see in the next several months, perhaps the next couple of years. And in fact, it is my intention to put Hanson on the road and to listen to people all over the country in the various regions talk about their ideas about a national energy strategy, primarily to get the awareness up for such a program and to allow the dialogue that must take place to build a consensus document.

One thing I learned in the AIDS Commission experience, you have to listen to the American people, they usually give you the straight scoop. Six hundred of them came before us, 43 hearings, and we found that, for the most part, good thinking Americans are just about 85 percent in agreement with each other on important issues.

And I think that we are finding the same situation here, as I weave through the Congress and listen to their complaints, I don't hear much different from those comments that I would hear from your Chairman.

So, I believe that we do have an opportunity here that is incredible for the nation, and we need to pull it together now, so that we can press on with a variety of programs that all seem to be demanded right now in an unusual way.

There are other challenges that I also face, like cleaning up the mess we have in our nuclear defense

facilities. And integrating into those facilities the lessons that should have been adopted at least since Three Mile Island. Bringing up operating standards up to or better than par with those in the private sector, that is not the case today.

And all of these are challenges that face us, and which I hope we can begin resolving while I am the Secretary of Energy. But when I leave this job, if I can look back and say, we fashioned a common sense energy strategy for this nation; one that reflected the promise and potential of our coal, oil, gas, nuclear, conservation, renewable energy resources; one that reflected the realities of the market place, and one sensitive to legitimate local and global environmental concerns, and one that brought this nation together on a common path, toward greater energy security, then I would have accomplished my primary goal as Energy Secretary.

That is what I want the National Petroleum Council to help me do, because the one message that came out of those reports, and analyses, that were handed to me was that a truly effective national energy strategy must begin with oil and gas. Oil and natural gas account for 2/3 of our nation's energy requirements and there are no readily available alternatives in the near term.

It is that umbilical link to unstable oil sources in the world that threatens our energy security and that threat, as you know, is increasing every day. And so it is still oil and gas that must remain at the core of our strategic energy thoughts. And that means that this Council can play a fundamental role in creating and refining that strategy.

One of the great tragedies in this country, as a technical person, is that when something is announced, like table top fusion, immediately we begin to believe that somehow, magically, we will have a thousand megawatt electrical plant coming off that table top within days. And this is one of our problems; we can't relate to a longer term strategic planning process. And so, today, sure we have a lot of alternatives being worked; in alternate fuels, methanol, ethanol and the like, flexible fuel cars that are being developed, natural gas cars, those are all good things.

But we are far from converting this nation, overnight to a new transportation mode. We must work on it, work hard at it, try to turn that import curve around, but we are certainly a long way from doing that.

So the challenge I offer you today is to begin looking at your industry in that context. Examine its future. Look at how it fits within our domestic energy

structure. And where it is going? What government policies and programs are needed to get it there and where the roadblocks are?

For example, pipeline regulation; what is inside that? What are the regulatory bodies doing at the federal and state level that impede progress in bringing a sensible mix of energy sources together?

So, you have got to show us the way to transition sensibly to a new mixture of energy sources which can help propel our nation into an economic success story at next century's turn.

I want to start that process today and I want to give you some of my views on priorities that affect the oil and gas industry and I would first say, is it a comprehensive list? No. Is is particularly insightful; probably not.

Will you have advice on how it should be modified and changed; I certainly hope so. Because I expect that from you and I need your help.

Priority number one is what I would call restoring confidence. Obviously the oil industry is suddenly and tragically reached a pivotal time in its history and Americans seem to recognize and react slowly to evolving events, like the threat of rising oil imports. But a sudden incident, like the Exxon Valdez

accident will crystalize and galvanize public opinion instantaneously.

That is what the oil industry faces right now, a very critical and skeptical public turned that way literally over night. And the industry must recognize that this is not just an Exxon problem. Nor is it a problem confined solely to marine transport of crude oil, or even to the Artic region.

Every oil company will have to confront the images created by the spill in Prince William Sound and every company will have to shoulder part of the responsibility for restoring public confidence in the petroleum industry.

We need to learn from the Valdez spill and we need to resolve the apparent conflicts that developed. For example, on the use of dispersants, would they have created more of an environmental hazard than they removed? On immediately booming the tanker, was there a fire hazard or not? On the state of readiness to respond to a problem of this magnitude, was it adequate? On the safeguards in place or not in place, could they have prevented this accident?

These are questions that once were confined to the permit process, to small meetings of oil companies, engineers, and local officials. Now, they are on the

front page of every newspaper of the country, every day and the topic of conversation among the public at large.

At the Department of Energy we are going to make the case that oil production and oil transport is by and large an environmentally safe process. We are going to attempt to convince our audiences in Congress and elsewhere that we can't react to the Valdez accident by adopting policies that simply replace Alaskan tankers with Mideast tankers.

We are going to talk about the track record of the industry, six and a half billion barrels of crude oil shipped out of Valdez in a dozen years on nearly 9,000 tankers with virtually no environmental damage until now.

We are going to discuss the exceptional environmental record of off-shore oil production, more than 5 billion barrels of oil produced from the outer continental shelf in the past decade and a half, with less than 900 barrels spilled as the result of blowouts. And the data coming in worldwide, on what goes into the ocean from our rivers, from industrial waste, far exceeds anything we see in even the tanker problem.

And we are going to continue to make the case for exploring ANWAR, the Artic National Wildlife Refuge, and attempt to break the linkage that I am afraid is developing in the public's mind that the Valdez incident

means that we can no longer risk new development on the North Slope.

But we cannot be the only ones making that case. The entire industry has a stake in how this debate unfolds. And you, in industry, must be able to convince people that you have workable oil spill contingency plans and that you have policies and practices in place to police your work force and that you operate in both normal times and during accidents with a clear recognition of the importance of environmental safeguards and adequate responsiveness and most importantly, that environmental protection is not just another regulatory burden but the watchword of every aspect of your operation.

By the way, that is the indentical challenge to me, in the national defense complex of the Department of Energy, it is no different. Environment is number one and yet, it has not been for over 35 years of operation there. As a consequence we have the incredible waste situation that we have in this nation that we simply have not done anything about. And now it is a scandal and we have to fix it.

And why we can't do these things incrementally and keep our act together, I have no idea, but we tend to slip into the malaise of happiness and things working

well and don't dust off our contingency plans to stay ready for the assured situation which will otherwise arise, if we are not ready.

There is no doubt that we have our work cut out for us. And as you know, efforts to move the ANWAR bill through the Senate have been suspended for the time being. Politically that was probably a wise course of action, but the clock is ticking. You know better than I, that we don't have a surplus of oil in the United States. Almost 2/3 of the free world's oil is in just about five countries, Saudi, Kuwait, Iran, Iraq, and the United Arab Emirates.

And the excess production, some people call it a glut, that everybody talks about, is primarily a surplus of crude oil production capacity in other countries. And most of that is OPEC surplus.

Our vulnerability to oil supply interruptions is greater today than it was at the time of the Arab Oil Embargo 15 or 16 years ago. And becoming more apparent to the American public as we approach and perhaps pass the 50 percent import mark. These are dangerous signs and we must do something about them and time is running out. Particularly, when we realize that it takes 10 years or more to bring a field like Prudhoe Bay or hopefully ANWAR into production.

