DEPARTMENT OF ENERGY

NATIONAL PETROLEUM COUNCIL

Auditorium
Forrestal Building
1000 Independence Avenue, S.W.
Washington, D.C.

Wednesday,
December 10, 1980

9:00 a.m.

REPORTER'S TRANSCRIPT

REPORTED BY: Joseph F. Coughlin

The meeting convened at 9:00 a.m., pursuant to notice,

Chairman C.H. MURPHY, Jr., Presiding.

DEPARTMENT OF ENERGY STAFF:

DR. WILLIAM W. LEWIS
Assistant Secretary of Energy Policy and Evaluation

HON. R. DOBIE LANGENKAMP
Deputy Assistant Secretary of Energy Resource Development and Operations

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Partner,
True Oil Company

JOHN F. WARREN
Independent Oil Operator/Producer

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Delta Drilling Company

The following reports were received, issued or approved by the Committee:

P R O C E E D I N G S

MR. MURPHY: The Eightieth Meeting of the National Petroleum Council will come to order. Ladies and gentlemen, you have before you a copy of this morning's agenda. You will note that we have a number of study subjects before us, some complete or nearing completions, others still in the formative stage and we will be hearing reports of those later.

You can see from looking around the room that we do have a quorum and in respect of everyone's time why I am going to dispense with the roll call and hearing no objection, why we will rely on the record for evidence of attendance.

The Secretary has recently increased the numerical strength of the council membership and I should like to introduce and welcome the new members who are here today. We have Mr. James W. Granville, Mr. W. K. MacWilliams, Mr. George E. Trimball and a retread here, my old colleague Mike Ryan and Mr. Zeaple. Knowing most of these fine men directly and all of them by reputation, why I think we can say that the Secretary has increased not only the numerical strength of the council but he has increased the strength of the council in other respects as well.

I should now like to introduce the people here at the head table. On my far left, at your right, is

Marshall Nichols, our Executive Director of the NPC and next to Marshall is the Honorable R. Dobie Langenkamp who has been most cooperative with us, the Deputy Assistant Secretary of Energy Resource Development and Operations, Department of Energy. Mr. McAfee who will be giving a committee report and our Vice Chairman, a man who has been wonderful to work with, Bill Haynes and Vice Chairman of the council, and on my right, your left, is Mr. Whitehouse, Chairman of the NPC study Committee for Environmental Conservation and next to him is Cliff Garvin who will be giving a report on the initial work of the Committee on Emergency Preparedness and the Honorable William W. Lewis, the Assistant Secretary of the Department for Policy and Evaluation with the Department of Energy.

Now, when arranging this meeting with the Secretary Duncan, the Secretary expected to be here and it turned out that he could not early on, but after the meeting was noticed it became clear that the Secretary couldn't be back from Paris and I offered to change the date but the Secretary very generously observed that the schedule of a 100 or so chiefly executives are to take precedence over that over one cabinet minister and he insisted that we go forward with this meeting. And for that reason we are adhering to the schedule and he has asked the Assistant Secretary, Dr. Lewis, to represent him and we are pleased to have you, Dr.

Lewis. And Mr. Secretary, I recognize you with pleasure for such comments and instructions that you wish to give to the National Petroleum Council.

SECRETARY LEWIS: As Mr. Murphy has indicated, the Secretary is unable to be here this morning so I think I could express first his regrets about the fact of his not being able to be here, but the business that in fact took him away was quite important as I suppose most of you know.

The IEA, the International Energy Agency was having a meeting in Paris of all the senior energy officials and the member governments to discuss the current world oil market situation and to review what actions, if any, seemed appropriate for a member government to take. I think this session also was quite significant for both the Secretary and for this country in part because this was going to be the last time Secretary Duncan was meeting with his senior colleagues and in part of a tribute to him, they asked him actually to chair this session and because he was in the chair, Glenn Coleman, the Acting Deputy Secretary, had to go over as the official U.S. delegate.

We haven't got the final reports from the meeting yet but it looks as if things did go well and better than expected. But let me just convey the Secretary's regrets that he couldn't be here because he takes quite seriously the meeting of this group and finds it very useful.

I hope to sit through as much of the meeting this morning as much as possible to hear your reports in part because the subjects that you are addressing are really quite closely aligned with the interest of my particular office in the Department and so I am anxious to both hear the reports and then have my staff study them in some detail.

I thought it might be helpful though if I took perhaps a minute or two to tell you a little bit about a piece of work that my office has just completed. We have in fact just made public in the last month a study on oil vulnerability. It looks like the reason I show it to you is because some of you may have already seen it. We in fact did mail it to each of you within the last month. Whether it reached you yet or not, I cannot tell for sure.

In any case, this study was something that the Secretary thought to be quite important. He asked us to undertake eight months or so ago, last February, following a series of events. Of course, the transfer of power in Iran, the Soviet invasion of Afghanistan, the turmoil on the world oil market of 1979 with a sense that the time had come for us to think about really doing something serious to reduce our vulnerability to an oil import disruption and he didn't want another year to pass without some serious work and attention being devoted to that.

He recognized from the beginning and I assume seemed

to appreciate that what he was asking for was really a massive undertaking and in fact it has been something that required the bulk of attention of my office for the last eight months.

We started out with a rather broad solicitation and what I would like to do is just tell you generally how we did the study and give you some highlights. I don't intend to give you a summary or even a briefing on the study.

We started out by soliciting widely ideas for new and different ways of reducing our vulnerability toward oil import disruption and in fact I sent out over 200 letters, not only in Washington, but across the country. Some of you, I am sure, received them.

We got back some very useful and serious responses and I must admit somewhat to our surprise some very different ideas from those that had been on the table previously and some of which under close inspection in fact had ended up holding up as good ideas to pursue.

The comment phase ended in the middle of summer and since that time, the last three or four months, my staff has really spend most of its time analyzing those ideas as well as others and producing this report.

Our objective was to essentially take stock of what had been put in place up until now the policies and programs that were in place. And in light of all that, to make

the best esimtate we could of what the next decade looks like with regard to our dependence on imported oil.

Having done that and explored the sensitivity of those sorts of projections and anybody who makes those sorts of projections better get out of town before the time comes that it needs to be checked on, but in any case, there is no alternative but to attack the problem that we -- we then looked for new and different things that if implemented could make a difference in the vulnerability picture that we were painting.

By and large as you can tell, as you look at the summary of the report and as a matter of fact that is really the point that I would recommend to you all. It is a 20-25 page summary of our results and you might find it worth reading sometime. It suggests that current policies and programs are not going to lead over this decade too much of a difference with regard to our level of oil imports. There is some uncertainty about that we could get lucky. The domestic supply situation could be more optimistic than we are actually projecting.

On the other hand, we are not as low as a number of people considering the CIA's regard to the domestic availability.

The picture doesn't look all that bad in light of 1990 as it does today and in light of that came the question

of what could we do to make the difference.

What I will do is just give you a bit of the flavor of the kinds of things that we did address in the report. Our focus was on what difference they could make on either our oil import level or the disruption of an oil import if we should have to do suddenly without a significant amount of oil imports.

We have also tried to look at all the side effects of these possible actions, although there were limits to what we could do in the time that we had, and also some of the concerns were well beyond our analytical work.

But with regard to measures to reduce import, the report goes into a lot of detail with regard to natural gas and that probably is the bulk of the substance and the new initiative that has been revised in the area of natural gas. We looked very closely at the Natural Gas Policy Act and its implications.

