Copy #5

DEPARTMENT OF INTERIOR

In the Matter of:

NATIONAL PETROLEUM COUNCIL

Place: Washington, D.C.

Date: July 15, 1971

Pages 1 thru 74

Volume I

HOOVER REPORTING COMPANY, INC.

Official Reporters

Washington, D. C.

546-6666

NATIONAL PETROLEUM COUNCIL

- - -

Auditorium
Department of the Interior
Thursday, July 15, 1971

The meeting convened at 9:15 o'clock, a.m.,

Mr. E. D. Brockett, Chairman, presiding.

C O N T E N T S

P R O C E E D I N G S

MR. BROCKETT: The meeting of the National Petroleum Council will please come to order.

This is the 65th consecutive meeting of the National Petroleum Council, now 25 years of age.

Earlier this month each new member received a personal letter from the Secretary of the Interior Morton asking you to serve on this Council for the current fiscal year.

You are not selected for National Petroleum Council membership for just a particular segment of interest with which you may be identified; rather, you have been chosen by the Secretary because of your ability in energy or energy-related industries which qualify you for your service in the nation to this distinguished industry advisory group.

Every geographic area of this nation is represented at this advisory council; every segment of the oil and gas industry, large and small, has a voice and vote in the deliberations. The vote of a member who may happen to be chief executive of a large company counts no more than that of the smallest individual producer.

It is our purpose to present the Secretary of the Interior when requested the consensus of our respective viewpoint on issues of problems confronting the government and country directly involved or related to petroleum and natural gas. Currently these include the outlook for energy of this

nation, environmental conservation, and storage problems.

There has never been anything different about the manner in which the National Petroleum Council operates. Generally at all meetings, work meetings, has government representatives in attendance. Every report completed, the Council makes available to people of this nation. We have always operated, so to speak in a goldfish bowl.

I would like to impress upon you the fact the Council is a dedicated, technically oriented working group. We have no similarity whatsoever to honorary clubs. Let me assure you that the months and years ahead will require constant attention, consideration, and just plain hard work, wrestling with complex problems this body has or will have under consideration.

The energy industries are faced with new and awesome challenges and responsibilities; feeling of restlessness in the land has many causes. All of us must reexamine our goals and purposes and then rededicate ourselves. We must heed the cries for responsibility to save and take the necessary action necessary for the true needs of planners.

Looking at the principal reports for the body today, future petroleum problem study, environmental study, and the energy outlook study, you can see that the National Petroleum Council studies today are more complex than they used to be and involve intricate relationships between technology

and economics. We have entered a new and difficult period in our service to the Department of the Interior. Yesterday's ways of doing business are no longer adequate. For we must seek reasonable solution somewhere between the extremes that all too frequently appear to provide easy solutions to complex problems.

We must do all these things in cooperation with the government and the people.

Our work, then, is cut out for us, both as leaders of principal industries and as citizens. This being true, of course, it also is reflected and will be more so in years to come.

Efforts of the National Petroleum Council are as complex and difficult as matters placed before it for consideration and deliberation.

I am convinced all of us can and will meet this challenge. I beg you to be good and strong of heart.

Finally, I want to express deep appreciation for your personal interest in the on-going task of the National Petroleum Council. Your contribution of time and that of your highly qualified co-workers has been excellent. The quality of our studies stand as a tribute to the endeavors and dedication of members of the American industry, particularly oil and gas.

The government is the American people. We pledge our fullest efforts and cooperation in supplying energy needs of this nation, in doing our full share in bettering environmental safety and welfare of the people.

Gentlemen, it is now my pleasure to first present to you the distinguished and personable Secretary of the Interior, the Honorable Roger C. B. Morton.

(Standing ovation.)

SECRETARY MORTON: Thank you very much, Dell.

Secretary Stans, officers and members of the National Petroleum Council, my colleagues in the Department of the Interior, last night we had some fun and games and I guess we had better this morning get down to business.

First, I would like to say that I am convinced, and I am sure that I share this conviction with Secretary Stans, that the day of the Petroleum Council is not one of yesterday, but is one of today and tomorrow.

There have been, as Howard Marshall so well put it, days of greatness in times of dire national stress and emergency that this Council has come forward and made a tremendous impact on the decisions of government that led to resolution of very, very serious problems. Those problems will be of a different nature as we close this century, but nevertheless they will be there. And certainly I for one -- and when we look at this in terms of all of the voice of government, this is but

a voice in the wilderness, but I for one believe that the day of service to the government and to the people of this nation by the National Petroleum Council is yet to come and its time is now.

The silver anniversary of this National Petroleum Council could not have possibly fallen in a more critical era of this nation's energy histroy. On June 4 of this year, President Nixon handed the Congress the first message specifically concerned with energy in the history of government in this country. The President regrets -- and he called me personally only on a few days ago when he knew he couldn't be here -- that he could not share this meeting with you today. He asked me to express not only his gratitude for your 25 years of service that this organization has provided, but also to affirm his convictions that you, the leaders of America's petroleum industry, have a critical obligation to the people to supply the citizens of these United States with clean energy that will be necessary to kindle the furnaces and the engines of a higher order of civilization. He believes, as I do, that you will meet this energy, and I have no doubt.

As the President stated in his unprecedented clean energy message, we now face the situation of a frightening energy scarcity after many years of plenty. Having briefly reviewed the interim report which you delivered to me this morning, I have a feeling that you support this fact.

I look forward, by the way, to receiving the completed version of this critical energy report. Your performance in the past assures me that the document will have major impact on future planning and policy regarding energy resources. If it is anything like your tremendous environmental report, then we are in excellent shape.

The energy crisis which we now face is two-headed. One is immediate, the other is long term.

The solutions to both can lie only in an intelligent, coherent energy policy.

Many have cried for such a policy -- from government, from industry, from conservation, the conservation community. But none has been articulated for any approaches to energy policy must embody not only a clear enunciation of the problems and objectives, but a positive clarification of governmental and industrial responsibilities.

Energy demand is expected to grow steadily over the foreseeable future in response to increased population and work force, to the demand for rising standards of living and to the extensive efforts needed to restore the quality of our air, water and land, to rebuild our central citieis, and in general to do the things required by a growing, prosperous, high consumption society interested in improving the quality of its existence.

To sustain these aspirations, energy consumption is

expected to increase 40 percent over the present level by 1980, double by 1990, and be tripled at 285 percent of the current rate by the end of the century. These are truly staggering dimensions when you think about them.

Electricity is expected to exceed the use of primary energy forms, with nuclear plants providing as much as 30 percent of our electrical power by 1980, increasing to 60 percent by the turn of the century.

Present nuclear facilities are extravagant users of scarce fossil fuels, however, and they will probably exhaust -- and this is a staggering fact, they will probably exhaust the available resources of low-cost uranium oxide well before the breeder reactor becomes a reality sometime after 1990.

The cost of our present nuclear generated electrical power will accordingly rise as the supply of uranium oxide tightens unless additional resources are identified.

Solid fuels, specifically coal, are progressively being excluded from the market by air pollution standards which restrict their use.

Specifically, most of the coal that is currently available in the eastern part of the United States does not qualify under sulphur content standards imposed by large metropolitan areas which constitute its principal markets. The process for cleaning up coal prior to use or for removing the offensive gases from exhaust after burning are being

actively pursued by accelerated research programs. But they are some years away from commercial availability. The result of this inability to use our most abundant fuel in many markets has been to create additional demands for residual fuel oil and natural gas to fill the gap.

Gaseous fuels are being consumed at a rate of increase that cannot be sustained. The average annual rate of increase since 1950 has been well over 6 percent, and present domestic production, which is 97 percent of consumption, is approaching the limits of capacity at 22 trillion cubic feet in 1970 up one and one-half trillion cubic feet from 1969.

Demand projected beyond 1975 cannot be fully covered from supply sources presently in sight. That is a blunt statement to make, but we believe it is factual in every regard.

The combined supply from gas fields in the lower 48 states, Alaska and Canada, and projected liquid natural gas imports will not suffice to fill the demand. Research and development of synthetic gas from coal is progressing, but commercially significant volumes are not expected before 1980.

Liquid fuels present much the same problem as gaseous fuels. We have an impending deficiency of immediately produceable domestic supplies in the face of the vast amounts of undiscovered resources -- and there is the irony I think of our situation, that we face an immediate impending deficiency in the face of what we regard as a very vast amount of undiscovered

resources.

If these resources are produced, they will be adequate for the foreseeable needs until supplemental fuels can be developed from coal and oil shale.

For the present, however, there is no great effort being made to find these resources. And the nation has not been fully self-sufficient in oil since 1967. Our dependence upon foreign oil is growing at the rate of about 3/4 of a million barrels per day from year to year.