Priority Number Two, in addition to rebuilding the confidence of the American public, is to restore the health and vitality of our domestic petroleum industry. And the Bush Administration is committed to that course of action, and that was reflected in the tax incentives that he proposed in his building a better America that he submitted on the ninth of February to the Congress.

The President's policies can be summarized in this manner: One, high level exploratory drilling is needed as a precursor to domestic greater domestic production.

Two, such exploratory drilling requires producers, including independent producers with financial strength.

Three, tax incentives targeted to exploratory drilling, tiertary enhanced oil recovery and independent producers are the most cost effective method of achieving these goals.

Four, the incentive should be linked to the price of oil relative to the cost of finding and producing it as the energy sector recovers the incentives, also should be phased out.

And, five, at long last, the 35 year era of government controlled pricing of natural gas should be ended. And regarding the last point, we are finally

seeing some light at the end of the tunnel.

Both houses of the Congress a consensus has been fast building this year, and my Deputy, Henson Moore, as his first job assignment as consultant, to the Designate Secretary of Energy, because there is nobody else up on the Seventh floor, so that we had to kind of take charge early, even before we were confirmed. He got over on the Hill and worked the natural gas problem, relaying the President's message and helping build that consensus and support.

And we were pleased today in the paper to read the passing of the decontrol of natural gas bill in the House of Representatives. It will move quickly, in my opinion, through the Senate, where the differences are small in the details of the bill.

Now, those prices phase out, those controls phase out on 1 January '93, and we would have preferred in the Administration that it be earlier, immediately if possible. But the worst thing that we could have done was destroy consensus in this particular bill. It has been a contentious issue for so many years. And the fact that it has moved through so quickly, is an indication of bipartisan sportsmanship now that pervailed and I think that it is extremely important that we keep that momentum going. We have so many issues to bring to the Hill this

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year, in legislation.

So, hopefully this is the start of a snowball of pro-energy issues that we can move through the Hill, very rapidly. We are certainly going to be spearheading that as far as the energy bills are concerned.

The third major policy priority is in the area of advanced technology. The NPC has done some truly outstanding work in cataloging the potential of enhanced oil recovery. And our job is to foster the kind of productive government/industry relationships that translate that potential into reality.

I am convinced we can do more in this area. The focus of the government's petroleum was once on the longer term, highest risk aspects of oil recovery. That is beginning to change. And we recognize the need in light of the impact of the drop in oil prices to look more at near term technological needs. Our program still includes the traditional methods of enhanced recovery -- the application of heat, gas and chemicals to a reservoir but now, we are looking at techniques that can find and produce oil that may have been bypassed by conventional technologies and yet, is sufficiently mobile to be produced without extraordinary advances in EOR.

We have placed a major emphasis on geosciences in how to translate a better understanding of the anatomy

of a reservoir into more effective petroleum engineering techniques. And as perhaps one of the most important priorities we are going to devote a considerable amount of attention to technology transfer. I have a very specific interest in this aspect of our petroleum. We have not done enough of it, in the past, and yet, it should be an integral part of everything we do.

We have a wealth of expertise, talent and innovation existing in our national laboratories, for example. Much of this knowledge was spawned in the nuclear weapons program; seismic monitoring, drilling technology, a host of geologic sensors and instrumentation.

So there is not a need for a large scale R & D program here. Most of the technology is already developed. It is not classified. The challenge is to make industry aware of it and to develop ways to move it from the defense program into the oil patch. And that is technology transfer, and that will be a priority of mine in the petroleum program.

Lastly, and please don't consider these priorities I have listed today to be in any kind of special order. I am very concerned about the steps we are taking or not taking to encourage the talents of our young people to be applied to math, science and

engineering.

And the 21st century is not something that is still a decade away. It already exists in the minds and skills being developed in today's generation of students. And it is our responsibility today, to do all we can to motivate and encourage them. But we are not doing enough. In 1982, for example, there were more than 3,300 freshmen enrolled in the major petroleum engineering schools in the country and in '87, only 271 were. Now, there is some turn around, we are up to 370 this year, but it is not encouraging.

But it is similarly discouraging in all other areas regarding science and engineering. There is a major effort by the National Academy of Sciences, Dr. Cyborg and I will chair a major meeting of some of the best minds in the nation out at the University of California in the fall and we will try to bring their attention to this issue. It is a major issue that needs mobilization by your industry and the other industries related to energy matters, and other matters. It is almost any area of our society today, whether it is health, medical science, whether it is oil and gas, whether it is nuclear, whether it is space, whether it is SDI, whether it is a fast food vendor, we all need to know a lot more about computation, mathematics, science

and how things work.

And we simply cannot remain number 14 in the industrialized world in these areas, and expect to be internationally competitive. So, somehow we have to put this on the front burner and parallel with everything else we are doing. We are not going to solve it by mechanical means only; we need human beings in there, that need to be motivated along these lines, and we have to focus on the centroid of the country and stop just looking at best and brightest and how to make them better and brighter. We have the rest of society to worry about that should be involved with us in our scientific and engineering work in the nation, or we are not going to make it as leader of the free world.

And we have a tremendous reservoir of talent and but it is imperative that we replenish that talent and motivate it, and that is why I am so personally interested in incentives to attract our brightest young people into these fields.

In my immediate reincarnation, after retiring from the military, I became involved in a number of private sector groups; Carneigie Corpation, New York; Exxon Education Foundation, the Education Commission of the States and others, where this was the principle focus. I see no reason why I shouldn't continue to do

that in the Department of Energy and that is what I am doing. If we are to be a truly progressive society, let us at least be forward thinking enough to prepare America's young people to be part of the energy breakthroughs of the next century.

There is no more exciting time. As we look at clean coal technology, the new techniques for oil extraction, the whole concept of alternative fuels, the complex technology of conservation. Conservation is not just giving three hundred saplings for a wedding present, it is far more complicated than that, and it needs the kinds of technical review that is so essential to place into our laboratories and into our best minds, to make sure that we are doing our job right.

And so it is absolutely critical to your industry and to the nation to encourage this talent to come in and get their feet wet with us. So this is the starting point, both for me and for you, I have a lot to learn about your industry but I have a lot of advisors here in this room who are very capable of conveying at least a portion of their knowledge to me.

And so let me ask you again to think about the challenges both you as industry and we, as a nation, face. Together we can put together energy strategies that make sense for this nation. And one that builds

from the lessons of the past, but most importantly, one that recognizes the true energy strengths of America as key to her economic competitiveness, and hence, to our continued role as leader of the free world.

Thank you, very much and if we have a minute, I will stand by for questions.

CHAIRMAN COX: Thank you very much Mr. Secretary and he is very nice to accept some questions. But also before that, if I may, I would like to call on Deputy Secretary Henson Moore for any comments that you would like to make -- oh, do you want to take the questions, first?

All right. Please.

Would you identify yourself for the record first, name and affiliation?