We brought out the point that a lot has changed in the world since that act was passed, not only in terms of the price of oil, but also in the way that the market itself has developed. The decontrol path of the Natural Gas Policy Act provides a narrow look that was extraordinarily leisurely when you compare it to the past of the decontrol of crude and the implication of that price path of the decontrol pattern are rather strong with regard to oil imports

and we have come up with estimates that an acceleration of the decontrol of natural gas could make a significant difference in our oil imports over the decade. Certainly by '85 there could be as much as a half a million barrels a day less in oil imports and by '90 even more; maybe as much as even a million barrels a day.

We also reviewed the import profits tax to look at the incentives on new supplies that are supplied by that tax as it finally passed. There is no question that the tax on new oil tertiary recovery does provide some disincentive for new supply and we tried to make up the difference as best we can about how much difference it would make if we had no tax on new supplies in this area and we got estimates in here adjusting or rate, balancing on maximizing the production.

We also looked at some what we would call constraints on production, constraints on the market working this way and I must say that our orientation was to try and see where the facilitation of the market makes sense.

One of the biggest constraints that we saw was the schedule and the provisions for OCS leasing. The current schedule for leasing led us to conclude that it was very unlikely, we might be wrong, but very unlikely we were going to make significant finds and develop them over this decade given the current schedule and current procedures. And as a result unlikely that the development of the OCS would make

a significant difference in our vulnerability in this decade and we have some ideas in here about how both the permitting and the leasing schedule could be adjusted, either administratively or if we are talking about more forwarding, then we are talking about new legislation.

We reviewed the auto view efficiency standards to try to take stock of the affect they have now given the price of gasoline and there is a very clear market response on both consumer buying practice and also the industry production patterns.

We looked at what difference it would make if those standards were extended beyond 1980. We have a rather detailed review in here of the electricity sector. It is so big that it is just essential that it be looked at very carefully. The problem of economic efficiency within that sector is really enormous given all the problems of the sector.

There is a lot of oil and gas burned in that sector that is just not economic at today's prices, the prices that we project. On the other hand, the financial condition of the sector is such that it is very difficult for them to make the investment that would reap the economic benefits to conversion to alternative fuels. There are also other concerns, environmental and others, and there is just no doubt that I think over the next few years the problems of

that sector will be extensive, not only the oil in that region but for the general economic health of the overall country.

And then we reviewed the residential conservation program in large part because what little evidence we have suggests that, again, pall-mallers are not making investments in the houses which would be financially beneficial to themselves in light of the new prices they are having to pay for oil and which, in our view, they probably should pay for gas.

And in that score we hope that, at least we have some ideas about when some large experiments take place before any further intervention on the part of the federal government to get those programs going. We just need to understand more about why homeowners are doing what they are doing.

We also give an analysis of the various kinds of practicing mechanisms that can be used to reduce our vulnerability. By that I mean, taxes and tariffs above world prices. The idea being that if in fact we do have import fees or taxes on gasoline, that we reduce demand and that thereby lowers our vulnerability and we tried to get some indication of what that is worth.

With regard to things that we might do to lower the cost of a disruption once it occurs, of course, the obvious

thing is to just have a lot of what you lose in reserves so you can put that out when you do without your social supply. There has been a lot of talk about SPRO, and all of you I am sure are familiar with the Strategic Petroleum Reserve and all the problems. We just for the record documented in here what the capacity constraints are given the common plan, how much we can get into storage if we build the maximum rate.

We go on from there to look if whether it makes sense to consider additional public incentives for private stockpiles. There is just no question that you all know better than we over the last several months private stockpiles has built up at a much faster rate than we could possibly build up in the Strategic Petroleum Reserve. And the question is should there be additional incentives for that.

And then finally we looked at one very new idea. This is a new idea to most of the people around me, and that was of a Strategic Natural Gas Reserve. And I might say a word or two about that just so you can see how conceivably it might make sense.

Gas and oil are, as you know, highly interchangeable in many respects. We had to look at some of the technical questions about whether it was even feasible having to do with how would you in fact provide for the surge caapcity. Could you essentially just pump it to the well faster or drill more holes in the fields and use them in an

emergency or would you actually take the gas out of the ground and put it into the peak fields as reserve?

You all have to get the gas where it is in reserve to where you want to use it and you look at transmission capacity and, yes, there is considerable excess in the transmission capacity, although it's hard to see at all.

And then, can it be used in place of oil in many places? Well,large industrial boilers and utility boilers have considerable dual fire capability as it is in more dual-fired capability could be put in. And then there is, of course, the question of whether the residual oil that would be replaced would then be put into light products for transportation fuel and you all have a word about refinery capacity in the next decade and we are interested in looking at that. But a quick look at that does suggest that in an emergency there would be substantial refinery capacity to upgrade the essential products, that we could use the transportation fuel that would be made.

Beyond that there are a lot of actions that might make sense to take in a disruption. I won't go into the list of them but there are several things that we could explore, in part, to try to mitigate the massive macro-economic effects that would occur in a disruption and, in part, just from the massive wealth transfer that would occur in a world oil price, when the wealth transfer occuring from the

industrial countries to the OPEC countries and then the problem of recycling and the problem of the health of the financial institutions of the country and in light of all that, it not only facilitates the recycling but the quality of the portfolio of some of the borrowers, particularly the developing countries would be quite different.

We say a little bit in here about the importance of trying to find oil and gas in other parts of the world in highly concentrated places and in that score, the World Bank program looks extremely promising. As you know, it has run into a few international political snags.

And then finally, is the connection of the fact that the Secretary has been in Paris for the last couple of days, there is no question that collective action with our industrial partners is just very, very important because the benefit of storing oil, of using the demand present techniques, are a lot greater if everybody does it, but if only one person does it, and everybody reaps the benefits if everybody does it.

On the other hand, there is incentive for one country to hang back and let everybody else bite the bullet and then maybe benefit. So on this score it is just important that we all act together.

Anyway, I hope you will find the time to at least have a look at the study. The Secretary feels that it is one

of the things that he look to lead and leave to his successor. He had hoped to be around to have something to do with the implementation of some of these things but he now is in the position to leave it to his successor.

I would happy to take a question or two if anybody wanted to raise a point about the study.

MR. MURPHY: Are there questions, gentlemen?

SECRETARY LEWIS: Well, if not, I have one other piece of business and I saved the most important piece of business till last. I hope it will come as somewhat of a surprise, but I am pleased to be able to present on behalf of the Secretary his distinguished service metal to Mr. Murphy.

(Applause)

SECRETARY LEWIS: The Secretary is especially sorry he won't be able to be here for this. I won't recount for you all of Mr. Murphy's activities, you know him as a leading petroleum executive, a mainstay of financial and educational institutions and also in the prominent citizen of the part of the country that both the Secretary and I hold in fond regard.

These last few years have really been years of high intensities with regard to the energy affairs of the country. Oil and gas especially have been under deep review and have played a major role in the well-being of the

country. The Secretary is, as I am sure you have come to know him, is close to the background and inclination and takes quite seriously the idea of consultation and he not only solicits advice, he also considers it and guides him in many, many cases. And I just know personally that he has valued very highly his interactions with this group and the advice that the group and its members have given him and he appreciates very much the leadership that Mr. Murphy has provided over these last critical meetings.

So, he is just very pleased to be able to recognize Mr. Murphy's contribution in that regard. And if you, sir, would join me over here. Mr. Langenkamp will read the citation for the award.

MR. LANGENKAMP: This is the Secretary of Energy distinguished metal being awarded to Charles H. Murphy, Jr.. Secretary of Energy distinguished service metal is presented to Charles H. Murphy, Jr., for his performance as chairman of the National Petroleum Council which benefited the American people and the Assistant Secretary of Energy. Mr. Murphy has given generously of his time, set an example for all members of the council. During his tenure, the council served as an institution with which the Department of Energy often turned to technical expertise and advice.

The testimony to Mr. Murphy's managerial ability and the number of studies that you have done in his direction

were in every instance impartial, timely, addressed the issue at hand and clearly performed by a specialist of the highest calibre.