Even with the North Slope producing 2 million barrels a day by 1980, the gap between the domestic supply and demand would approach 8 million barrels a day equal to 35 percent of the total supply.

Our central problem is national security. If we could depend upon unlimited foreign energy sources, we could forget all about the liquification and gasification of coal, the development of oil shale deposits, the North Slope, or the Outer Continental Shelf. We could simply buy our oil and gas abroad.

Part of our basic national security, of course, is the security of our economy and it would seem to me that we have not given attention enough to the security of our economy and nothing would bleed the capital away from this continent and away from this country faster than to depend on a foreign or offshore energy source. The balance of payments

would be catastrophic against us.

With all of the experience of the past 20 years plus what we can infer from the bargaining actions of the OPEC nations during the past year and the actions of the Soviet Union in the Middle East and Mediterranean lead us to conclude that we had better not become overly dependent on our energy supplies from that part of the world.

We have the tremendous potential in undeveloped energy resources of the United States to make ourselves essentially independent of external sources for our future supply. We can certainly limit our dependence upon these sources to a degree commensurate with our national security.

In the short term, we cannot avoid increasing our dependence upon foreign energy supplies for the next few years because they now appear to be the only available source to fill the supply and energy gap, and this I think is a kind of scary situation. But one that in conversation with many of you and with many who are scholars in this area seems unavoidable.

But we should recognize that in doing that, we are acting contrary to our long-term national interest and in doing so, must make specific provisions for reducing this dependence on foreign sources as rapidly as we can.

The President has proposed a broad front attack aimed at developing adequate supplies of energy from our

domestic resources to provide ample and secure supplies to the nation. Certain of the actions proposed are essentially long term in nature; others can be expected to produce results within five years or so.

Among the things that the Department of the Interior can do that will pay off in the short run are:

To expedite the safe movement of North Slope oil and gas to market.

To assess carefully the development and production of the Santa Ana field in the Santa Barbara Channel.

Under proposed safeguards, speed up leasing of additional acreage on the Outer Continental Shelf, particularly in areas where the industry is well established.

We can accelerate the techniques already in well advanced research and development stages of fracturing concepts being tested in West Virginia this year to increase national gas recovery.

We can increase our efforts to identify new uncommitted supplies of low sulfur coal, particularly in the eastern part of the United States.

We will and can conduct reconnaissance to identify new prospective sources, prospective sources of uranium.

Beyond these efforts aimed at near term payoffs, further action is necessary for securing adequate clean energy sources for the future.

Interior will continue to urge the industry to develop commercially feasible methods for producing liquid and gaseous fuels from coal, oil, shale and tar sands, to improve technology for discovering and recovering oil and gas from conventional deposits, and to develop a commercially feasible method for desulfurizing fuel gases from coal and residual fuel oil.

We can only take these effective actions within the broad framework of a fully planned, coordinated natural resource program. Of immediate priority and highly critical to this multi-phased approach is the President's proposed reorganization of the Executive Branch along functional, practical and effective lines. This reorganization, by the way, will be further enhanced by the institution of a major scientific component in the earth sciences area.

The Department of Natural Resources should be at the top of your priority list as well. You, perhaps more than any othe group in the private sector, are aware of the present fragmentation and confusion which exists in government energy activity.

Meanwhile, in keeping with the President's landmark energy message -- and, believe you me, it was a landmark energy message -- in setting our sights on a truly comprehensive and effective reorganization plan, I am prepared today to announce on a basis of more than two years research in extensive input from various sectors the basic elements of a proposed national

energy policy.

As I stated earlier, solutions to both immediate and long-term energy problems cannot even be attempted effectively unless we can forcefully develop a comprehensive, sound plan of action.

In my opinion we have been talking around this subject and not addressing ourselves directly to it.

The objective of any proposed national energy policy would be to serve the general welfare and national security of the United States by assuring a continuous supply of clean energy in forms and amounts adequate to the nation's needs.

It is the responsibility of private enterprise, operating within the framework of local and state, and federal government guidelines where appropriate, to devote its capital and management, its technical and research abilities to effectively explore, produce and distribute energy in amounts and forms responding to market demands, consonant with safety, health, and environmental considerations.

I think there has grown up in this country a feeling that the government, on the shoulders of the government rests the responsibility for producing, marketing, distributing basic energy. Once that happens, I think the very fiber of our system has been destroyed. For it will be the motivations that exist in the private sector of our economy and our society in the future as in the past that will move this civilization

from one place to another.

There must be federal leadership under a Department of Natural Resources to provide planning, organization, procedures, mechanism, scientific capabilities, state and federal government can take timely actions or provide proper incentives which will best result in an acceptable balance among present social laws and national security objectives that require the security of a continuous supply of energy to the United States economy, the safety and health of the workers associated with energy production, the effective conservation of energy resources, and the extension of their life, and the environmental standards within which energy production and utilization shall take place.

These balances should be achieved at a reasonable price to the consumer through research and other appropriate means.

It is further the responsibility of government at all levels to provide from current timely and comprehensive information and adequate planning base for industry and for governmental decisions; to establish stable economic and regulatory policies to permit private enterprise to undertake long-term investments and research for the production, marketing and use of energy minimizing the uncertainties; to provide, by sound land use planning, orderly and timely access by private enterprise to publicly owned domestic energy resources; and to provide in the scientific component within a Department of

Natural Resources to advise and aid government, industry, and the consumer in resolving technical problems associated with energy discovery production, conservation and wise use.

The nation's energy problems are couched within the framework of a myriad of conditions which come to bear on the solutions we devise. A continuing, uninterrupted supply of energy is absolutely essential to the future of this country, but we must prepare to assure the costs we will have to bear.

We cannot continue, in my opinion, to have such a large portion of the costs of energy, the conversion of energy into other materials, being borne by the environment. Otherwise the remedial investment that will have to be made at some point in time will be overbearing and will be overriding in terms of its destructiveness and in terms of the sacrifices that will have to be made to meet it.

Therefore let us in any new energy policy grind in a pay-as-you-go system for environmental protection.

May I say that on this silver anniversary of the National Petroleum Council, that I am excited and I am enthused and I am confident, confident that you will not stand only on your past record and in the glories of what you have done, but will join me, will join the Department of the Interior and the American people in an even closer and more effective cooperation and we will build for this country and for the future

and for the generations to come a safe, clean, and abundant future for energy in America.

Thank you very much.

(Standing ovation.)

SECRETARY MORTON: I would like to apologize particularly to Secretary Stans for having to leave, but he knows my situation. I have to go and testify on a piece of material legislation before the House Committee on Interior and Insular Affairs. Failure to do so in this case would be catastrophic.

(Laughter)

MR. BROCKETT: Thank you, Mr. Secretary, for sharing your thoughts with us today. We always feel that we benefit greatly when we are counseled.

I know that I speak for the membership of the National Petroleum Council this morning in stating that we will rededicate our efforts to meeting these problems.

Gentlemen, we are most fortunate today to have as our guest speaker a man who shares a concern for many of the issues being dealt with by the National Petroleum Council -- the Secretary of Commerce.

Maurice Stans came to the government in 1969 and has served ably as Secretary of Commerce since that time. He has a distinguished record of public service in both the government and in industry.

May I ask you to welcome, please, the Secretary of Commerce, the Honorable Maurice H. Stans.

(Standing ovation)

c 1

SECRETARY STANS: Mr. Brockett, members of the National Petroleum Council, I am very pleased to be with you this morning, to share this podium with my Cabinet colleague, Secretary Morton, and to talk to you about one or more of the matters affecting your industry.

You are the leaders of a great industry which is a very key element in the American economy and as Secretary of Commerce during the last two years, I have regarded it not only as a duty of my office, but as a special privilege to work with you, your associates, members of the industry in many matters of importance to the country.

I suppose your relationships with the Interior are more direct than those with Commerce, but my interest in your industry are no less for that fact in oil matters which I have participated, one way or another, and in the general prosperity of your industry because that is part of the total overall economy.

America runs on oil so you and the country have concerns and responsibilities that inevitably interrelate and intertwine.

When I was asked to speak today, I was told I could talk on any subject of my choice. I realize that Secretary Morton has already covered many of the topics that would be of interest to you, energy policy and matters of that type, and for that reason I would like to take a broader subject to

explore, one that is of direct interest to your industry but also has an extension far beyond the oil industry and relates to American business throughout the economy.

I am speaking of the matter of environment and the antipollution movement in the country. It is a very emotional one in many quarters. It is a political one in many quarters. The public is demanding action; actively, vocally, demanding immediate action. And this is what presents the difficulties.

Now, we all know that the environment ultimately has to be cleaned up, that pollution has to be dealt with.

President Nixon has declared that the nation has been long overdue in halting its abuses of the air, land and water. He has made a commitment to eliminate pollution and to cleanse the atmosphere and conditions in which we live.