MR. GONZALEZ: I am Richard Gonzalez, and I am an economist who has been involved in the energy business since I left the University of Texas as a professor, to being a chief economist to an oil and refining company, which is now Exxon USA and I think you have addressed something that is very important to which I would add, that energy is critical to the productivity of our work force, and therefore, that we have to concentrate on that.

I was a consultant to the task force of 1954 on energy policy which recommended that we restrict imports. In 1969, I wrote to the -- Task Force and told them that the price of oil would surely go up because of the tremendous increase that occurred in demand, and yet, they were convinced by the people from MIT that because there was cheap oil in the Middle East, in their report they said, that the price of oil would surely not go up by 1980 but would probably go down, which of course, proved to be a disaster.

Now, the critical part of what you have addressed is that for decisions about energy have to be made for the investments in the next 20 to 30 years, and on that score, I would like to say that at the University of Texas, we have put out a paper recently on the Determination of the Equilibrium Price of Oil in Relation to Coal. And in which we point out that the price of oil had been kept too low by the government in the 1960's and early '70's because it regulated the price of natural gas and then when we passed the Coal Mine Health and Safety Act we doubled the cost of coal while we kept the price of oil down and the price of gas down.

We passed the environmental regulations, which limited the sulpher, and use of coal and therefore, we enhanced the value of oil and gas. So that it is not

surprising that the price of oil shot up when we lost control of the market, and then, it remained at approximately stable level in relation to coal until 1979, when our President sent a message to Congress, he was convinced that there was no future for oil and gas in this country and said, we would have to go to synthetic fuels and that we would have to subsidize synthetic fuels until the price of oil got to $28 a barrel.

And so naturally the OPEC countries said if that is your alternative, we will raise the price to $28 a barrel. And then keep it going up in relation to inflation. And I pointed out long before this change occurred, and the decline in price, that the price of oil got so far out of line with price of coal and yet, people were saying that it was going to keep on going up to $100 a barrel, which was ridiculous.

And so, we have to help this country and the people in this industry understand what this country will have to look forward to paying for energy over the period in which they are now making their investments, and your focus on policy, the national policy is the critical thing that we must concentrate not on what is going to happen 50 or 100 years from now -- we can remember that the oil was discovered in 1859 but it was not until the 20th century before it became more important than coal.

And gas has been around a long time, too. Yet, it has tremendous potential for the future so that you have focused on the most important thing, not only for the energy business, but for the future economic welfare of this nation.

Thank you.

SECRETARY WATKINS: I wished I had asked you the question, that is a hell of an answer.

(Laughter.)

That is a very good point here and I think that we have waited too long to pull our act together and I think what I have decided that the only way that I can build this strategy is to make everybody equally unhappy in its result.

But that is about the way that it is going to have to be. We are all going to have to give a little, and we are going to have to work together and we are going to have to pull all energy as a good thing, for this country together, to get this nation really moving into that next century. And pull right along with it, all the good people who need to manage it.

And was there another one down here?

MR. PARKER: I am Bob Parker from Parker Drilling Company. Again, you are asking the questions, and I think we are giving you speeches. This one will be

very short.

There is another dimension that I hope you keep in mind, and that is the people that make it happen, the research centers. They are just a small part of it, but the capability of getting our facts and figures launched. It is not so much being able to do the job, but that progress to keep ourselves competitive. We are losing most of our capability in improving the delivery of product and that is a problem that I don't know how to solve and how to address, and hope it is part of the program.

SECRETARY WATKINS: It is part of the program. I touched on it briefly when I talked technology transfer. And we had a meeting yesterday with some prominent Senators and Congressmen in my office on this very issue. We are losing out in many areas. Let's take just the area of ceramics for example.

There is no reason why our laboratories that do a lot of work in this area, a lot of very, very basic research and good research, can't be made responsible to focus on about four or five areas, of technology shortfalls that we have in this country where we are losing out to foreign bidders, worldwide.

And we have got to move, they are moving faster than we are and there is no reason for that. So we are

going to be aggressively going after those technologies in a different way to take them into industry as fast as we can move them and that will be a new adjunct to the energy policy.

I don't see how we can avoid things like ceramic engine development for instance, with our energy policy so that this is going to be very broad in the way that we approach this. And certainly the employment of our intellectual resources in our laboratories, which are incredible in this country, have to be focused and we have to make sure that we are using those valuable resources in a new way, as we migrate away from say, new nuclear weapon development for example, into other development in the country to make us competitive.

So, it is a very, very good point, and it will be one of our major objectives. We will be putting out a set of Department of Energy objectives for the nation about the first of June to surround a lot of these issues, and this will be one of the principle objectives we will set.

CHAIRMAN COX: Thank you very much, Mr. Secretary. We do appreciate your being here and your answering questions, and if I may, I would like to call on Deputy Secretary Moore.

STATEMENT OF DEPUTY SECRETARY OF ENERGY, THE HONORABLE W. HENSON MOORE.

DEPUTY SECRETARY MOORE: Ladies and gentlemen, he does have to leave, and I think if you all will excuse him so that he can get back to try to save the energy industry. And we certainly appreciate him being with us this morning.

What I have to say about him I don't want him to hear. That is why I am trying to hustle him out of here so hard, but he does have to get back. When I look at the problems in this industry and I sort of grew up with them as some of you may suspect, I never have gotten too far away from it. And I look at the problems that we are facing at the Department of Energy, not just concerning you but coal and nuclear and our broken bomb factory, we call it, where all of our very important national defense nuclear reactors are closed and they have got to be reopened at some point in the near future or we are facing unilateral disarmament.

And I figure you need a miracle and we need a pocketful of miracles at the Department of Energy. But that is the kind of odds you like. You like joining a team -- if there are 14 teams in this league of Cabinet Departments, we are ranked 14th, we are in the cellar right now.

And that is exactly the position you want go be in. Can't go any lower, and anything we do will be an improvement. When I look for miracles, I think about the story that happened in north Louisiana, just outside Shreveport, where Dalton Woods is from and we don't have too many Catholics. There were these two farmers, and they were coming along the road in an old broken down raggedy truck and they were coming up on a car pulled off on the side of the road where two nuns who were members of a hospital order, and they were headed on down to south Louisana to a hospital where they had been assigned, and had run out of fuel.

And all I had to go the gas station to get some gasoline was a bedpan and so they had done that. And just as the farmers come around the road, here is one of these nuns pouring the contents of that bedpan into the gasoline tank into her car. And the first farmer said to the second, now, Jed, we are going to pull over and be watching this. We are going to watch and if that car cranks up, and if it runs, we are going to be trading models and changing churches.

With miracles we are talking about, we are going to do the best we can to try to make that happen and try to work with you in doing that.

Normally the Admiral and I do not appear together. Somebody has got to be back at the office and when he is travelling, I am running the show and when I am out travelling, he is staying pretty close to the office. We came here this morning together, because that is a symbol we hope you see how important we think you are and you will be in our work over the next two to three years, or however much longer we will be here.

And we do need your help. It is also particularly poignant moment for me. I look out over this audience and there are an awful lot of friendly faces I have known for a long time -- people who were a lot of help to me in a lot of campaigns and battles on the Congress floor in the past, and people who tried very hard to get me to join the Bush Administration.