Mr. Murphy's dedicated service to our nation and the Department of Energy warrant the highest public recognition by the Secretary of Energy.

Thank you sir.

END #1

(Applause)

#2

MR. MURPHY: As Dr. Lewis said, this is a surprise. I am very gratified to receive it and I feel that as the Secretary and his colleagues in the Department honor me, that they are really honoring the members of the council. And you have always been responsive and I think these traditions will carry on and I want you to tell Charlie Duncan that I am grateful to him.

(Applause)

MR. MURPHY: As I just said over there, the membership is certainly to be commended for its dedicated response to all of the Secretary's requests and in our response to the government at large. And in the range of the council's expertise and experience as attested by the five studies that we have before us here today and for the council, I want to thank the chairman of these study committees. They have shown deligence and commitment that is worthy of the traditions of the National Petroleum Council and for myself,

I want to thank them for their response to my plea. What I said to them, as the Macadamius said to St. Paul, "Come over here and help me."

The first report this morning is that of the Refinery Flexibility, which we'll hope is nearing an end and it's been a monumental study and I recognize our colleague, Jerry McAfee for the purposes of entering this report.

STATEMENT OF JERRY McAFEE, CHAIRMAN OF THE NATIONAL PETROLEUM COUNCIL'S COMMITTEE ON REFINERY FLEXIBILITY

MR. McAFEE: Mr. Chairman, Mr. Secretary, ladies and gentlemen.

You have the monumental study, somewhat more formal that originally contemplated. It has taken somewhat longer than originally planned but I hope and believe that it is useful, a piece of work that will be useful to the administration and to the industry as a base volume of information and opinion and respected in the years ahead.

It was on September 18, 1980, which I was a little shocked to realize is considerably now over two years ago, that the National Petroleum Council was requested by the Secretary of Energy to prepare an analysis of the factors which affect the ability of the domestic refining industry to meet demands for essential petroleum products.

In requesting this study, the Secretary of Energy specified that the study should include:

"A comprehensive study of the historical trends and present status of the domestic refining industry's sources of courde oil and its capability to process these crudes into marketable petroleum products. The study should analyze factors affecting the future trends in crude availability, refining capability, and the competitive economics of small, medium, and large refinery operations through the year 1990. The study should also examine the industry's flexibility to meet dislocations of supply."

This was the committee's charter.

To assist in its response to this request, the NPC established the Committee on Refinery Flexibility.

I would like to acknowledge the excellent cooperation that we have received from Mr. R. Dobie Langenkamp, the Government Co-chairman of this committee and from his predecessors as government co-chairman Mr. Alvin L. Alm and Mr. C. W. Fischer. The Committee on Refinery Flexibility has operated with the assistance of a Coordinating Sub-Committee and two principal task forces, one on Refining Capability and one on Supply, Demand, and Logistics. These groups were headed by Mr. Stu Waterson of Standard of California, Mr. John Hall of Ashland and Mr. W. Davis of Gulf and the Council and the Committee and the industry and the government owe these men and their associates a great bit of gratitude.

An Interim Report on this study effort was approved by the NPC about a year ago, in December of 1979, and contained the results of the January 1979 NPC Survey of Petroleum Refining Capabilities and the April 1979 NPC Survey of U.S. and World Energy and Oil Supply/Demand Forecasts.

The certified public accounting firm of Arthur Young & Company was retained by the NPC to receive and aggregate the survey responses. Arthur Young & Company was instructed to treat, and they did treat, all responses in strictest confidence and they were instructed to release no identified individual company data and they performed their part of the job admirably. I wish to acknowledge the high level of cooperation received from the refiners and other participants and to thank them on behalf of the council and others for their time and thoughtful consideration of these questionnaires.

The enormous amount of effort which the industry and others have put into this effort is beyond measurement, but it has been extremely useful and I believe of wealth to many.

I would also like to take a moment to acknowledge most sincerely the significant contribution of the public or non-industry members of the committee, the coordinating subcommittee, and the task forces. The resultant report did

better for their contributions than it would have otherwise.

And just a word about the scope of the report. A proposed final report was mailed to you on November 17th, for your review and consideration. The draft which you have in hand covers the specific areas noted in the request from the Secretary of Energy and is divided into three principal parts:

First, Oil Supply and Demand Analyses. In the report historical petroleum supply/demand data are developed for the 1972 to 1978 period and surveys or forecasts of supply and demand projections are reported for the years, 1982, 1985 and 1990.

Because the political and economic events which occurred during 1979 were not reflected in the April 1979 survey contained in the Interim Report, a second survey was conducted in December of 1979, last year. For the purposes of this report, the average of the first and second surveys' responses were called the high and the medium cases, respectively. Then a third case, a low case, was prepared from the second survey's lowest quartile of responses to the 1990 total demand for petroleum products. The range of supply and demand projections provided by this approach forms a basis for assessing future refining requirements.

The second part of the report deals with Refinery

Capability and Flexibility Analyses.

In January of 1979, last year, a three-part survey, a questionnaire, was distributed to all U.S. refiners requesting (1) data on each U.S. refinery's operations for 1978, 1980, and 1982, and facilities firmly committed for installation prior to January 1, 1980; (2) crude oil and refinery operating costs for 1978, and refinery asset data as of January 1, 1970; and (3) estimates of the facilities, in addition to those to be in place by January 1, 1982, which would be required to meet the specifications of three hypothetical cases involving changes in crude oil supply and product demand.

Using this survey, the results of it, as a base this area of the study assesses the U.S. refining industry's capability to process available crude oils and to meet product demands under a variety of supply/demand scenarios, including the emergency disruptions

The third part of the report deals with Competitive Analyses. The completitive economics of refining within the United States is analyzed by company and refinery size range, geographic location, and refinery process complexity. For the comparison of foreign and domestic refineries, only the competition for U.S. East Coast markets was analyzed.

In this phase of the study, hypothetical refineries were modeled, based on the typical size and complexity of

U.S. East Coast and Gulf Coast refineries and foreign export refineries. The analysis compares the incremental economics of these hypothetical refineries when supplying product to the U.S. East Coast.

Now, what were the results very briefly of the study?

The committee drew the following conclusions from the studies made of the U.S. Refining Industry:

As Chart 1 shows, the total U.S. demand for refined petroleum products will be about constant during the decade of the '80s. The medium case shows 1990 demand at the same level as in 1978. For 1990 only, the high and low cases are shown and the high case would incate some growth and the low case some decline. The committee did not try, and I emphasize this, the committee did not try to judge whether one case is more likely than the other two, but it considered future refinery requirements in all three cases.

The second conclusion is that even though total demand is expected to change little over the next decade, significant changes in the demand for specific projects, or products, are expected. Total motor gasoline demand is expected to decline while the proportion of unleaded gasoline increases from 32 percent in 1978 to 77 percent in 1985 and 89 percent in 1990.

Hearing oil and residual fuel oil demands also show a steady decline. These declines are projected to be offset by a growth in demand for commercial jet fuel, diesel fuel, liquified gases and non-energy products such as petrochemical feedstocks, libricants, metallurgical coke and asphalt.

The third conclusion is shown in Chart 2. During the 1980's, the decline in domestic petroleum liquids supply is expected to be halted by increased rates of reserve additions and the beginning of snythetics production.

From a refining standpoint, however, the average quality of U.S. supply will decline. Domestic supply from all sources was 10.3 million barrels per day in 1978 and is shown to range between 9.5 and 10.4 million barrels per day from 1982 to 1990.

While the volumes of supply from domestic and foreign sources are substantially unchanged throughout the period of this study, the average quality of this supply is expected to be higher in sulfur content and residual yield. For example, in 1978, 54 percent of the supply of U.S. refineries was low-surfur, sweet crude oil. By 1990, these more desirable oils will be only 41 to 45 percent of total supply.