The question is how do we go about doing this? And in the most sensible way.

Understandable, as the public's interest is for immediate solutions, as the impatience of the public may be justified, we have the obligation to see the problem in the whole, not just piecemeal.

We cannot have single track minds in which the environmentality issue overrides everything. And that is what some of the people would have us believe today.

If we settle for quick immediate solutions to one set of problems, we can catapult ourselves into others that

are 3 are much more serious and we are beginning to find that out. So we have to begin to look a little farther down the road.

I think it is high time for the entire nation to weigh the needs against the demands and say: Wait a minute, what are our priorities?

We need to weigh the requirements against our resources and say: Wait a minute, which can we afford? Which can we achieve?

We need to weigh technological capabilities against the timetables and the options and say: Wait a minute, how can we get there from here?

We need to weigh the environmental goals against economic reality and say: Wait a minute, how do the benefits compare with the costs?

In other words, the problem is how do we develop public and private policies in which economics and technology are factored into every environmental assessment.

I like to start at this point. Industry has been indiscriminately accused by some of ignoring the pollution problems of our times and being responsible for most of them. The charge is dead wrong and it is unfair. The fact is without denying industry's share of the blame, that many of the worst polluters are outside of industry -- municipalities, other governments, agriculture, and the public itself.

Witness the fact that hundreds, perhaps thousands of

American communities pour untreated sewage into waters every day. Moreover, American industries almost across the board have launched vastly complex and expensive efforts to help clean up the air, water and landscape of the country. For example, the chemical industry in 1970 spent $600 million for pollution abatement.

The iron and still industry has spent more than a billion dollars on air and water facilities and almost two-thirds of that in the last two years.

The automobile industry currently is investing a quarter of a billion dollars a year in pollution research and development. The electric industries will spend two-thirds of a billion dollars on pollution control this year alone.

Your own petroleum industry is spending more than $500 million in pollution control this year and in addition is spending money in developing expensive facilities in other countries to reduce sulphur content of fuel being shipped here.

The oil and tanker industries are working with the government to eliminate oil discharges and accidental spills into the oceans. The fact is on average, American communities will have increased their pollution control spending by almost 50 percent this year over last year. They will spend some $18 billion over the next five years to meet the requisite standards.

Unfortunately business has failed to make these

c 4 American communities pore untreated sevage into waters every day. Moreover, American industries, almost across the board, have launched vastly complex and expensive efforts to help clean up the air, water and landscape of the country. For example, the chemical industry in 1970 spent $600 million for pollution abatement. The iron and steel industry has spent more than a billion dollars on air and water facilities and almost two-thirds of that in the last two years. The automobile industry currently is investing a quarter of a billion dollars a year in pollution research and development. The electric industries will spend two-thirds of a billion dollars on pollution control this year alone.

Your own petroleum industry is spending more than $500 million in pollution control this year and in addition is spending money in developing expensive facilities in other countries to reduce sulphur content of fuel being shipped here.

The oil and tanker industries are working with the government to eliminate oil discharges and accidental spills into the oceas. The fact is on average, American countries will have increased their pollution control spending by almost 50 percent this year over last year. They will spend some $18 billion over the next five years to meet the requisite standards.

Unfortunately business has failed to make these achievements creditable to the American people and the idea

rc 5

still persists in many quarters that business is doing nothing and what it does do is only because it is being dragged across the line.

So we come to a troubled time by a very direct route. Critics press the public to insist upon quick solutions to these complex problems. The people, in turn, press the Congress.

Time tables have been imposed, regulations applied, giving some people a false feeling problems will all go away if we only put enough squeeze on business to act.

The trouble is in the development of these pressures, reason sometimes gets lost and extremes become the result.

Many of the results have been beneficial to be sure, but some have been ill conceived and harmful to people, to business, and to the country.

I would like to give you a few examples. Starting with detergents, detergent phosphates, the washday ingredient, recently has become to typify the antipollution solution. State and local governments all over the country have begun to ban the sale of detergent phosphate on a crazy-quilt basis, geographically.

But in the rush, perhaps someone should say: Wait a minute, what are we really doing here?

Laws to ban phosphate detergents may give the public the notion the problem is solved, while nutrients, including phosphates, continue to flow into the lakes and rivers from other sources -- agriculture, natural, as well as manmade. And

some of these cannot be controlled.

So if the people assume just a legal ban on phosphate detergents will do the job, they may only lull themselves into neglecting far more significant scientific efforts to help purify our waters through phosphate removal techniques in municipal waste treatment plants.

Then -- and this is perhaps even more important -- some hastily devised phosphate substitutes can be more harmful and dangerous than many people believe the phosphates are. One substitute developed by manufacturers, at a cost of many, many millions of dollars, was temporarily put aside at the request of the government because there were concerns it might create some health hazards.

Additional safety tests are now being completed and the situation may be changed. But some of the other substitutes now reaching the public contain caustic materials that are dangerous, especially to children. If those products get in their eye, they can blind -- or if they are accidentally ingested, they can maim or even kill.

To limit these risks, the FDA has instituted labeling requirements for caustic detergents.

The fact is small children creeping on the floor next to the washing machine can't read those labels.

Some chemical substitutes for phosphates wash out the flameproofing in children's cotton creepers which the

arc 7

textile industry has been working hard to develop.

Now, my purpose in citing these points is not to defend phosphates or the industries that use them, or the products that contain them. Instead, it is a way of saying: Wait a minute, before we rush helter-skelter into immediate responses to such problems of nationwide concern, isn't it prudent first to take the time to know what we are doing? To weigh all the factors and the consequences involved?

For another example, take the siting of new electric power plants. It is all too familiar to many of you, I am sure. If anything, it is even more difficult than siting new refineries. The nation's needs for more electric power is rapidly outrunning our capacity to generate it. The answer would be to build simply more power plants, but in many areas of the country it has become almost impossible to do it. As many as 40 approvals may be necessary. Many of them on environmental grounds. And even the last one can be reversed as easily as the first.

We all know that New York City has had these troubles for years. Houston is another case in point. It has all the ingredients of growth except enough electric power, but it can't start to build a new generating plant it urgently needs because the effluents, even after costly cooling, would raise the temperature of the waters that receive it, it would raise the temperature two degrees above the temperature that would

rc 8 support marine life.

Isn't it time someone says: Wait a minute, if we fix the rate of priorities, if we integrate our environmental, technological and economic interests all of them can be served without one dominating the other?

The President has urged the communities to enact legislation to resolve the power plant siting problem, and wants public agencies to assure public discussion of plans, resolution of environmental issues and timely construction of the facilities.

Another case at point is insecticides. We all know there are valid arguments against some of them, but in the rush away from them, we can create massive new problems. For example in New Jersey, without DDT, more than one million oak trees have been blighted and face destruction by the Gypsy moth. Without DDT, forest insects are running rampant in Sweden, eating away the raw material of that country's biggest industry.

In Ceylon, without DDT, malaria cases have become more prevalent -- 10 percent of the population.

Without DDT in India there would be 100 million cases of malaria each year instead of the few hundred thousand.

In parts of the United States, without DDT insects have made it increasingly difficult to grow lettuce, lima beans, sweet corn, and so on.

Now, in time, perhaps substitutes for present

arc9 insecticides can be developed and proved out. But in the meantime, most of the substitutes are uncertain or they aren't even available.

The whole question is whether by precipitous action we will create an expensive gap between the present means and the later solutions.

Again, this is not a brief for DDT. This is just a way of saying: Wait a minute, before we act precipitously and ban products for one reason, shouldn't we at least be certain that the cure is not worse than the disease?

What about small industries? Today a growing number of small communities across the country are fearful that they will lose their economic life if their single sustaining industry is forced to close either because of rigid environmental protection controls or because they can't cope with the economic cost of complying.

Isn't it time for someone to say "wait a minute"?

Are the environmental dangers so imminent, so critical, we have to throw thousands of productive people out of work?

Are the dangers so great, so immediate, that whole communities must be run through the economic wringer?

Isn't it time that we first measure all the evidence, recognizing legitimate concerns on the one hand, weighing them fairly against valid considerations on the other, then act

reasonably and carefully to protect both the environment and the jobs? It may take a bit longer.

For another example, Congress killed the SST. But shouldn't we as a nation have said "Wait a minute" here? Are we so afraid to build just two experimental airplanes that we would willingly sacrifice thousands of jobs, jeopardize the economic health of an entire city, forego the technological advantage of an entire industry, and deny major benefits to our balance of payments? Isn't it time we weigh our potential against the risk in every reasonable case?

What about the trans-Alaska Pipeline? Some of you have an interest in that. Again, people have said let's not build it because of the possible adverse consequences to the environment. No one suggests that we ignore these possible dangers. Everyone agrees that we must take every known precaution to protect the environment. But there is another side of the coin, the need for the oil and the benefits to Alaska, as well as the dangers.