And I want to thank them for all they have done for me in the past. And I want to tell you that I think the President of the United States made the right decision, now that I have seen his wisdom and I have been working in this thing. And I want to thank those of you, like Bobby Parker, who called me and said, Henson, do take that number two job, it is important. And we want you to do it and it would be the best thing for you.

Bobby, I am here to tell you, you were dead right. That after six weeks of working with the Admiral,

I am absolutely convinced of the President's wisdom, and I am also convinced that it is the smartest thing that I have ever done.

And we are teamed up together in harness working on a number of projects, and it is mutually beneficial for the two of us to work together and it is also finding that he is teaching me a lot and he listens when I speak up on things, where he thinks I have got expertise.

And to show you how dedicated this fellow is, to this industry, one that he doesn't know much about, but he is learning daily. He is an extremely, incredibly bright man and he is a very, very smart fellow. Technologically, I have not met anybody who can touch him in politics yet.

He also has a sense of humor. He also is not the typical Admiral. When I first met him and I was prevailed to at least talk to him after I had told him no for the fourth time and even told Bobby no, they said, look go and talk to the guy.

So I devised a test. The first thing I am going to say to him is going to be this sentence, and if he gets mad, I know that he is a typical General or Admiral and I can't work with him and if he laughs, I will know, here is somebody unusual.

And so I sat down and I said, Admiral, you probably think about as much of former congressmen as I do, former Admirals. And he rolled out of his chair howling laughing and it has been that way ever since.

He is the kind of fellow that he really devotes himself to the job at hand and to show you how hard he is trying to learn about this industry and how fast he is learning, Helmut Merklin puts out an abundance of charts and graphs and he floods us with them. If we had as much oil production as we do production of charts coming out of EIA, we would not have any problems in this country.

But there is one chart he gives the Admiral and me every Friday morning and I have noticed, and he has never heard me say this, but he puts that under the glass on his desk. It is before him all day long six or seven days a week, and that is Helmut's chart, he puts out on how many seismigraphic crews are working, how many rigs are working, what is the price of oil?

That is the only document that is under the glass cover of his desk and of all the problems he worries about, I think it is particularly heartening that he takes a very close look and keeps up with that. And he knows what is going on and he follows it very closely and I have got extremely high hopes that he will be able to dedicate his tremendous resources to working with the

industry in finding solutions for some of the problems that we have.

He talked about a national energy plan. Now, to me, thinking back to the days of the last time that we saw a national energy plan, what that meant was regulations and controls. And that was the first thing when he said that, I said, whoa. And we sat down and had a long conversation and I soon found out what he was talking about.

He is used to grand strategies, when he was the Commander in Chief of the Navy and he is used to having a game plan and then working that game plan. He is dead right. Sometimes we get caught in the thick of battle of trying to get the natural gas bills through, and we get caught in the thick of battle trying to get the President's tax incentives through and we lose sight of where is this play in the bigger picture?

He sees the big picture and so we are going to work on the big picture, and I have recruited -- I can't name this morning, but when that name comes out, you will be very impressed -- we found the number one person in Washington that we could hire away from a job paying three times more money to sit down and help us develop this national energy plan.

And we are not talking regulations and we are not talking about controls. We are talking about production, we are talking about delivery, we are talking about doing away with laws that impede it and regulations. We are talking about a document that will become a strategy that we act off of, every day, with the press and with speeches and the Congress, and, yes, even the courts, as we are even using the Justice Department as a part of that strategy.

Where we are going to be constantly telling the American people, this is what we should be doing for the energy independence of this country, for the quality of life of its citizens and for the competitiveness of our business and industry. And that was some of the battle that we just got into, and the Shoreham Power Plant is an example of that.

And you are going to see an activist department, like you have never seen before. As we develop this energy plan, we are going to need your help in doing it to be sure we are right, and then you are going to see us go to war, day in and day out, with that energy plan as our weapon and our strategy, to help us build a true energy policy in this country, something I don't think has existed since the last one that went back in the mid-'70's, which was, I thought, dead wrong.

And so now, we are going to try to do one absolutely right, with your help.

Joe Easton, Joe -- stand up over here -- Joe is the special assistant to the Admiral, to the Secretary and myself, who is going to be the person who is going to be the contact point between our office and between you. And I was told yesterday by Lod, who didn't believe all of the things that we were telling him, we are going to be doing, sent us a letter asking us to do this. Listen we are understanding bureaucratize and if that is what you need, it is what you are going to get and Joe is drafting the letter. And we come forward asking you for specific things.

First of all, to give us the wherewithal and the ability of your talent and resources to work with us on a regular basis as we develop this national energy plan. And we will lay that out for you and we will look for you to contact us back and tell us, would you want to come meet with us monthly? Do you want to form a committee to do that and have that committee meet with us monthly? You tell us, but it is going to be a regular thing where you come and sit down with us as we develop this.

Number two, Assistant Secretary Allen Wampler and I visited this last week and I have asked him to

prepare and he is working on it now, a list, an analysis of all of the research and development projects, we are doing in the Department of Energy or ever have done, that deal with oil and gas. To analyze those for me, to tell me which were good, which were bad, which ought to be continued, and which ought to be dropped.

But more importantly, to go back and take off the shelf, any idea anybody ever had where we could play a part in trying to develop new science and technology that would be of assistance to your industry.

And so we charge you with that as well, tell us. What can we do to be of help? What consortium can we help form? What university can we help fund? What can we do of any program to help close the gap between the price and the need for production by increased technology?

And thirdly, I was at the White House last Friday and brought this up and suddenly the White House is beginning to look at the Admiral and myself as being real advocates for the energy industry because we were pointing out things to them that they have not heard in a long while. Such, as OPEC and the fact, that OPEC does, in fact, control prices when they wish and usually they wish. And the fact that our infrastructure of this country, as Bobby Parker is pointing out, is in serious

rate of decay.

We were, and I think still are, the leaders of the world in oil and gas technology and exploration and production. We cannot let that technology slip away. You heard the Admiral's thoughts on technology.

So, the question is, are there markets closed to you around the world that we need to open for you and to help? And there is one country, in particular, that I was in a secret meeting at the White House, that I can't tell you which one where that is the case, and I made the point the National Security Staff made notations of that point, that that was something to consider.

And I said, look, if we don't have the abundance of exploration and production in this country, where is it going on in the world, and why can't Americans be doing it and American companies be doing it -- the service industry that Bobby talked about. And so we need your help there identifying those problems and those markets.

And that is just a start. There are many things where you can be of assistance of us, so don't wait until we task you, task us. It is a two-way street. Come back and say Henson, you are all wet on this, or Admiral why don't you look into that? We are here and I think that you are going to find that we are going to be

a partner of yours, and we will be defending you and working with you when you are right and we will try not to throw stones when you are wrong, but be with us and give us your help.

And for those of you who don't know much about me, I was reared in the small town of Egberry, Louisiana on the Black Bayou oil field, where my daddy was a roughneck for Standard Oil and Gas Company and goes back a long time. Not even Lod Cook, who is one of Louisiana's most famous sons, I don't think knows where Egberry and the Black Bayou oil field is, but I did, that is all that I saw for a long, long time as I grew up.