The fourth conclusion as Chart 3 shows, the capacity for six of the principal refinery processes that will be

needed in 1982, 1985, and 1990 are as shown on the chart. In all cases, they are shown as a percent of actual 1978 capacity.

Now existing crude oil distillation capacity will be adequate through 1990, but substantial additional downstream processing capacity will be needed. Because of the expected changes in the composition of product demand and petroleum supply, expansion will be required in facilities for upgrading unleaded gasoline; for example, catalytic reforming, desulfurization; naphtha and distillate hydrotreating, for example; and residual fuel oil conversion, coking for example.

The refiners' present plans for expansion of these facilities by 1982 will not be adequate to meet any of the consensus forecast supply/demand cases shown for 1985 or 1990 and may not meet the cases shown for 1982.

The committees' studies indicated that between 1979 and 1990 at least $5 billion, in constant 1978 dollars, must be invested in new downstream processing facilities in the United States and the investment needed may be as great as $12 billion.

The fifth conclusion, in the event of an import supply interruption in the range of 2 to 5 million barrels per day, there is sufficient flexibility in the U.S. refining system to reflect 75 to 80 percent of the volume loss in

reduced motor gasoline output as opposed to other products such as heating oil.

Incidentally, in response to some comments which had been received since the draft report was sent out, we intend to make some editorial changes in this section of the report to emphasize the fact that this estimate does not reflect the probable economic practicalities of that response to major interruptions but is based on theoretical studies which need to be taken into account in evaluating this part of the report.

The sixth conclusion is shown in Chart 4, which shows that the relative competitive position of various sizes of refiners as shown here. These positions were assessed by comparing the total costs of manufacturing products, adjusted for value differences in product slates. They are shown under three conditions;

First, the actuals for 1978 as measured by the survey of U.S. refiners; second, after adjustment for the post-June 1979 changes in the small-refiner bias program; and third, after this adjustment and using first quarter 1980 product prices.

In 1978, small refiners, especially those with capacities less than 30,000 barrels per day, had a competitive advantage over larger refiners through the small refiner bias provisions of the Domestic Crude Oil Allocation

Program, entitlements.

This advantage was eliminated in June 1979 when the program was modified. The majority of these smaller refineries are low-complexity plants with limited gasoline manufacturing capabilities and relatively high yields of heavy fuel oil. These low-complexity, small refineries were placed at a substantial competitive disadvantage by product market prices in the first quarter of 1980 and may face similar adverse effects from the demand mix and supply quanity trends expected in the 1980s.

The seventh conclusion, Chart 5, shows the competitive position of typical refineries in PAD, District I and PAD, District III with hypothetical refineries in the Caribbean, Eastern Canada, Netherlands, and Italy.

The base case comparisonsare made on the basis of conditions existing in 1978. The alternate cases were based on the refineries, first, using all Arabian Light Crude Oil and, second, assuming the Caribbean and Canadian refineries were retrofitted to make a slate of products designed for the U.S. market.

Only after the assumption of retrofitting did any of the foreign refineries even come close to competing with U.S. refineries.

The committee concluded that: because of the U.S. domestic crude oil price controls, U.S. refineries now

compete favorably with typical foreign export refineries in U.S. East Coast markets. But with the end of domestic crude oil price controls in October of 1981, these foreign export refineries will have a competitive advantage over U.S. refineries in these markets.

Mr. Chairman, this summaries briefly the report of the Committee on Refinery Flexibility. And on behalf of the committee, I take pleasue in moving that it be adopted by the Council as the Council's response to the Secretary's request.

(A copy of committee report follows.)

REPORT OF JERRY MCAFEE,

CHAIRMAN OF THE NATIONAL PETROLEUM COUNCIL'S

COMMITTEE ON REFINERY FLEXIBILITY,

DECEMBER 10, 1980

INTRODUCTION

On September 18, 1978, the National Petroleum Council was requested by the Secretary of Energy to prepare an analysis of the factors which affect the ability of the domestic refining industry to meet demands for essential petroleum products.

In requesting the study, the Secretary of Energy specified that the study should include:

> ...a comprehensive study of the historical trends and present status of the domestic refining industry's sources of crude oil and its capability to process these crudes into marketable petroleum products. The study should analyze factors affecting the future trends in crude availability, refining capability, and the competitive economics of small, medium, and large refinery operations through the year 1990. The study should also examine the industry's flexibility to meet dislocations of supply.

To assist in its response to this request, the NPC established the Committee on Refinery Flexibility.

I wish to acknowledge the excellent cooperation I have received from Mr. R. Dobie Langenkamp, the Government Co-Chairman of this committee and from his predecessors as government co-chairman Mr. Alvin L. Alm and Mr. C. W. Fischer. The Committee on Refinery Flexibility has operated with the assistance of a Coordinating Sub-Committee and two principal task forces, one on Refining Capability and one on Supply, Demand, and Logistics.

An Interim Report on this study effort was approved by the NPC in December 1979 and contained the results of the January 1979 NPC Survey of Petroleum Refining Capabilities and the April 1979 NPC Survey of U.S. and World Energy and Oil Supply/Demand Forecasts.

The certified public accounting firm of Arthur Young & Company was retained by the NPC to receive and aggregate the survey responses. Arthur Young & Company was instructed to treat all responses in strictest confidence and to release no identified individual company data. I wish to acknowledge the high level of cooperation received from the refiners and other participants and thank them for their time and thoughtful consideration of these questionnaires.

SCOPE OF THE REPORT

A proposed final report was mailed to all members of the Council on November 17, 1980 for your review and consideration. The draft covers the specific areas noted in the request from the Secretary of Energy and is divided into three principal parts:

Oil Supply and Demand Analyses

Historical petroleum supply/demand data are developed for the 1972-1978 period and surveys of supply/demand projections are reported for the years 1982, 1985, and 1990.

Because the political and economic events which occurred during 1979 were not reflected in the April 1979 survey contained in the Interim Report, a second survey was conducted in December 1979. For the purposes of this report, the average of the first and second surveys' responses are called the high and medium cases, respectively. A low case was prepared from the second survey's lowest quartile of responses to the 1990 total demand for petroleum products. The range of supply/demand projections provided by this approach forms a basis for assessing future refining requirements.

Refinery Capability and Flexibility Analyses

In January 1979, a three-part survey was distributed to all U.S. refiners requesting (1) data on each U.S. refinery's operations for 1978, 1980, and 1982, including those facilities in place on January 1, 1979, and facilities firmly committed for installation prior to January 1, 1982; (2) crude oil and refinery operating costs for 1978, and refinery asset data as of January 1, 1979; and (3) estimates of the facilities, in addition to those to be in place by January 1, 1982, which would be required to meet the specifications of three hypothetical cases involving changes in crude oil supply and product demand.

Using this survey as a base, this area of the study assesses the U.S. refining industry's capability to process available crude oils and to meet product demands under a variety of supply/demand scenarios, including emergency disruptions.

Competitiveness Analyses

The competitive economics of refining within the United States is analyzed by company and refinery size range, geographic location, and refinery process complexity. For the comparison of foreign and domestic refineries, only the competition for U.S. East Coast markets was analyzed. In

this phase of the study, hypothetical refineries were modeled, based on the typical size and complexity of U.S. East Coast and Gulf Coast refineries and foreign export refineries. The analysis compares the incremental economics of these hypothetical refineries when supplying product to the U.S. East Coast.

RESULTS

The Committee drew the following conclusions from the studies made of the U.S. Refining Industry:

1. As Chart 1 shows, total U.S. demand for refined petroleum products will be about constant during the decade of the 1980s. The medium case shows 1990 demand at the same level as in 1978. For 1990 only, the high and low cases are shown; the high case would indicate some growth and the low case some decline. The Committee did not try to judge whether one case is more likely than the other two, but considered future refinery requirements in all three cases.