Isn't it time somebody says on things like this, "Wait a minute"?

This is what I said in my public letter to Secretary Morton. We already have the technological means to provide reasonable protection against dangers to the Alaskan environment. Are we so afraid of what might happen that we will sacrifice the enormous sources of oil we need for our homes,

'c 11

our cars, our jobs, our country? Will we sacrifice potential jobs for thousands of people who need work in the shipping industries? In Alaska and elsewhere? Will we turn our backs on all of the economic benefits to that state?

The risks are recognized, but isn't it time we recognize that other considerations must also be taken into account in the national interest?

And what about the tougher emissions standards for transportation? Certainly they should be sought and should be achieved. But -- wait a minute -- in the past decade the amount of hydrocarbons given off by an automobile has been reduced by 80 percent. Carbon monoxide emissions by 70 percent. And with existing capabilities, these improvements can continue.

A mandatory standard of the Clean Air Act demands 90 percent reduction below the remaining emission levels by 1979, hydrocarbons -- that is as much as foliage gives off in the average yard of the average American.

One person has estimated that every car would have to be parked for two days after getting its tank filled -- literally -- because gasoline going from the pump to the car gives off at least twice the daily allowable hydrocarbons for that car.

Spreading one ounce of house paint uses the same daily quota of hydrocarbons.

Burning up two logs on the fire in the fireplace uses the daily quota -- the list of examples could go on.

The environmental report to Congress last week said we do not have the technology to comply with some of the standards that have been set in accordance with law. To try to achieve these standards will result in millions of dollars of added costs which inevitably have to go into higher consumer prices.

If we try to solve our environmental problems more quickly than our technology permits, not only will we raise the costs sharply and suddenly, but we will also increase the number of false steps that we take along the way.

The incomplete state of our knowledge leads directly to pitfalls that can't be foreseen. So isn't it time to say: Wait a minute, let's weigh each need against the technological realities and let's not impose any more arbitrary deadlines that can't be met with the technology in sight?

What about off-shore drilling? Certainly we should take every possible practical step to stop polluting in the oceans. But -- wait a minute -- before we make off-shore drilling too difficult, let's recognize that by the end of this decade, off-shore wells will have to provide 30 percent of our oil. And it will also provide much of the low sulphur fuel that is urgently needed for clean air.

Well, as all of you know so well, there are many other

c 13 matters which we could cite and say "wait a minute." These examples make the point.

Let me give you some specific as to guidelines in dealing with these matters in the future. First, a determination of the economic impact should be required before environmental acts are mandated.

The public must know what the costs will be, what the alternatives are, and whether it will get its money's worth.

Secondly, technological determination should be prepared in connection with any governmental action indicating the time required to carry it out.

Third, we must avoid panicky ad hoc approaches to the problems of air, land and water pollution, and develop and work with feasible long-range plans to deal with them on a balanced basis of regular gradual improvements, always with consideration of the public interest and of the economic and technological factors involved.

Next, government should study whether companies and industries can finance the improvements that they are being required to make without prejudice to their financial security or their normal capital improvements, and consider whether assistance might be required.

Next, the Congress should be urged to support all of the President's environmental improvement plans relating to other than business, so that industry's progress will be

are 14 matched by progress in municipal disposal and other nonindustrial pollution problems.

Next, coordinated methods should be developed for governments to reach conclusive divisions on power plant locations as proposed by the administration in order to end those critical delays.

And finally, antitrust attitude should be reviewed to determine the possibility of cooperative industry attempts, working together to resolve environmental problems.

Let me add this set of simple observations before I finish. First, none of major problems we face can be resolved instantly. All of them are too complex. They call for long-range programs, consideration of priorities and financing, and so on.

Second, business alone cannot be held responsible for all of our pollution. The burdens of responsibility and cost must be shared by all levels of government, by agriculture and by the public.

And third, the technology we need in order to solve our problem must still be developed in many areas.

We have a free flow of uncoordinated, uncertain, imprecise data about the environment and industry faces a severe shortage of environmental engineering specialists.

And fourthly, we have to achieve greater conformity of state and local actions dealing with pollution control before

rc 15 we bog down the whole country in conflicting regulations and deadlines.

Finally, we have to recognize that even our man-made problems in some instances are essential to satisfying human existence on this planet.

After all, every new birth brings us instantly a new polluter. But even the most ardent of the environmentalists have yet to call for new "new starts" there.

(Laughter)

Here again I suppose we could say "wait a minute." But what I am talking about is the necessity to recognize that the pollution problem exists in a real world that call for a balance of objectivity.

I can reduce it all to absurdity. If we had no cars on the street, there would be no automobile pollution. If we built no power plants, we would have no pollution from our plants. If we had no detergents, we would have no pollution of our waterways, and so on. But what kind of country would we have left?

The line between that kind of nonsense and the kind of sense we need to resolve the problem requires realities of dealing with the economic and technological factors as well as the impatience of those who would like to clean up the country overnight.

The time has come to bring these things into focus and

rc 16

stop overbeating the view that we are killing ourselves today. Without pause or equivocation, we must continue to halt pollution of the world, but we must do it realistically.

We could do well I think, and I have support for my point of view from people like Dr. Philip Habler, who just a few weeks ago said this, my special plea, we do too much romanticizing about the good old days that never were, hastily substitute environmental tragedy for existing environmental deterioration. Let's not replace known devils by insufficiently understood unknown devils.

So all we seek fundamentally in all these considerations is a balancing of values, a weighing of proper priorities, a measuring of the costs against benefits.

And, gentlemen, if we approach our problems in that spirit of balance and fairness, we can meet our ecological needs, clean up the country, and do so without undue economic risks for anyone and within the framework of continued technological progress. That is the way I think we ought to do it.

Thank you.

(Standing ovation)

MR. HAMMOND: Mr. Chairman, may I say, I have been a member of the Council for 25 years and the Secretary has just made one of the finest speeches that I have ever heard made before this body.

(Applause and chorus of "Hear, hear.")

MR. BROCKETT: We offer our sincere thanks, Mr. Secretary, for being with us today. I know that we will share your concerns and admire the sound reasoning and judgment that you continually display on the vital issues that we are all faced with today.

SECRETARY STANS: May I be excused?

(Whereupon, Secretary Stans withdrew from the Auditorium.)

MR. BROCKETT: We are very pleased and honored to have with us this morning John Ricca, Mr. Morrell and Mr. Dole.

Do any of you gentlemen have anything you would like to say this morning?

MR. DOLE: I don't believe so.

MR. BROCKETT: Before proceeding with the committee reports, I would like to ask Vincent M. Brown, Executive Director, to call the roll and introduce new members of the Council.

MR. BROWN: Mr. Abernathy.

(No response.)

MR. BROWN: Bob Anderson.

MR. ANDERSON: Here.

MR. BROWN: Orin Atkins.

(No response)

MR. BROWN: Perry Bass.

MR. BASS: Here.

MR. BROWN: Perry Bass has returned to the Council.

Perry is from Fort Worth, Texas.

Stand up, Perry.

(Applause)

MR. BROWN: Mr. Bauer.

(No response)

MR. BROWN: Mr. Bennett

MR. BENNETT: Here.

MR. BROWN: Jack Berry.

(No response)

MR. BROWN: Howard Boyd.

(No response)

MR. BROWN: Reid Brazell.

(No response)

MR. BROWN: Harold Bridges

MR. BRIDGES: Here.

MR. BROWN: Harold Bridges is a new member, new president of Shell Oil Company.

(Applause)

MR. BROWN: Mr. Brockett.

MR. BROCKETT: Here.

MR. BROWN: Mr. Brooks.

(No response)

MR. BROWN: Mr. Edgar Brown.

(No response)

MR. BROWN: Bob Burch.

MR. BURCH: Here.

MR. BROWN: Mr. Calvert.

MR. CALVERT: Here.

MR. BROWN: Mr. Chambers.

(No response)

MR. BROWN: Mr. Chandler.

(No response)

MR. BROWN: Bill Cleary.

(No response)

MR. BROWN: Mr. Clements.

(No response)

MR. BROWN: Mr. O. C. Davis.

MR. DAVIS: Here.

MR. BROWN: Mr. Davis here?

MR. DAVIS: Here.

MR. BROWN: Mr. Davis is the president of the Natural Gas Pipeline Company of America.

(Applause)

MR. BROWN: Mr. Dawes.

(No response)

MR. BROWN: Mr. Denney.

MR. DENNEY: Here.

MR. BROWN: Mr. Denney is president of Venus Oil Company, new member.

(Applause)

MR. BROWN: Cortlandt Dietler.

MR. DIETLER: Here.

MR. BROWN: New member, president of Western Crude Oil, Inc.

(Applause)

MR. BROWN: Mr. Donnell.