Those feelings, those impressions, are forever embedded in my heart and soul. I just want you to know that for all of you who helped me for those many, many years, I am going to do everything that I can to never forget my roots and where I came from and how I can be of help to you.

Thank you very much.

CHAIRMAN COX: Thank you very much, Secretary Moore, we will look forward to being your partner.

The main issue that the Council has dealt with this past few months, has been the NPC committee on petroleum storage and transportation. We are very indebeted to Bill Swales of USX for having chaired this

committee and Reaid Jamin for being chairman of the coordinating subcommittee, for the amount of work that they have put in and your people who have helped in every way as well as those from the department, we are very indebted and I would like to call on Bill, right now, for this report.

STATEMENT BY WILLIAM E. SWALES, CHAIRMAN, COMMITTEE ON PETROLEUM STORAGE AND TRANSPORTATION.

MR. SWALES: Thank you very much, Mr. Chairman, ladies and gentlemen.

I see as usual when I get up to speak and give a report, everybody starts walking out of the room, so hold fast, would you please?

I am pleased to present for your approval this morning, our comittee's proposal for a final report, entitled Petroleum Storage and Transportation. And as you know, this comprehensive report is being issued in five volumes. Volume I the Executive Summary; Volume II, Systems Dynamics; Volume III, Natural Gas Transporation; Volume IV, Petroleum Inventories and Storage; and Volume V, Petroleum Liquids Transportation.

The Council has approved Volumes III, IV, and V last December as an interim report. Today we are considering approvals of Volumes I and II, that, along

with the interim report volumes, constitute the final report of the committee. Drafts of Volumes I and II were sent within the last month to all council members for your review, and extra copies are in front of you.

Also, in front of you is a draft letter for transmitting the report to the Secretary. And by way of background, the National Petroleum Council's current study of U.S. petroleum inventories, storage and transportation, was initiated by a request from the Secretary of Energy for a comprehensive updating of the Council's 1979 report, Petroleum Storage and Transporation Capacities, and its '84 report, Petroleum Inventories and Storage Capacity.

The three volumes approved last December, essentially were a response to that portion of the Secretary's request. And additionally, the Secretary requested that the current study place more emphasis on describing the dynamics and interrelationships of the oil and natural gas delivery systems, particularly during periods of stress.

Volume II, System Dynamics is our committee's proposed response to this second portion of the Secretary's request. And for your reference, the Secretary's request letter is in Appendix A of the draft volumes before you.

I would like to now present a brief overview of the committee's overall report. A review of Volume I, the report of the executive summary, I think is a good vehicle to start from as it presents the study's primary conclusion and brief summaries of Volume II through V.

I will first cover the summaries in Volumes III, IV, and V to refresh our memories on these detailed documents. Then I will address with Volume II and finish with our conclusions.

Volume III, Natural Gas Transportation describes the industry as it exists today and analyzes a series of stress cases for 1992. Sections on the history of the industry and its changing regulatory environment are used to provide a prospective the analysis.

To establish baseline data for the analysis, the NPC surveyed approximately 80 natural gas transmission and storage companies to determine the capacities of major pipeline segments, interconnects and storage sites, as well as peak shaving LNG information. The surveys also collected data on the BTU content of the gas in each system and its relationship between average January day requirements, and peak January day requirements.

Most of the major interstate transmission companies and large storage companies responded.

Information available from the Federal Energy Regulatory Commission reports and America Gas Association publications, were utilized to supplement the data where necessary.

These data provide the basis for many of the maps and tabular material found in the Volume as well as the input to the linear programming model utilized in the analysis.

The ability of the natural gas pipeline network to satisfy demand, without considering fuel switching capabilities, was modeled under a set of cases, comprised of a typical winter, and a series of assumed stress conditions within a broad range of supply and demand projections. Conditions for both 1988 and 1992 were analyzed.

Load demand projections, 16.5 TCF, was derived from a forecast prepared by Data Resources Inc., and the high demand projection, 18.7 TCF was derived from an AGI forecast.

The low supply and high supply projections assumed annual lower 48 production to be in the range of 15 to 17 TCF respectively. And rather than discuss the overall conclusions of each volume separately, they will be jointly addressed in the overall conclusions of the presentation.

Volume IV, Petroleum Inventories and Storage, analyzes inventory and storage capacities for crude oil and the principle petroleum products in the primary distribution system, the secondary distribution and the tertiary storage segment.

The object of the Volume was to determine the volumes of petroleum that could be available in an emergency, estimate new minimum operating levels for the primary system and determine the amount of petroleum storage capacity in the United States. Additionally, the impact of petroleum futures and forward markets and SPR on inventories were examined.

Much of this data was collected by the survey. And the primary distribution system is composed of refineries, pipelines, and terminals. Each of the 381 companies in the primary system was surveyed for detailed information on inventories and storage. The secondary distribution system consisted of small bulk plants and retail motor fuel outlets. A statistical sampling technique was used to estimate inventories and storage capacities for bulk plants.

Approximately 2,000 of the 15,000 companies believed to be operating bulk plants were surveyed. And estimates for retail motor fuel outlets were based on published literature and discussions with industry

experts.

And the tertiary or consumer segment was divided into seven sectors: agriculture, commercial, electrical utility, industrial, military/government, and residential and transportation. And estimates of inventory and storage capacity were made using available public data.

The inventory and storage capacity estimates are compared to those in the NPC's '84 report and the changes along with the reason for the changes were used to describe the forces that shape inventory and storage management.

I would just like to pause now, if I could, and note that this Volume is dedicated to the memory of Donald Brenowitz, who passed away during the course of this study. Donald was with Shell for almost 32 years and he participated in previous NPC studies, as well as a member of the task group that prepared this Volume.

Don willingly contributed his experience, practical insight and good humor to all of us, and I think he will be missed.

Petroleum V, Petroleum Liquids Transportation presents information on all forms of transporting crude oil, refined petroleum products and liquified petroleum cases, the gases. These include pipelines, tankers, the

barges, tank trucks and rail cars. All data for pipelines were developed by an NPC survey of the major petroleum transportation companies in the United States.

Capacity data as of December 31st, '87, were collected from common carriers crude oil, petroleum products, LPG pipeline systems and were presented in the Volume. Nationwide maps of each of these systems are included.

For crude oil and product system, regional maps were prepared by the Petroleum Administration for Defense District in detail. Area maps for major refining and pipeline centers are also included.

In addition, capacity data, longtitude and latitude data for pipeline receipt and delivery points were collected to aid the industry analysis and computer drafting some private, as opposed to common carrier pipelines are also included in the report.

And the crude oil field lines and gathering systems are excluded. The water borne transportation portion of the Volume updates the '79 NPC inventory of marine petroleum transportation equipment including U.S. Tankers and domestic inland waterways.

It also examines the waterway navigational structures, and constraints on the water borne transportation industry arising from the various

regulation and insufficient or outmoded inland waterway and harbor facilities. The tank car transportation of the section of the Volume analyzed the U.S. tank, truck and rail vehicles that might be called upon to safely haul petroleum products in the event of an emergency.

This completes my overview of the three Volumes we approved last December. Building on the detailed description and capacity data found in these volumes, the study groups then developed the two Volumes that you have before you today.