2. Even though total demand is expected to change little over the next decade, significant changes in the demand for specific products are expected. Total motor gasoline demand is expected to decline while the proportion of

unleaded gasoline increases from 32 percent in 1978 to 77 percent in 1985 and 89 percent in 1990. Heating oil and residual fuel oil demands also show a steady decline. These declines are projected to be offset by a growth in demand for commercial jet fuel, diesel fuel, liquified gases, and non-energy products such as petrochemical feedstocks, lubricants, metallurgical coke, and asphalt.

3. During the 1980s, as shown in Chart 2, the decline in domestic petroleum liquids supply is expected to be halted by increased rates of reserve additions and the beginning of synthetics production. From a refining standpoint, however, the average quality of U.S. supply will decline. Domestic supply from all sources was 10.3 million barrels per day in 1978 and is shown to range between 9.5 and 10.4 million barrels per day from 1982 to 1990. While the volumes of supply from domestic and foreign sources are substantially unchanged throughout the period of this study, the average quality of this supply is expected to be higher in sulfur content and residual yield. For example, in 1978, 54 percent of the supply of U.S. refineries was low-sulfur (sweet). By 1990, these more desirable oils will be only 41 to 45 percent of total supply.

4. Chart 3 shows the capacity for six of the principal refinery processes that will be needed in 1982, 1985, and 1990. In all cases, they are shown as a percent of actual 1978 capacity. Existing crude oil distillation capacity will be adequate through 1990, but substantial additional downstream processing capacity will be needed. Because of the expected changes in the composition of product demand and petroleum supply, expansion will be required in facilities for upgrading unleaded gasoline (e.g., catalytic reforming), desulfurization (e.g., naphtha and distillate hydrotreating), and residual fuel oil conversion (e.g., coking). Refiners' present plans for expansion of these facilities by 1982 will not be adequate to meet any of the consensus forecast supply/demand cases shown for 1985 or 1990 and may not meet the cases shown for 1982. The committees' studies indicated that between 1979 and 1990 at least 5 billion dollars (in constant 1978 dollars) must be invested in new downstream processing facilities in the U.S., and the investment needed may be as great as 12 billion dollars.

5. In the event of an import supply interruption in the range of 2 to 5 million barrels per day, there is sufficient flexibility in the U.S. refining system to reflect 75-80 percent of the volume loss in reduced

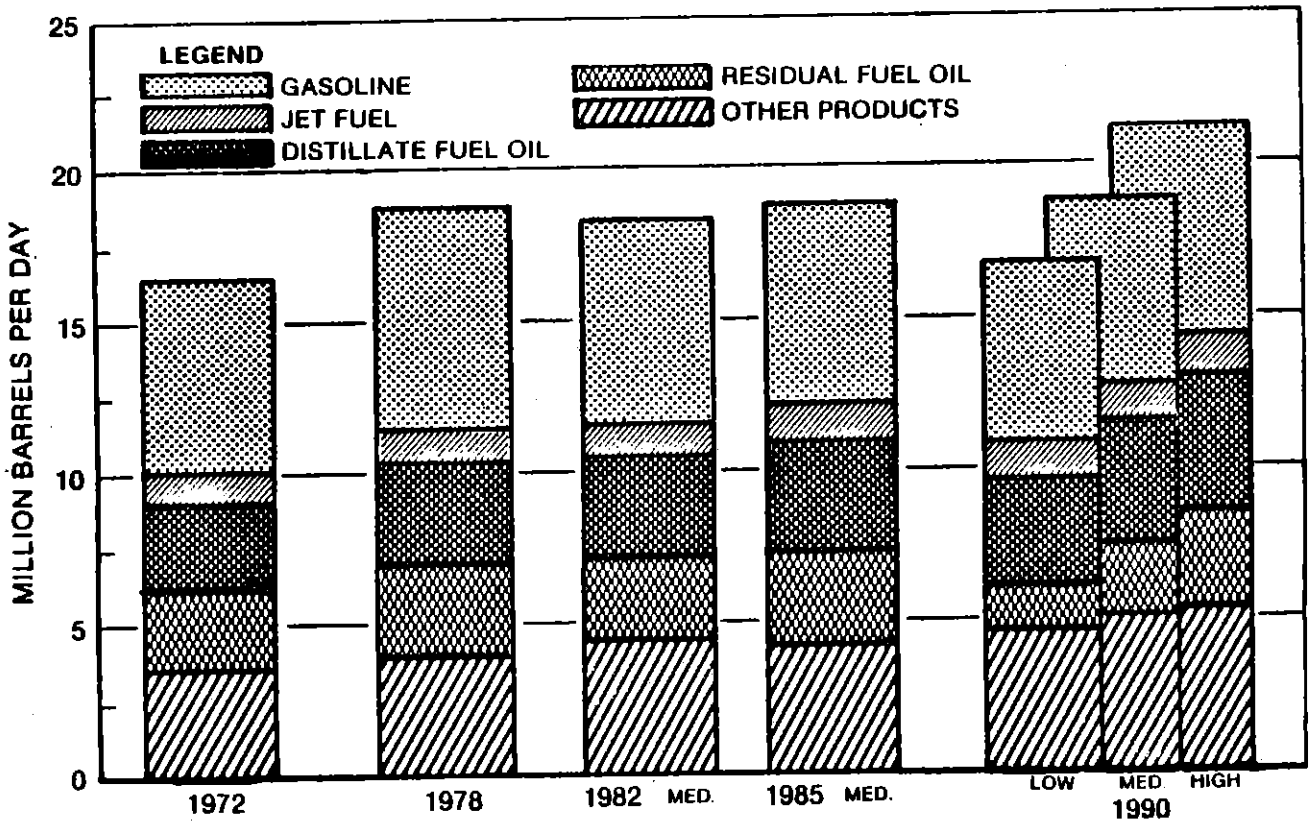
motor gasoline output as opposed to other products such as heating oil.

6. Chart 4 shows the relative competitive position of various sizes of refiners. These positions were assessed by comparing the total costs of manufacturing products, adjusted for value differences in product slates. They are shown under three conditions: (first), the actuals for 1978 as measured by the survey of U.S. refiners, (second), after adjustment for the post-June 1979 changes in the small-refiner bias program, and (third) after this adjustment and using first quarter 1980 product prices. In 1978, small refiners, especially those with capacities less than 30,000 barrels per day, had a competitive advantage over larger refiners through the small refiner bias provisions of the Domestic Crude Oil Allocation Program (entitlements). This advantage was eliminated in June 1979 when the program was modified. The majority of these smaller refineries are low-complexity plants with limited gasoline manufacturing capabilities and relatively high yields of heavy fuel oil. These low-complexity, small refineries were placed at a substantial competitive disadvantage by product market prices in the first quarter of 1980 and may face similar adverse effects from the demand mix and supply quality trends expected in the 1980s.

7. Chart 5 shows the competitive position of typical refineries in PAD I and PAD III with hypothetical refineries in the Caribbean, Eastern Canada, Netherlands, and Italy. The base case comparisons are made on the basis of conditions existing in 1978. The alternate cases were based on the refineries (1) all using Arabian Light Crude Oil and (2) assuming the Caribbean and Canadian refineries were retrofitted to make a slate of products designed for the U.S. market. Only after the assumption of retrofitting did any of the foreign refineries even come close to competing with U.S. refineries. The committee concluded that: because of U.S. domestic crude oil price controls, U.S. refineries now compete favorably with typical foreign export refineries in U.S. East Coast markets. With the end of domestic crude oil price controls in October 1981, these foreign export refineries will have a competitive advantage over U.S. refineries in these markets.