MR. DONNELL: Here.

MR. BROWN: Mr. Dorn.

MR. DORN: Here

MR. BROWN: Mr. Dunlop.

(No response)

MR. BROWN: Mr. Ely.

(No response)

MR. BROWN: Mr. Emison.

MR. EMISON: Here.

MR. BROWN: Mr. Fox.

(No response)

MR. BROWN: Mr. Gerdes.

(No response)

MR. BROWN: Mr. Getty.

(No response)

MR. BROWN: Mr. Gonzalez.

(No response)

MR. BROWN: Mr. Goodrich.

(No response)

MR. BROWN: Mr. Graham.

(No response)

MR. BROWN: Mr. Granville

MR. GRANVILLE: Here.

MR. BROWN: Mr. Guttman.

MR. GUTTMAN: Here.

MR. BROWN: Mr. Halbouty.

(No response)

MR. BROWN: Mr. Armand Hammer.

(No response)

MR. BROWN: Jake Hamon.

MR. HAMON: Here.

MR. BROWN: Mr. Harkins.

MR. HARKINS: Here.

MR. BROWN: Fred Hartley.

MR. HARTLEY: Here.

MR. BROWN: Russell Hartman.

MR. HARTMAN: Here.

MR. BROWN: Mr. Hartman is the new president of the Natural Gas Processors Association.

(Applause)

MR. BROWN: Mr. Hess.

MR. SIMPKINS: Simpkins for Hess.

MR. BROWN: Mr. Heummrich.

MR. HEUMMRICH: Here.

MR. BROWN: Mr. Heummrich is a new member, executive director of the National Congress of Petroleum Retailers.

(Applause)

MR. BROWN: Mr. Howell.

MR. HOWELL: Here.

MR. BROWN: Mr. Ikard.

MR. IKARD: Here.

MR. BROWN: Mr. Jackson.

(No response)

MR. BROWN: Mr. Ken Jamieson.

MR. JAMIESON: Here.

MR. BROWN: Mr. Herbert Johnson.

MR. JOHNSON: Here.

MR. BROWN: Mr. J. Paul Jones.

MR. JONES: Here.

MR. BROWN: Mr. Judd.

MR. JUDD: Here.

MR. BROWN: John Kaneb.

MR. KANEB: Here.

MR. BROWN: George Kavouras.

MR. KAVOURAS: Here.

MR. BROWN: Mr. Keeler.

MR. KEELER: Here.

MR. BROWN: Mr. Norman Keith.

MR. KEITH: Here.

MR. BROWN: Mr. Keith is a new member, president of Commonwealth Oil Refining Company.

(Applause)

MR. BROWN: Mr. John Kelly.

MR. KELLY: Here.

MR. BROWN: Mr Kenny.

MR. KENNY: Here.

MR. BROWN: Mr. Kiltz.

MR. KILTZ: Here.

MR. BROWN: Mr. Law.

MR. LAW: Here.

MR. BROWN: Mr. Levy.

MR. LEVY: Here.

MR. BROWN: Mr. Lichtblau.

MR. LICHTBLAU: Here.

MR. BROWN: Mr. Liedtke.

(No response)

MR. BROWN: Mr. Lisco.

(No response)

MR. BROWN: Dutch Lortscher.

MR. LORTSCHER: Here.

MR. BROWN: Mr. Lortscher is a new member, chairman of the board and president of Signal Oil and Gas Company.

(Applause)

MR. BROWN: Mr. Ludwig.

MR. PERDIM: Perdim representing Mr. Ludwig.

MR. BROWN: Thank you.

Mr. McClure.

MR. McCLURE: Here.

MR. BROWN: Mr. McCord.

MR. McCORD: Here.

MR. BROWN: Mr. McCoy.

MR. McCOY: Here.

MR. BROWN: Mr. McGee

MR. McGEE: Here.

MR. BROWN: Mr. McGraw.

MR. McGRAW: Here.

MR. BROWN: John McLean.

MR. McLEAN: Here.

MR. BROWN: Cary Maguire.

MR. MAGUIRE: Here.

MR. BROWN: Mr. Manry.

MR. MANRY: Here.

MR. BROWN: Howard Marshall.

MR. MARSHALL: Here

MR. BROWN: Robert Mead.

MR. MEAD: Here.

MR. BROWN: C. John Miller.

MR. MILLER: Here.

MR. BROWN: Ernest Miller.

MR. E. MILLER: Here.

MR. BROWN: Otto Miller.

MR. O. MILLER: Here.

MR. BROWN: Charles Mitchell.

MR. MITCHELL: Here.

MR. BROWN: Cordell Moore.

MR. MOORE: Here.

MR. BROWN: Dick Moran.

MR. MORAN: Here.

MR. BROWN: Robert Mosbacher.

MR. MOSBACHER: Here.

MR. BROWN: Charles Murphy.

A VOICE: He was here.

MR. BROWN: William Murray.

MR. MURRAY: Here.

MR. BROWN: Glen Nielson.

MR. NIELSON: Here.

MR. BROWN: Sam Niness.

MR. NINESS: Here.

MR. BROWN: Mr. R. L. O'Shields.

MR. O'SHIELDS: Here.

MR. BROWN: New member, president of the Panhandle Eastern Pipe Line Company.

(Applause)

MR. BROWN: Mr. Pappas.

(No response)

MR. BROWN: Mr. J. W. Partridge.

MR. PARTRIDGE: Here.

MR. BROWN: Mr. Partridge is chairman of the board, The Columbia Gas System.

(Applause)

MR. BROWN: Mr Pickens.

MR. PICKENS: Here.

MR. BROWN: Mr. Pittinger.

(No response)

MR. BROWN: Mr. Rensch.

(No response)

MR. BROWN: Mr Ritchie.

(No response)

MR. BROWN: Walter Rogers.

MR. ROGERS: Here.

MR. BROWN: Arch Rowan.

MR. ROWAN: Here.

MR. BROWN: Wilton Scott.

A VOICE: I am representing Mr. Scott.

MR. BROWN: J. M. Shackleford.

(No response)

MR. BROWN: Mr. Shaheen.

MR. SHAHEEN: Here.

MR. BROWN: John Shaw.

(No response)

MR. BROWN: J. J. Simmons.

MR. SIMMONS: Here.

MR. BROWN: Mr. William Wikoff Smith.

(No response)

MR. BROWN: Mr. Charles Sommer.

MR. SOMMER: Here.

MR. BROWN: Mr. Sommer is a new member. He is chairman of the board of the Monsanto Company.

(Applause)

MR. BROWN: Charles Spahr.

(No response)

MR. BROWN: W. E. Strauss.

(No response)

MR. BROWN: Mr. Strook.

(No response)

MR. BROWN: Mr. Swearingen.

MR. SWEARINGEN: Here.

MR. BROWN: Mr. Tankersley.

MR. TANKERSLEY: Here.

MR. BROWN: J. F. Taylor.

MR. TAYLOR: Here.

MR. BROWN: Mr. Taylor here?

Mr. Taylor is the new president of the Association of Oil Well Servicing Contractors.

(Applause)

MR. BROWN: Mr. True.

MR. TRUE: Here.

MR. BROWN: Mr. Van Gorkom.

(No response)

MR. BROWN: Mr. K. C. Vaughan.

MR. VAUGHAN: Here.

MR. BROWN: Mr. Bill Vaughey

(No response)

MR. BROWN: Rawleigh Warner.

MR. WARNER: Here.

MR. BROWN: N. H. Wheless.

MR. WHELESS: Here.

MR. BROWN: Mr. Wheless is the incumbent president of the Midcontinent Oil and Gas Association.

(Applause)

MR. BROWN: John H. Williams.

A VOICE: Here by proxy.

MR. BROWN: A l right.

John Winger.

MR. WINGER: Here.

MR. BROWN: A. W. Winter.

MR. WINTER: Here.

MR. BROWN: Jack Wrather.

MR. WRATHER: Here.

MR. BROWN: Mike Wright.

A VOICE: Here by proxy.

MR. BROWN: Thank you, gentlemen.

MR. BROCKETT: Thank you, Vince.

It is most reassuring to see the fine talent that has been assembled to serve on the National Petroleum Council for the coming fiscal year.

As you all know, the Council's Committee on Environmental Conservation--The Oil and Gas Industries has been working diligently to prepare that two-volume report. For the purpose of giving the Council a status report, I would like to introduce the man who has so ably chaired this committee, Bill Keeler.

(Applause)

MR. KEELER: Mr. Chairman, members of the National Petroleum Council, distinguished guests, at our last meeting the Council approved the substance of Volume 1 of our report, "Environmental Conservation -- The Oil and Gas Industries" including review in detail and full approval of the conclusions and recommendations

Volume 1 is a summary volume which contains policy conclusions and a digest of our complete technical report to the Secretary of the Interior dealing with environmental problems as they relate to the petroleum industry. This volume was designed, both in form and approach, to meet the

request by the Department of the Interior to "reflect efforts to assure that all pertinent facts are placed before the government officials who are charged with the making of policy decisions involving pollution control regulations which may affect oil and gas operations."