Volume II, System Dynamics, is a detailed analysis of how the U.S. oil and natural gas system works, both in normal times and during periods of stress, when unusual occurrences severely hamper normal systems operation.

The Volume summarizes major changes in the distribution system since '79, in the evolving petroleum industry conditions that stimulated these changes. The Volume assesses the adequacy of the oil and gas distribution system not only to meet current needs, but those arising from the Energy Information Administration's projections for 1992 of the oil and gas demand.

In this study, the oil and gas supply or distribution system definition was extended to include

refineries, imports, and trading as well as transportation and storage facilities. In describing how the system operates under normal conditions, the study summarizes these facilities and functions and briefly describes some of the economics that control their utilization.

Fuel switching and electric utility flexibility are also addressed. Numerous maps are also included. A major part of the systems dynamics volume is a detailed analysis of a range of possible industry responses to six unlikely but highly stressful situations. The supply system's ability to maintain consumer oil and gas supply under these stress conditions, now and in 1992 is assessed.

And also included is an examination of several recent actual stress situations as a background for the discussion of the hypothetical stress scenarios.

It is important to note, for those outside the industry that even under typical conditions, the system responds to a constant stream of minor stresses, such as refinery down time, missed pipeline deliveries, unexpected changes in weather, and occasionally the system is faced with more serious stress conditions. A degree of stress is normal in the industry but few stress situations result in serious supply problems.

In fact, the consumer rarely feels the impact. The industry reactions of stress situations of all magnitude are the aggregate result of thousands of independent competing company decisions and reflect classic supply and demand economics.

Strained supply results in higher prices, and the higher prices call for incremental supply from a variety of sources that might not otherwise be attractive. Incremental oil and gas supply can come from storage, or peak shaving, imports, or increased refinery production.

Higher prices also make it economic to move product from adjacent areas, or to switch to alternate fuels. Let's now briefly discuss each of the six hypothetical scenarios and summarize our findings.

Scenario I examines a major oil import disruption and initiating a draw down to the strategic petroleum reserve. This scenario tests the system's ability to handle a 90-day disruption of foreign crude oil products imports, totalling 3 million barrels per day now, and 4.5 million barrels a day in 1992.

We believe that the combination of SBR inventory backup and the ability of the system to shift product from other parts of the system permit coping with even such large crude oil losses.

Scenario II tests how the supply system might cope with an unusually servere winter, with temperatures averaging 10 degrees colder than normal for 90 days or 20 percent colder than normal for 30 days throughout the total nation.

We concluded that the current supply system with the improvements now in progress is fully capable of handling the severest weather conditions we have experienced in over 50 years.

Scenario III looks at a 30-day Canadian gas import disruption. This scenario analyzes the effect of a 50 percent loss in gas imports for the month of January at each of the five entry ports between Canada and the United States. The assumed reductions, for the purpose of this scenario, was about 2.3 billion cubic feet per day and we found that the system could weather the loss of 50 percent of the gas normally imported from Canada for 30 days without significant difficulty. However, the Canadian natural gas shutoff scenario may pose a temporary problem for the west coast, if sufficient natural gas is not in storage at the time of the disruption.

Scenario IV tests supply system capability to respond to a 30-day shutdown of a major midwest products pipeline. For the purpose of the study, we examined the

consequence of explorer pipeline being shut down and this pipeline delivers about 360,000 barrels per day to the midwest from the U.S. Gulf coast. This is an important products supply pipeline for a high consumption area.

We believe that the loss of a single pipeline into the midwest for a 30 day period, could be handled by a combination of normal industry operating practices.

Scenario V analyzes a shutdown of deliveries from the Trans-Alaska pipeline system for 30 days. TAPS is the largest through-put crude oil pipeline in the United States, carrying an average of about 2 million barrels per day for trans-shipment to the west coast, gulf coast, Virgin Islands, and Hawaii. This constitutes about 15 percent of the total U.S. crude oil demand.

We concluded that while a disruption of the TAPS would result in higher costs to the market place, essential supplies needed would be met assuming normal world crude oil supply availability especially in a current disruption. However, the loss of TAPS supply for 30 days in 1992, could pose a substantial more serious problem, which could be felt by west coast consumers for several weeks.

The west coast resupply problem will become more difficult in later years, as projected Alaskan production drops and west coast consumption increases,

leaving significant less oil in transit to destinations east of the Rockies to provide continuity in the early days of the cutoff.

As all of us are well aware, this scenario unfortunately came close to reality a few weeks ago. And the transmittal letter before you discusses this matter, and I will address it a little later in my remarks.

Scenario VI examines the crude oil import disruption. This final stress scenario tests options available in a case of a 30-day disruption of Canadian crude oil imports delivered via interprovincal pipeline.

This would result in a 500,000 barrel per day crude oil loss in the upper midwest. We believe that for most of the midwest, the lost Canadian crude oil could be quickly replaced except for the Twin Cities area. By 1992 projected growth in refining crude oil demand will make replacement of the Canadian volume in kind more difficult.

Incremental productions by product inventory draw would be required to bridge a 30-day loss of Canadian crude oil.

These brief summaries of how we could effectively handle these scenarios may give some of you a mistaken impression that solutions are simple. As we, in industry know, there are often are quite complex, as

described in detail in Volume I.

It is also important to recognize that these scenarios tested the ability of a system to move crude oil product and gas during periods of stress. In all the scenarios, supply was expected to be available in the system. The study did not consider situations that were beyond the practical ability of the system to solve. Such as, a situation that may trigger international obligations under the IEA treaty.

These are problems for governments to address with industry input. Even in these situations, the supply system would provide flexibility to efficiently distribute available supplies. This leads us to the report's primary conclusions.

In Volume II through V of this report, we have evaluated the past performance and future potential of the nation's oil and gas storage transportation systems. And the NPC study found that the nation's existing supply and storage system for both petroleum and natural gas to be both efficient, economical, reflecting the industry's highly competitive environment.

For this analysis we have drawn the following specific conclusions and because of their importance, I believe that they bear repeating verbatim.

The first conclusion concerns the status of the industry's infrastructure. And in looking ahead through the year 1992, the NPC concludes that the complex oil and natural gas supply and transportation and distribution network can continue to meet the nation's oil and gas needs.

Despite the turbulence of the past decade, with shifts in demand, volatile price swings, and declining exploration and production activities, and shifting product mix, the storage and transporation system was able to supply the nation's needs for oil and gas with minimal interruption or inconvenience to the consumer.

To ensure continued efficient service, economically feasible modifications and additions to the present network should be permitted, and made to the system that consists of crude oil product pipelines, natural gas transmission, rail and truck service, and terminals and storage. One exception, to privately financed expansions and modifications to maintain viability is needed for major public works investment to modernize and upgrade deteriorating and outmoded inland waterways and harbor facilities.

The study emphasizes the value of flexibility and interconnectability of the nation's current network of oil and gas national supply system, the storage and

the transportation system. This flexibility calls for prompt and efficient adjustment in response to either gradually shifting supply demand patterns or very abrupt changes in the market place.

The supply system has the ability to respond with a variety of alternatives to resolve potential local regional or national shortages.