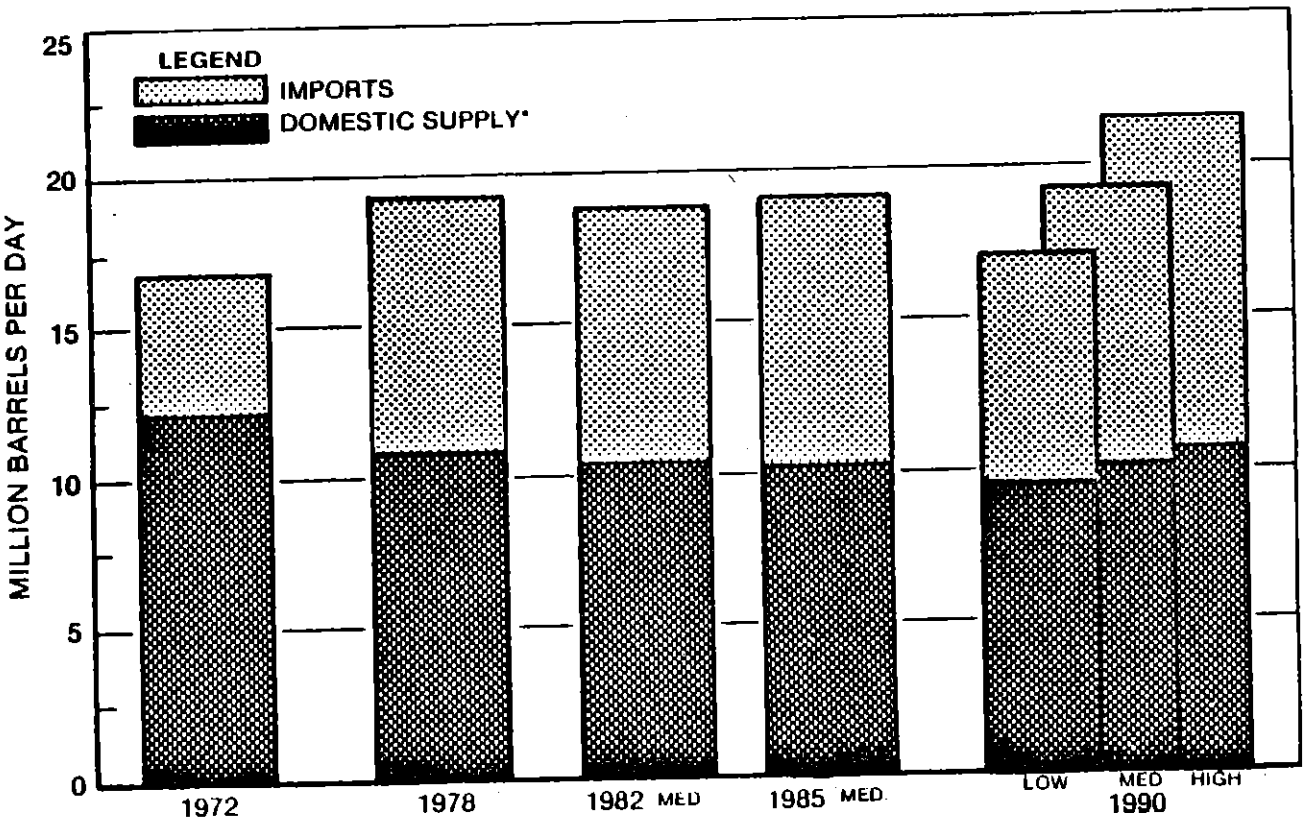
This summarizes briefly the report of the Committe on Refinery Flexibility. On behalf of the committee, I move that it be adopted by the Council as our response to the Secretary's request.

CHART 1



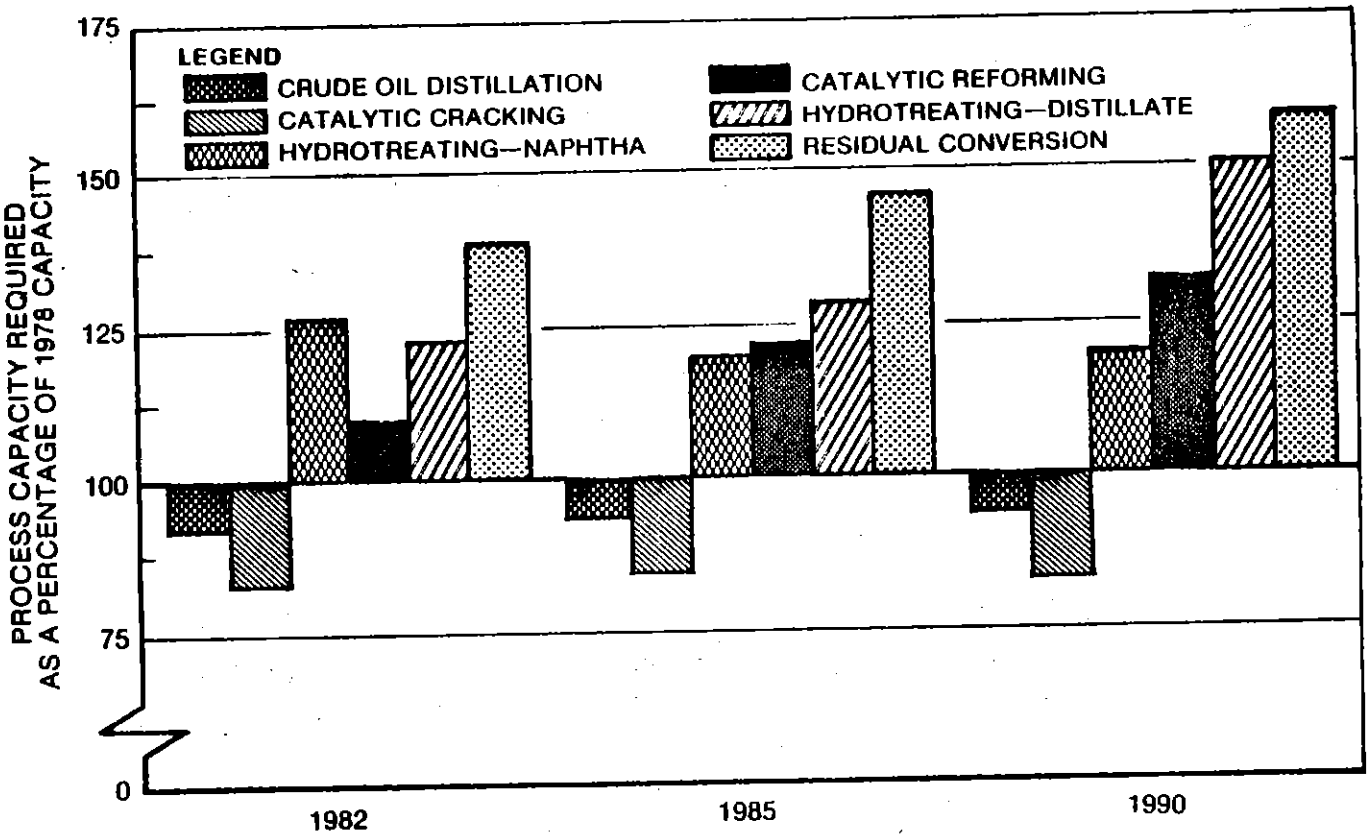
U.S. Petroleum Demand by Principal Products—1972-1990 (Excluding Exports).