Following our last meeting, a number of suggestions were received from Council members pertaining to technical details in Volume I, and these suggestions have been incorporated into the report. This type of painstaking effort -- which the Council as a whole has given to this report -- has contributed a great deal to the report's quality, and I should like to express my appreciation for it.

Volume I has now been printed in this very handsome form (exhibiting a document) and is available for wide dissemination.

It contains some 26 primary conclusions relative to general law and regulatory policy, the economics of environmental conservation, and the specific environmental concerns for air, water and land pollution. It also contains a summary expression by the National Petroleum Council as to the manner in which the oil and gas industries view their responsibilities in these important areas.

I think it would be worth our while for me to read this summary conclusion for the benefit of those in our audience today who have not previously been made aware of it.

"It is the conclusion of the National Petroleum Council, an industry advisory body in the Secretary of the Interior, representing virtually the entire American oil and gas industries, that these industries are conscious of their significant responsibilities for environmental conservation and are sincerely dedicated to a continuing and effective approach to the solutions to those environmental problems which lie within their purview.

"The oil and gas industries are well aware of the environmental problems resulting from the conduct of their various operations of production, refining, storage, transportation and marketing of products, and also outside of these industries, from the use of their products. Real progress has been made in defining these problems and developing solutions to them; but, nevertheless, problems remain. Continuing progress will be required to improve standards and to develop more advanced technology and better operating practices and equipment to achieve improved environmental quality.

"The oil and gas industries face a requirement to provide to the society of which they are a part vital energy in a manner consistent with environmental conservation, recognizing that the costs involved are those of society. We are confident that these industries will continue to do their part, including full cooperation with

government and with the general public which they serve, so that the requisite environmental standards can be developed and met, consistent with providing the nation with its necessary energy."

While all of the conclusions and recommendations are important, I feel strongly about conclusion 2, which reads:

"Where a cooperative approach to the solution of an environmental problem would serve the public interest, the Executive Branch should clarify the extent of cooperation that is consistent with the intent of present antitrust laws and, if necessary, seek enactment of such further legislation as would be advisable to authorize the most effective means of dealing with such problems."

I thought in Secretary Stans' presentation this morning -- and I certainly agree with Jake Hammond that he gave a terrific report to this Council, and I thought to me it is just inconceivable that anything that is in the best interest of all of the people of this country couldn't be taken care of on a completely possible basis if we would follow an earlier suggestion that Secretary Stans had made public in one of his press releases in which he said that he was satisfied that the antitrust laws in some respects are obsolete when it comes to the public benefit.

Now, I feel that this is a point that each of us should emphasize at every opportunity that we have to do so.

For example, in view of the complex interrelationships and interactions between fuels, the engines in which fuels are burned and advanced exhaust emission control devices, all should be regarded as a system and the best brains available permitted to work cooperatively to come up with an optimum systems approach. However, our current antitrust laws prevent this sort of constructive action.

Now, we have already had complimentary comment from the Executive Branch of government, based on a reading of the draft volume 1, that our summary report is the first comprehensive analysis of the policy concerns related to environmental conservation of an entire industry. We have also had expressions of interest in receiving our report from a number of members of Congress who have concern with respect to conservation of our environment. In addition, this volume and participation in its preparation have already been helpful to the group preparing the Council's study on U.S. Energy Outlook, about which you will hear later from Mr. John McLean.

The Council's Executive Director, Vince Brown, has taken pains to try to ensure that volume 1 of our report reaches all those in government and in the public sector who wish to know more about our industries and their important relationships to environmental conservation in providing this country's energy requirements. If any of you have in mind organizations or individuals whom you believe would want to add to their

understanding of this increasingly important subject, your suggestions would be very much appreciated.

Volume 2 of the Council's report is now in the process of final preparation. As I reported at our last meeting, the sheer bulk of the committee's study dictated the creation of a summary volume, volume 1, and a volume for the technical detail, volume 2. An indication of the scope and depth of technical detail of volume 2 is provided by its size--presently of over 800 pages.

It should be of particular interest to those persons, both in government and elsewhere, who wish to know more about technical aspects of the operations of the oil and gas industries or of the economic, legal and scientic facets of environmental quality. I would expect, therefore, that volume 2 would be made widely available, for example, for use as a reference text by persons of many academic disciplines.

The pre-publication draft of volume 2 will require some technical updating, but I expect it to be distributed to Council members shortly, so that you will have an opportunity to comment before publication.

The publication of volume 2 will complete the response of the National Petroleum Council to the original request of the Department of the Interior for a study of air and water pollution by petroleum facilities and fuels and the impact of pollution control efforts on industry operations. However,

it is apparent from the degree of public, government and industry activity in environmental conservation that there will be a recurring need for evaluation of many important aspects of this subject.

Constant additions to our knowledge of pollutants, evolving technology, and the impact of measures to protect environmental quality on the basic economics of both environmental conservation and of energy supply, indicate the need for timely study and evaluation of cause and effect. For example, the ability of our industries to discover and product our domestic oil and gas resources may be vitally affected by government plans with respect to environmental conservation. Similarly affected is our ability to transport energy fuels from source to market.

At this point, then, the Committee on Environmental Conservation--The Oil and Gas Industries and its Coordinating Subcommittee have completed the policy portion of their study assignment. Supporting detail will soon be published. In the meantime, however, members of this study group can respond to questions on any aspect of their work as needed to clarify or elaborate on its content. If supplemental studies are needed by the Department of the Interior, my committee stands ready to carry out the implementing decisions of the Council.

I should like to express my sincere appreciation to the members of the Council for the support they have provided

to the accomplishment of our work. Your attention is evidence of the critical importance which our industries place on the subject of environmental conservation.

Thank you.

(Applause)

MR. BROCKETT: Thank you, Bill.

I know that the entire Council, and the rest of the industry as well, can be proud of the work that you have produced.

Gentlemen, are there any questions or observations?

Over the past year we have been working on one of the most far reaching and comprehensive studies ever undertaken by the National Petroleum Council -- the study on the U.S. Energy Outlook. It is a monumental study, ably guided by the wisdom of its chairman, Mr. John G. McLean, chairman of the board, Commonwealth Oil.

Mr. McLean.

(Applause)

MR. McLEAN: Mr. Chairman and members of the National Petroleum Council, it is my pleasure to submit to you at this time a preliminary report of the Committee on the U.S. Energy Outlook.

Copies of this report were mailed to all of you last week. We recognize that the time available for your review was very short and for that reason, our presentation this

morning will be a little more comprehensive than might otherwise have been the case.

At the conclusion of our presentation, we will solicit your comments on, and hopefully your approval of, the document for transmittal by Mr. Brockett to the Secretary of the Interior.

We have some slides to show you and, hence, I think I will talk from this other spot.

This study was undertaken about a year ago in response to a request from the Department of the Interior, transmitted to the National Petroleum Council by the Assistant Secretary for Mineral Resources, the Honorable Hollis H. Dole.

Recognizing the pervasive, far-reaching changes taking place on the U.S. energy scene and the potential implications thereof, the request called for a comprehensive study of the U.S. energy outlook from now to the end of the century.

(Slide)

Implicit in this request were three fundamental questions: How much energy is the United States going to need? Where are we going to get it? And what changes in government policies and/or economic conditions in the energy industries would serve to enhance our national energy posture?

To handle this assignment, the National Petroleum Council Committee on the U.S. Energy Outlook was established and organized as shown on this second slide.

(Slide)

The committee is comprised of over 200 people. It represents all of the energy industries and includes, we believe, some of the best talent on these matters available in the United States today.

I should like to take this opportunity to express appreciation for the work these individuals have done. A truly incredible amount of diligent, detailed effort has gone into the job. Particular recognition is due Warren Davis, Gene Morrell, and Vince Brown, Chairman, Co-Chairman, and Secretary of the Coordinating Subcommittee, respectively, and their associates, because this is the group which has planned and guided the study effort.

Now, the study program of the committee as we now see it involves three distinct stages.

May I have the next slide, please.

(Slide)

Stage 1 we have before us this morning. It constitues an "initial appraisal"; a projection of the U.S. energy demand-supply balance in the period 1971-1985, assuming no major changes in government policies or economic conditions in the energy industries. It shows us what might happen if we continue unwittingly along the path we are now on. The results, particularly toward the end of the period as we shall see in a few moments, are not attractive, and that leads us to stage 2

of the study.