The ability of the system to supply oil and gas to the consumer in an emergency is demonstrated by this study's analysis of a variety of unlikely to occur situations. And barring a severe disruption of the world's petroleum supply, extended supply shortfalls in the United States are extremely unlikely.

The second conclusion is on the role of market forces. The dynamics of the free market had been vital to the industry's successful performance in the past and will be equally critical in the future. Investments to accommodate changing supply patterns as well as readjustment to move volatile shifts in supply and demand patterns are more likely to occur promptly when free market forces are not distorted by price or allocation regulations or regulatory delays.

The major concerns raised in this study are possible constraints on the industry's ability to adapt to a changing business environment and they are generally

related to the uncertainties growing out of the ongoing or proposed legislative or regulatory initiatives.

The operation of the supply system is enormously complex and reflects the independence actions of thousands of individual companies, many of whom are in direct competition. Competing companies make independent decisions based on their own economics and their own views of the future. Nevertheless, the aggregated system reacts predictably to economic incentives.

History indicates that the system responds vigorously to fuel price differential as small as a fraction of a percent.

Our third conclusion is about the natural gas system. The ongoing process of deregulation is increasing competition within the natural gas industry and should ensure a flexible system that would allow natural gas to assume a growing role in meeting the nation's future energy needs.

The nation's natural gas delivery and storage system from well head to the ultimate customer, has demonstrated its ability to respond to changing regional demand patterns. Significant new natural gas markets are developing. Where the construction of new pipelines is required to serve these markets, such as the northeast, Florida and the west coast, numerous regulatory approvals

needs to be issued promptly to preclude bottlenecks.

And seasonal demand levels for gas fluctuate most dramatically and more dramatically than petroleum products and the system cannot rely on imports to meet peak demand levels. This results in the need for substantial peak storage at a significant capital inventory and operating cost.

A key issue is the allocation of these costs. And the nation's existing pipeline network has sufficient capability to meet natural gas demands through at least 1992, and this assumes that the supplies are available to fill seasonal storage at the beginning of the peak seasons. New pipeline debottlenecking, proposed by the industry are constructed without undue permitting difficulties or legislation problems. And supplies to customers with interruptable supply contracts may be curtailed during the peak days, however, for the longer term, the issue of storage must be addressed in order to assure that peak seasonal supplies will be available.

The fourth conclusion has to do with inventory levels and liquid petroleum inventory levels have proved to be an adequate cushion against short run supply and demand imbalances. Inventories of crude oil and the principle petroleum have declined slightly since 1983, and the study examined minimum operating inventories, the

level below which operating problems and shortages would begin to appear in the distribution system.

In aggregate, minimum operating inventories have changed less than 1 percent since 1983. The change in inventory levels that we see reflects more diversified domestic and global supply sources and the speed with which the system can respond in increasingly sophisticated inventory management.

Our fifth and final conclusion concerns the ability to the nation's petroleum distribution system to handle the release of SBR oil. The strategic petrolem reserve provides some valuable insurance against the major supply disruption and the NPC concurs with the Department of Energy policy of early and maximum release of SBR oil in an emergency situation.

A prompt decision to draw down the SBR oil is essential to minimize supply disruptions, as is the rapid implementation of the bidding award procedures. In the event of a major curtailment of crude oil imports, the nation's network of crude oil distribution and refining facilities has the capability of accommodating both the current 3.6 million barrels per day and the projected 4.5 million barrels per day SBR draw down rates.

Pipeline and marine transportation allow the great majority of refining capacity to physically receive

SBR oil. Through trading SBR oil can, in effect, be made available to virtually every U.S. refinery.

This completes the review of the draft report, so let us now turn to the proposed transmittal letter. The purpose of this letter is to formally transmit this report to the Secretary of Energy, providing him with a brief overview of the report's principle conclusions. As you have just received the draft letter this morning, we will review it for a few minutes and you may want to follow along with the copy that is on your table.

The first paragraph presents our overall findings that the complex but flexible oil and natural gas supply and distribution network can be expected to continue to meet the nation's oil and gas needs under a wide range of conditions.

And the second paragraph describes, as I did earlier, how the system operates under normal and stress conditions. It highlights the dynamics of the system. And also, as I noted earlier, the recent disruption of the Alaskan crude oil supplies provided a real life test of the report's conclusions.

Therefore, I asked the study's coordinating subcommittee to take a quick look at what occurred in the west coast supply situation, recognizing that the facts are stil emerging. We needed to be assured, that in

light of what occurred, the report's analyses are still valid and the answer is still definitely, yes.

The final paragraphs, I would suggest, rather than me read them, you can all take a few moments to read those vital paragraphs of the suggested letter. I don't think that there is any need for me to read them for you.

Obviously a report of this scope and depth required a significant commitment of resources at a time when we all had lean staffs and I would just like to give special thanks to all of those who made this commitment.

First, I would like to thank the members of the council for responding to the various surveys and for providing the personnel for the study groups. And our group was ably assisted by a coordinating subcommittee and four tasks groups.

I would like also to express my appreciation to DOE, particularly EIA, for their considerable support of the study effort. The dedication to this effort by all of the participants has been outstanding and I can personnaly attest to this dedication, having attended quite a few of the coordinating subcommittee meetings. I can't single out everybody, but I would just like to recognize the government co-chairman of the committee, Helmut Merklin, the Administrator of the Energy Information Administration and all of the other

government co-chairmen who so ably served on the subcommittee and the task groups.

The Chairman of the coordinating subcommittee, Riyad Amin, president of Marathons Emerald Marketing; Chairman of the systems dynamic task group, Dave Hayward, vice president of supply Mobile; the chairman of the natural gas transportation task group, Ron Burns, the president of interstate pipelines at Enerod; the chairman of inventories and storage task group, Bruce Rollick, the vice president of supply and transportation at Chevron; and last but certainly not least, the chairman of the liquids and transportation task group, Don DeBars, the president of Santa Fe Pacific Pipelines.

Mr. Chairman, this completes my presentation and I move that the National Petroleum Council adopt the proposed transmittal letter and the five Volume report of the committee on Petroleum Storage and Transportation, subject to final editing as its complete response to the Secretary of Energy's request.

CHAIRMAN COX: Thank you, Bill.

Do we hear a second?

VOICE: I second it.

CHAIRMAN COX: Is there any discussion?

Ed?

VOICE: I would like to congratulate this committee on the extensive work that they have done. I will confess I have not read every line in these reports. And maybe there are others here that have done so.

It seems to me that we have responded to what Secretary of Energy asked in 1987 but Bill Swales made mention of the fact that the reports does not cover the whatever the sharing arrangements we have under the international energy treaty in the event of an import supply disruption of some proportion, other than Trans-Alaska pipelines.

And I, for one, do not have a clear idea of what commitments this nation has made as to the draw down of the SPR on what might be within our boundaries a minor supply disruption. But as we know, Europe and Japan are far more dependent on OPEC oil than we are and on the assumption that if there were a major supply disruption in the world, it would affect them far more than it does us.