CHART 2



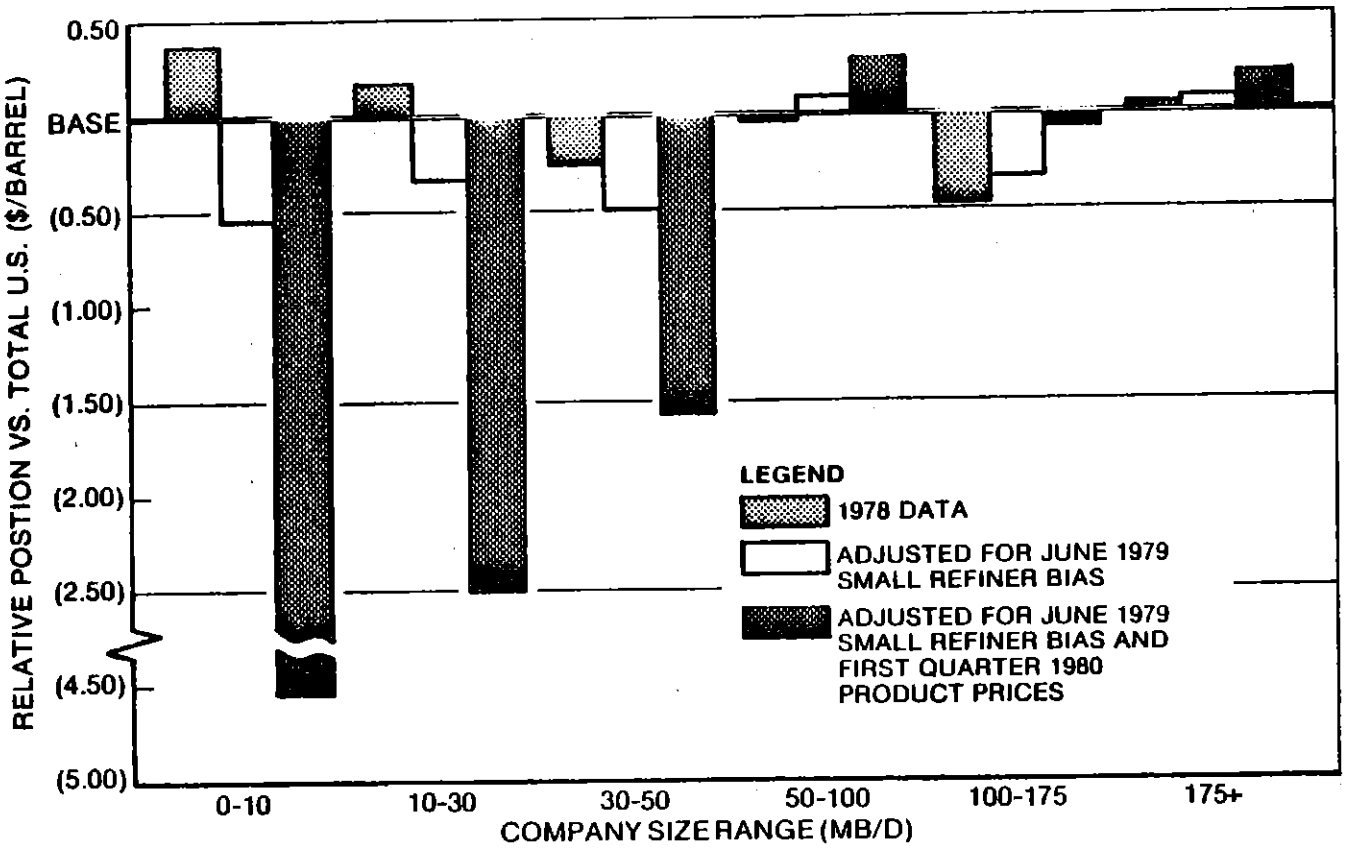
U.S. Petroleum Supply—1972-1990.

CHART 3



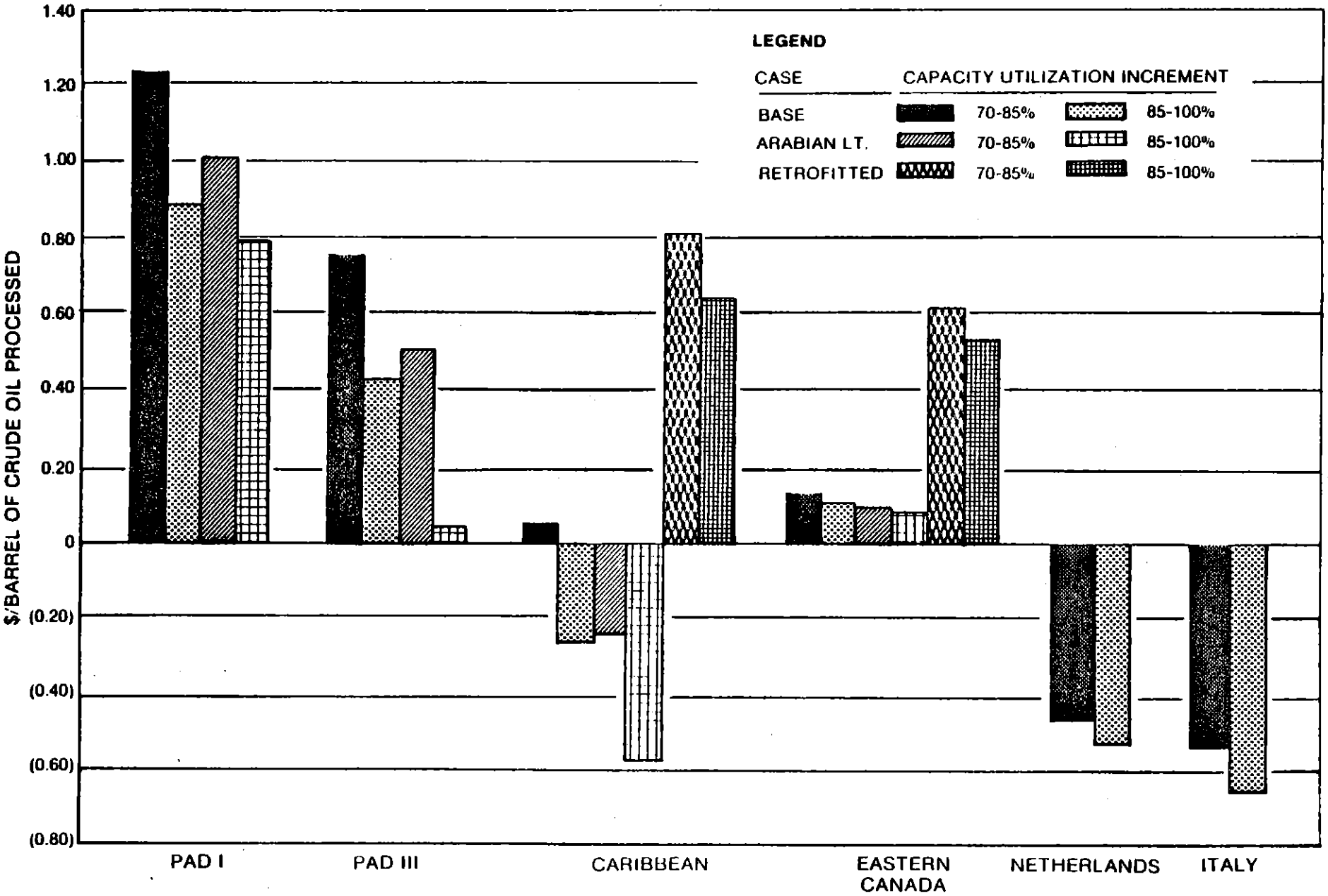
U.S. Refining Industry Changes in Processing Capacity Needed to Meet Future Demand.
(Based on Medium Supply/Demand Case and Crude Oil Quality Slate B)

CHART 4



Effect of Changes in Small Refiner Bias Program and First Quarter 1980 Product Prices on Refined Product Costs ($/Barrel of Crude Oil Processed—Aggregated by Company Size Range).