In stage 2, the committee will seek to identify and evaluate the various changes in government policies and economic conditions in the various energy industries which could contribute to an improved national energy posture. In accordance with National Petroleum Council policy, we shall not be making recommendations on these matters. Rather, we shall seek to define for the Secretary of the Interior selected energy policy options and to evaluate the consequences of each. We shall then cast up a new U.S. energy demand-supply balance for the year 1985, assuming that a reasonable selection from these options is adopted.

In stage 3 of the committee's work, we shall look beyond the year 1985 to the end of the century and try to develop some reasonable approximations of probable trends in energy demand and supply. In particular, we shall try to develop a set of parameters which will give reasonable assurance that the nation will have adequate, secure energy resources to meet its requirements at the turn of the century.

Now, for the remainder of our presentation this morning, we will deal only with stage 1. We will try to give you a quick summary of the assumptions on which the study was based, the findings of the analysis, and the implications thereof.

Now, the fundamental assumption for the initial appraisal -- if we could have the next slide --

(Slide)

-- as I mentioned a moment ago, was that current government policies and regulations and present economic conditions in the energy industries would continue without major change throughout the 1971-1985 period. In particular, it was assumed that oil import controls, natural gas price regulations, leasing of federal lands, environmental controls tax rates, and research would continue on essentially the same basis as at present. This analysis, incidentally, relates to government policies as they existed prior to the President's energy message to Congress on June 4, 1971.

In line with this basic status quo assumption, five other key assumptions were made.

(Slide)

First, it was assumed that recent levels of oil exploration and development drilling activity and exploration success trends would continue into the future.

Second, it was assumed that the level of capital investment in gas exploration and development drilling activity would continue and that results would be based on past trends.

The next slide.

(Slide)

After domestic oil productive capacity was reached, it was assumed that remaining requirements would be satisfied by imports.

It was assumed that all feasible sources of gas supply, domestic and foreign, would be utilized.

And it was assumed that the availability of foreign oil and gas would not be restricted by political and economic factors.

It was further assumed -- next slide.

(Slide)

-- that nuclear power would be utilized to the maximum extent possible consistent with feasible development programs.

And it was assumed that coal production would be increased as needed to meet requirements, and that technological advances would permit coal producers and consumers to meet environmental quality requirements.

Now, the committee regards these assumptions as generally optimistic. May I have the next slide.

(Slide)

Next slide, please.

(Slide)

In view of past trends, the assumed levels of oil and gas exploratory activity are not likely to be realized without substantial improvements in the economic conditions and government policies. Similarly, the availability of foreign oil to meet shortfalls in domestic supplies cannot be assured. Significant limitations could arise for political or logistical

reasons.

This initial appraisal, therefore, is not a forecast of what is likely to happen, and it should not be so interpreted. These projections reflect an optimistic view of what might happen without major changes in government policies and economic parameters. They will be used by the committee as benchmarks in evaluating the consequence of possible changes and as a means of defining problems and areas where corrective actions are needed.

At this point I would like to call on Warren Davis, the chairman of the subcommittee, to present the findings of this initial appraisal and we will then move on to the implications.

Warren Davis.

(Applause)

MR. DAVIS: I would like to emphasize this was scheduled. John didn't call on me impromptu.

May I have the next slide.

(Slide)

The Energy Demand Task Force assessed the probable growth of the U.S. economy and how that would affect U.S. energy consumption.

Can we go to the next slide. Next slide, please.

(Slide)

We expect that the total energy consumption of the

United States will grow from 60 quadrillion BTU's in 1970 to 125 quadrillion BTU's in 1985; thus, our consumption will nearly double during this period.

In case you don't recall your college physics at the moment, a BTU is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit. In order to add oil, gas, coal, nuclear and water power together, we have to go to some such unit. Think of it this way: two quadrillion BTU's are approximately equal to one million barrels per day of crude oil. Think of it in those terms.

The overall growth rate in energy consumption is expected to average 4.2 percent per year from 1970 to 1985. Electricity demand grows the fastest at 6.7 percent per year; non-energy next, at 5.4 percent; transportation at 3.7 percent; residential and commercial at 2.5 percent; and industrial at 2.2 percent.

We show electricity as a sector because electric power plants consume fuels. If we converted this to strictly energy consumption, most of the sector labeled "electricity" would fall in the residential, commercial and industrial sectors.

The subcommittees for oil, gas, and other energy resources made independent assessments of the individual fuels involved. They applied their respective judgments in deciding what factors would affect demand for the fuels examined and

took into account the probable supply of these and other fuels.

May we have the next slide, please.

(Slide)

From these projections, the Coordinating Subcommittee developed an energy supply and demand balance. The supplies of the various fuels required to make this balance are shown here. The demand requirements are plotted in quadrillions of BTU's, but the numbers for fuel supplies shown on the chart are expressed in volume units customary for that fuel.

Looking at the 1985 bar, you will note the addition of two synthetic fuels that are not shown in the 1970 balance, syncrude and syngas. They provide very small quantities, however. The large increase in demand is covered primarily by growth in oil imports, gas imports, U.S. coal and U.S. nuclear.

The assessments of the various supply task forces were within 2 percent of estimated energy requirements in the years 1970, 1980 and 1985. The Coordinating Committee covered this small shortfall in supplies by projecting an increase in U.S. coal production and oil imports -- the two fuels that were thought to have significant flexibility in supply.

The trends in the individual fuels cannot be seen readily on this slide, so let's look at some of the separate components of this overall supply picture.

Can we have the next slide, please.

(Slide)

This chart shows our fuel supplies summed up by domestic and foreign supplies.

In 1970 we met our fuel requirements with about 88 percent domestic fuels and 12 percent foreign. Under the assumptions of the initial case, our domestic fuel supplies grow at a rate of 2.6 percent per year. As a consequence, by 1985 we would meet only 70 percent of our requirements with domestic supplies and 30 percent would be imported.

Let's go to the next chart.

(Slide)

Looking now at liquid petroleum, in 1970 domestic supplies consisting of crude oil, condensate and natural gas liquids totaled 11.3 million barrels per day, which was 77 percent of our requirements. Despite an addition of 2 million barrels per day from the North Slope and another 2.7 million barrels per day from new discoveries to be made after 1970, total U.S. production in 1985 was estimated at only 11.1 million barrels per day. Therefore, in order to meet growing demands for petroleum liquids, imports would have to grow from 3.4 million barrels per day in 1970 to 14.8 million barrels per day in 1985.

At this point, imports would constitute 57 percent of our total petroleum supplies.

Most of this would have to come from Eastern Hemisphere sources, because of the limited potential for increased

imports from Western Hemisphere sources.

May we have the next chart, please.

(Slide)

In the absence of supply limitations, potential gas demand would grow from 22.7 trillion cubic feet in 1970 to nearly 39 trillion cubic feet in 1985. However, even with North Slope gas, some synthetic gas from coal, Canadian imports and LNG imports, gas supplies in 1985 under initial case assumptions would total only 21.5 trillion cubic feet. The shortfall is energy supply between potential gas demand and available gas supplies would have to be made up from increased supplies of other fuels. May we have the next slide, please.

(Slide)

Coal requirements, including exports, are projected to grow from 590 million tons in 1950 to over one billion tons in 1985. The ability of the coal industry to do this depends on the availability of manpower and transportation facilities and assumes that the industry can meet health and safety regulations and that technology for the control of sulfur dioxide emissions will be developed.

May I have the next chart, please.

(Slide)

Nuclear power is projected to increase from 23 billion kilowatt hours in 1970 to over two trillion kilowatt hours in 1985. This projection is an increase by a factor

of about 100. By 1985 nuclear would be supplying about 48 percent of our electric power.

This projection is consistent with the estimates of the Atomic Energy Commission. The achievement of this level would depend on resolving delays from siting, environmental and construction problems. No shortage of domestic fuels was foreseen, assuming uranium oxide prices of up to $10 per pound.

May we have the next chart, please.

(Slide)

Other fuels of significance in this period are hydropower and geothermal.

Despite the size of the bars in the chart here, these fuels are expected to contribute only 3 percent of our energy supplies by 1985, growing from 205 to 370 billion kilowatt hours.

May I have the next chart, please.

(Slide)

In order to achieve the initial appraisal energy balance, capital outlays for resource development, manufacturing facilities and primary distribution would have to total 374 billion dollars over the 1971-1985 period. By far, the largest items are electric power plants and transmission systems and oil and gas producing facilities. Substantial sums would also have to be invested in oil and gas transportation, oil refining, coal production, coal transportation, and nuclear fuel production.

Not included in these figures are other major sums for petroleum marketing, gas and electricity distribution, and the development of overseas natural resources needed to satisfy U.S. import requirements.

That concludes the findings.

At this point I would like to turn it back to Mr. McLean.

MR. McLEAN: Thank you very much, Warren.

I next would like to summarize the committee's assessment of the implications of these findings which Warren has just given you, if I may have the next slide, please.