We are involved somehow in a sharing arrangement that I don't understand and that would make the probability of the effects on our SPR much more probable than we might otherwise think. And this is an answer that the State Department and our Department of Energy, they know what commitments, what practical

commitments we have made and I for one, would like to see a statement coming out of our government that would best help us to understand how deep in the soup we might be.

CHAIRMAN COX: Well, Ed, I think your request is in line with what Secretary Watkins would be asking for us and things like that and I believe that Allen Wampler is the man to carry this message back and I think your comment is very good. So thank you.

Any other comments or questions?

Yes, sir?

MR. LIGHTBLAU: Having testified yesterday at the hearing on the Senate, I am a little puzzled about one sentence in here. Price will be a necessary and effective mechanism to balance supply and demand. That was exactly what came up yesterday.

The question was, did gasoline prices rise as a result of the Alaska oil spill and this sentence could be misinterpreted by saying, yes, they what was necessary. Our thought at the hearing was that gasoline prices rose because of a very sharp increase in crude oil prices well before this, but this sentence seems to me to be used in some way.

MR. SWALES: John, you are no doubt right. If you look at the trends, the gasoline prices started rising before the disaster in Alaska due to the crude oil

prices that had gone up about $5 a barrel and -I think that we might have to look at that sentence in view of your comment on it, and your testimony as of yesterday.

Yes, we will look at that.

CHAIRMAN COX: The committee will look at that, and that is a good point.

Any others?

We have a motion and a second, all in favor of the approval of the report subject to final editing and subject to this final comment there, all in favor say, aye.

(A chorus of ayes.)

CHAIRMAN COX: Opposed?

(No response.)

CHAIRMAN COX: The motion carries. Thanks again Bill, and everybody in the government, the Department and everybody else for this.

And I know that Allen Wampler will carry this message to the Secretary.

We have two administrative matters this morning which we would like to cover briefly. One, John Hall of Ashland could not be here today so I will report on his behalf as chairman of the finance committee, which met this morning. We reviewed the calendar years 1988 and 1987 audit reports with representatives of Arthur Young

and we also reviewed the extended years for the first three months for the calendar year, '89 and I am happy to report to you that the financial condition of the Council is sound and the accounting controls and procedures received excellent remarks.

And you may recall in December 1988, you approved by letter ballot, the finance committee's recommended calendar year 1989 budget in the amount of $1,655,000 and the committee does not recommend any change in this budget. But it should be pointed out that this is a 5 percent reduction from 1988 and a total reduction of 22 percent during the last four years.

In December the finance committee also recommended surveying the membership for more current data to ensure that individual suggested computations are contributions are computed equitably. And currently the individual contributions are based on 1984 and '85 production and sales volumes. So your prompt response to this survey will be greatly appreciated when you receive it.

This morning, the finance committee did, however, recommend that the total level for the membership contributions for the period July 1, 1989 through 1990 wil be the same as last year, however, individual member contributions may vary based on the new

survey data.

This completes the report of the finance committee, and on their behalf I move that this report be adopted by the Council.

Do I hear a second?

VOICE: I second it.

CHAIRMAN COX: Are there any questions or comments.

(No response.)

CHAIRMAN COX: If not, all in favor, say aye.

(A chorus of ayes.)

CHAIRMAN COX: Opposed?

(No response.)

CHAIRMAN COX: Thank you very much.

Collis Chandler has done yeoman service to the chairman of the nominating committee and I would like to call on Collis at this time, if I may.

MR. CHANDLER: The nominating committee of the National Petroleum Council met yesterday and agreed on the following nominations for officers, for chairman, members of the agenda and appointment committees for the Council.

For the agenda committee, the nominations are as follows: Ralph Bailey, Bill Carl, Myself, Ken Der, Bill Fisher, Ken Lay, John Miller, Dick Moral, Larry

Rohl, Pete Sylis, and Frank McPherson serving as chairman.

For the appointment committee, the nominations are as follows; Tom Cruckshank, Bob Hotpur, A.V. Jones, Jim Bob Moffit, Dean Onokendris, Bobby Parker, Frank Richardson, Dick Segemeyer, Joe Williams, Irene Wisher, and Bob McClements serving as chairman.

For NPC chairman, Lodwrick M. Cook, for NPC vice chairman, Rail Hunt.

Mr. Chairman, I move that the Council elect the foregoing for 1989.

CHAIRMAN COX: Thank you for the motion, do I hear a second?

VOICE: I second it.

CHAIRMAN COX: Are there any other motions or nominations, if not, all in favor of the nominations as submitted by Collis, please say, aye.

(A chorus of ayes.)

CHAIRMAN COX: Opposed?

(No response.)

CHAIRMAN COX: Thank you, very much, Collis, and I want to thank all of you for allowing me to be your chairman these last two years, and I have enjoyed it immensely and the important thing that I have learned these last two years is the contribution that each one of

you makes. You make suggestions and you have made a major help to the efforts of the council and to this government.

So I want to thank you for the help you gave me, but especially I want to thank Lod Cook who is going to be your newe chairman, because he was always there when I needed him and that was frequently and his advice and counsel was great. So I think that the council is blessed by having Lod as its new chairman and Ray as its vice chairman. So at this time, I would like to call on Rod and say thanks again, and am delighted that he is going to be taking the mantle today.

Lod?

MR. COOK: Thank you, my remarks will be very brief. First of all we want to thank you for your two years of leadership through a very difficult time for industry and let's give Ed a big round of applause.

(Applause.)

MR. COOK: And although Ed thanked Bill, I don't think that we gave him a round of applause for his great work on that fine report.

Ed has assured me that the salary and perks that he has enjoyed that I will continue to enjoy in this job. It is a very exciting time for us, and I look forward to working with Ray Hunt, our new vice chairman,

with all the committee chairmen and the members, and Marshall and the staff and all of you.

I know that most of you know Ray but I would like for him to stand and be recognized as well. We have a new Administration. And we have what I think we can easily see a new dynamic leadership in the Department of Energy and we are going to be asked to do and participate more than we have in the recent past and I think that we will be responding to that very actively. The Secretary and the Deputy Secretary is certainly going to be more proactive, and they are strategic thinkers and I think that is going to be very useful for us in order to be heard to a greater extent than perhaps has been the case in the past.

I look forward to the challenge, and I know you do too. I will need your help and I will be calling on you and I thank you very much for your support and I look forward to working with you.

CHAIRMAN COX: Lod, we are looking forward to your leadership. You might make a note of the next council meeting has tentatively been scheduled for October 10, with a reception the evening before. You know, sometimes these have to be tenative as we are waiting for the final date from the Secretary in each case, but those are the dates that have been recommended

and I think that they will be approved.

Are there any other matters that should come before the council at this time?

(No response.)

CHAIRMAN COX: The council will adjourn and we will look forward to seeing you in October, and Bill Swales will be here if anybody has any questions about the report, as well as Riyad.

Thank you all very much, the meeting is adjourned.

(Whereupon, at 10:40 a.m., the meeting was adjourned.)

REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before DEPARTMENT OF ENERGY

in the matter of: NATIONAL PETROLEUM COUNCIL

were held as herein appears and that this is the original transcript thereof for the file of the Department or Commission.

Official Reporter

DATE: APRIL 18,1989