(Slide)

The committee believes that in the long run, all of the indigenous energy supplies that can be developed in the United States will be needed to meet our expanding requirements. Fortunately our basic potential energy resources, particularly for coal, nuclear fuels, petroleum liquids, and natural gas, are very large and could support much higher levels of output than projected in this initial appraisal. In the judgment of the committee, however, these resources are not likely to be developed to their full potentials without significant changes in government policies and economic conditions.

Now, no attempt was made in this report to assess the extent to which indigenous supplies might be increased by appropriate changes in government policies and economic

conditions. This will be done, as I indicated earlier, in stage 2 of the committee's work scheduled for completion next year.

At this time, however, we do think it is appropriate to note certain areas of concern implicit in the continuation of existing conditions. These items can be placed in four categories.

May I have the next slide

(Slide)

First, continuation of present government policies would clearly result in a sharp rise in national dependence on imported energy sources, particularly petroleum liquids. This will require careful assessment in respect to national security aspects and impact on the U.S. balance of payments Furthermore, the United States cannot expect indefinitely to be able to increase imports of foreign oil. Towards the end of the century, foreign supplies may prove insufficient to meet all potential demands.

I think it is significant to note the level of imports projected for 1985 is equal to the entire output of the Middle East at today's production rates.

Continuation of present government policies would also result in available gas supplies being equal to only about one-half of market requirements in 1985. In view of the fact that we have substantial undiscovered domestic reserves, a

critical review of natural gas price regulations and other parameters impinging on the incentives for expanded exploratory efforts is clearly in order and urgently needed

The next slide.

(Slide)

The second implication, the nearly doubled energy requirements in 1985 will require enormous additions of new facilities which will not easily beforthcoming under existing political, social, and economic conditions.

In petroleum, for example, the importation of an additional 10 to 11 million barrels per day of oversease crude oil and productswill requlre the equivalent of more than 350 tankers, each of 250,000 U.S. dead weight tons

There are no U.S. ports presently equipped to receive such tankers, so major new terminals would have to be developed in coastal areas.

Similarly, the increase in refined products requirements would necessitate net additions of about 10 million barrels a day of domestic refining capacity over the 15-year period, and this would involve construction at about 2-1/2 times the rate of the past decade.

The new facilities which would be required in the gas, coal, and nuclear fields are of equally impressive magnitude.

The next slide.

(Slide)

Third, the annual new capital investments which would be required to finance the development of natural resources and the construction of new facilities would greatly exceed the levels of recent years.

The required funds cannot be provided from the operations of the energy industries at present price levels. Environmental constraints will further affect supplies and increase investment costs. All of these things imply substantial increases in energy costs in the future.

Number four--the next slide, please

(Slide)

The doubling of energy consumption over the next 15 years implies many new technological challenges. A sharp stepup will be needed in all kinds of measures to protect the environment, both at points of energy production and energy use. The development of new methods for exploration, mining, resource recovery and transportation will have to be accorded a high priority. Similarly, increased technological effort will have to be directed to the development of new energy sources and techniques for energy conservation.

With respect to all of these matters, it is extremely important to note that long lead times are involved in the orderly development of energy resources. It is essential, therefore, that the many considerations bearing on the

selection of an optimum national energy posture be brought into sharp focus at the earliest possible moment.

Before concluding our presentation, I would like to call attention to the work which is now in process in the committee -- if I may have the next slide, please.

(Slide)

Analyses are being made of the changes in industry and/or government policies which could serve to:

Increase indigenous energy supplies.

Enhance the environment.

Maintain the security of the nation's energy supplies.

And to increase efficiency in the production and use of fuels, particularly through technological research and development.

In this work, special attention will be given to costs. The committee recognizes that price levels will have a significant impact on both the supply of and demand for various energy resources. An effort will be made to evaluate the response to price changes of the demand and supply for each major type of energy.

Mr. Chairman, that completes our presentation, and I should now like to move for approval of this interim report of the Committee on the U.S. Energy Outlook by the membership of the National Petroleum Council.

If the Council acts favorably on this motion, volume 1 of the report will be released immediately. Volume 2, which is a much larger document containing summaries of the subcommittee reports, will be released in four to six weeks' time after further editing and review by the committee.

Thank you very much.

(Applause)

MR. BROCKETT: Thank you very much, John.

You have heard the motion. Is there a second?

(The motion was duly seconded from the floor.)

MR. BROCKETT: Before taking the vote, are there any questions?

All in favor for approval please signify by saying "aye."

(Chorus of "ayes.")

MR. BROCKETT: Opposed "no."

(No response.)

MR. BROCKETT: Your report is approved.

MR. McLEAN: Thank you.

MR. BROCKETT: I would like to say, gentlemen, a word about the effort that has gone into this report.

The committee, the subcommittees and task groups have labored long and hard on the wording of the report. A great deal of forethought has gone into the effort.

Now for the purpose of a report by the Nominating

Committee, election of officers and standing committees, I would like to introduce Mr. Carrol Bennett.

MR. BENNETT: Mr. Secretary and Mr. Chairman, and members of the Council, your Nominating Committee has the following report to make: We recommend that Mr. E. D. Brockett be reelected Chairman of the Council; Mr. H. A. True, Jr., Vice Chairman of the Council; and Mr. Vincent M. Brown, Executive Director of the Council.

I move that this slate be adopted, Mr. Chairman.

(The motion was duly seconded from the floor.)

MR. BROCKETT: Do you want to take the vote?

MR. BENNETT: Those in favor signify by saying "aye."

(Chorus of "ayes.")

MR. BENNETT: Opposed by the same sound.

(No response)

MR. BENNETT: Congratulations, gentlemen, you are reelected -- at the same salary I might add.

(Laughter)

Now we would like to present the recommendations for the Agenda Committee:

Chairman, Jake L. Hamon.

Members, Howard Boyd, Bob Burch, Maurice F. Granville, Frank N. Ikard, J. K. Jamieson, W. W. Keeler, John M. Kelly, Harold M. McClure, Jr., D. A. McGee, John E. Swearingen.

And for the Appointment Committee:

Chairman, Charles E. Spahr.

Members, Perry R. Bass, Carrol M. Bennett, F. Allen Calvert, Jr., George F. Getty II, B. D. Goodrich, Fred L. Hartley, E. Clyde McGraw, Charles H. Murphy, Jr., W. M. Vaughey, and Rawleigh Warner, Jr.

Now, Dell, according to my sheet, I am to turn the podium over to you at this point, but we recommend the adoption of these two committees that have been read.

MR. BROCKETT: Gentlemen, you have heard the nominations for membership of the two committees. Are there any questions?

Is there a motion for approval?

(A motion for approval was duly made from the floor.)

MR. BROCKETT: Second?

(The motion was duly seconded from the floor.)

MR. BROCKETT: All in favor signify by saying "aye."

(Chorus of "ayes.")

MR. BROCKETT: Opposed "no."

(No response.)

MR. BENNETT: Thank you, Dell.

MR. BROCKETT: Thank you very much, Carrol.

Now, gentlemen, I would like to call on Dean McGee, who is chairman of our Budget Committee, who has a report for the Council at this time.

Dean McGee.

MR. McGEE: Mr. Secretary, Mr. Chairman, members of the Council, your Budget Committee met yesterday to consider what funds would be required to operate the NPC Headquarters and the special study committee for the 1972 fiscal year. The amount budgeted for fiscal year 1971 was $709,000. The actual receipts were $673,000 and the actual expenses about $625,000.

In order to meet the costs anticipated for fiscal year 1972, particularly those related to the ongoing energy study, the Budget Committee requests that you approve the amount of $700,000 for fiscal year 1972.

In arriving at this figure, the committee recognized the fact that due to the high level of activity requested of the Council by the Department of the Interior, we now have a rather large annual expense budget that will need careful continuing attention.

I move, Mr. Chairman, that the Council approve the budget for fiscal 1972 for $700,000.

MR. BROCKETT: Is there a second?

(The motion was duly seconded from the floor.)

MR. BROCKETT: Is there any question, discussion before the vote?

All in favor of adoption of the budget, signify by saying "aye."

(Chorus of "ayes.")

MR. BROCKETT: Opposed "no."

(No response.)

MR. BROCKETT: Thank you very much, Dean.

Gentlemen, at this time we will be pleased to entertain any further points, any further questions, any further business you care to bring before the Council.

If there are no other matters, before we adjourn, I would like to announce that the room for the press conference has been changed from the previously announced location, to be held in the Secretary's Conference Room, Room 5160 on the Fifth Floor of this building.

Gentlemen, the 25th anniversary meeting of the National Petroleum Council will stand adjourned.

(Applause)

(Whereupon, at 11:20 o'clock, a.m., the meeting was adjourned.)

- - -