CHART 5



After Tax Gain/Loss from Incremental Barrel of Crude Oil Processed.

MR. MURPHY: Is there a second?

(Voices: Second)

MR. MURPHY: Is there discussion of the Committee report?

(No response.)

MR. MURPHY: Jerry, this is such a formidable bit of work that I think that we are a bit intimidated here and they are not. I dare not enter into an extensive discussion.

MR. McAFEE: Feel free because some of my colleagues who really know what it's all about are here and are able to respond to your questions.

MR. MURPHY: Are there questions. There being none, for those who are favor of the adoption of the report let me know by saying aye.

(Chorus of ayes.)

MR. MURPHY: And those others saying no? Thank you.

And now the chairman of the, Chairman, Mr. Dick Nelson will now submit a report.

end #2
jfb
#3jfb

STATEMENT OF RICHARD F. NELSON, REPORT OF THE NATIONAL PETROLEUM COUNCIL'S COMMITTEE ON UNCONVENTIONAL GAS SOURCES.

MR. NELSON: Mr. Chairman, ladies and gentlemen. Today I wish to submit to you a study on unconventional gas studies. In June of this year you were advised of our findings which were released in five volumes. You approved at time the three central volumes, Volumes II, III and IV.

They address coal seams, Devonian shale, and geopressured brines. We have now completed work on the fourth study and we recommend issuing this study together with the Executive Assignment where all of the studies.

As some background, the request came from the Secretary of Energy in June of '78. We were asked, the NPC was asked to prepare an analysis of the potential natural gas recovery from the sources I have just mentioned. To aid in responding to this request, the NPC established the Committee on Unconventional Gas Sources and as Charlies has said Mr. Langenkamp,at the head of the there, served as our capable government co-chairman of our committee.

We held our first meeting in September of '78 and formed a coordinating subcommittee and four task groups. They were formed by the sources mentioned to assist the committee and we finally got around to doing the serious work in early '79.

As I mentioned, we completed the last study. Mr. Baker of Mobil chaired the task group on the gas reservoirs. They had a group of 36 people and they spent almost, they have spent almost two years on that study.

They looked in great detail at the geology and the potential recovery from 12 of the most significant gas basins that we have and they have extrapolated the results from those 12 to the entire U.S.A.

The enormous effort that went into this study is apparent among the two volumes that you have this morning.

I would like for Ovid to stand up and be recognized for an outstanding job.

(Applause)

MR. NELSON: I want to thank the 36 good men you had working with you, Ovid, two of them are present today. And as previously mentioned, we completed the work on coal seams and published that report. That report teamed, was chaired by Bill Palenstone; the Devonian shell group by John Lorp; the geopressured brines report issued earlier this year was chaired by Tom Storey. Tom is with the Union of California and I believe Tom is here today.

Now, as to our findings on this last report itself, I have asked Dr. Charles Matthews, he's been a special assistant to the chairman, to me, to the coordinating subcommittee, I have asked him to summarize very briefly the result of all four of these task groups.

(Copy of Mr. Nelson's committee report follows.)

REPORT OF THE NATIONAL PETROLEUM COUNCIL'S COMMITTEE ON UNCONVENTIONAL GAS SOURCES

Richard F. Nelson
Chairman, Coordinating Subcommittee
December 10, 1980

The Committee on Unconventional Gas Sources was established to assist the National Petroleum Council in responding to a request from the Secretary of Energy for a study of potential natural gas recovery from Devonian shale, coal seams, geopressured brines, and tight gas reservoirs. The Committee is chaired by John F. Bookout of Shell Oil Company and cochaired by R. Dobie Langenkamp of the Department of Energy. A Coordinating Subcommittee and four task groups, by gas source, were formed to aid in the analyses.

At the last NPC meeting on June 11, 1980, on the Committee's recommendation, the Council approved and issued volumes on coal seams, Devonian shale, and geopressured brines. The Committee is now recommending the NPC to approve and issue the final volumes of its study, an Executive Summary and two volumes on tight gas reservoirs.

EXECUTIVE SUMMARY

The Committee found the potential of unconventional gas to be very large. Some 80 percent of this potential is found in tight gas reservoirs, with the remainder in coal seams and Devonian shale.

By the year 2000, it is estimated that reserve additions for unconventional gas could reach a cumulative level above 200 TCF. This is comparable to the current U.S. gas reserves. Further, it is estimated that another 200-300 TCF of unconventional gas would remain to be discovered, developed, and produced in the next century.

The potential production rate from unconventional gas in the year 2000 could be as high as 10-14 TCF per year, depending on price and technology assumptions. For comparison, the current U.S. gas production rate is about 20 TCF per year.

The Committee emphasizes that the estimates made are not intended to represent a forecast of what will occur. They represent estimates of what could happen if the estimates of reservoir characteristics are reasonable, if pipelines are constructed in a timely fashion, if research and development continue to evolve, and if demand for gas is not artifically constrained.

The Committee made the following conclusions during its study on Unconventional Gas Sources:

- Market demand at the prices necessary to produce the gas may not be available until the late 1980's.
- More operators will have to become convinced that the production technology is dependable, the gas resources are available, and the economics are favorable before many unconventional gas plays will be started.
- Pipeline capacity would be a constraint now in many parts of the country, but new pipelines can be built as needed.
- The supply of materials, manpower, and services is not likely to be a constraint, except for the highest production rates.
- The supply of investment funds will be large enough to meet the requirements anticipated for exploration and development.
- The new gas price regulations encourage unconventional gas exploration and development. When gas prices are deregulated in 1985-1987, the pace of exploration for tight gas, which is the major resource, should increase.

TIGHT GAS RESERVOIRS

The Tight Gas Reservoirs Task Group, chaired by C. Ovid Baker, Mobil Research & Development Corporation, and cochaired by Lucio D'Andrea, U.S. Department of Energy, looked in detail at the geology and potential recovery from 12 basins of the most significant tight gas basins and extrapolated results to the entire United States. Gas production from tight sands is estimated to yield the greatest annual production by the year 2000, about 10 TCF, versus 2 TCF from coal seams, 1 TCF from Devonian shale, and negligible production from geopressured brines. Potential production levels of gas from tight sands could constitute as much as 4-14 percent of total U.S. energy requirements in the year 2000, with potential ultimate recovery in the range of 192-574 TCF.

The Committee cautions, however, that considerable uncertainty exists in the estimates of reserve additions and production rates, and that the rate of development of unconventional gas sources will be highly dependent on economic conditions. The report also cites geologic and technological uncertainties, government actions, and unresolved legal questions as possibly affecting development of these resources.

STATEMENT OF CHARLES MATTHEWS, SPECIAL ASSISTANT TO THE CHAIRMAN OF THE COORDINATING SUBCOMMITTEE OF THE COMMITTEE ON UNCONVENTIONAL GAS SOURCES

MR. MATTHEWS: Thank you, Dick.

Today I would like to present the result of this major study conducted over the past two years to determine the potential in the United States of unconventional gas.

And in a nutshell, we found the potential of unconventional gas to be very large; some 80 percent of this potential is in tight gas reservoir with the remainder in coal seams and Devonian shale. We found very little potential in geopressured brines.

By the year 2000, we estimate that reserve additions for unconventional gas could reach accumulative levels somewhat above 200 trillion cubic feet. This is comparable to the current U.S. gas reserve which are also about 200 trilling cubic feet.

Further, we estimate that another 200 to 300 trillion cubic feet of unconventional gas would still remain to be discovered, developed and produced in the next century.

The potential production rate from unconventional gas in the year 2000 could be as high as 10 to 16 trillion cubic feet per year. For comparison, the current U.S. gas production is about 20 trillion cubic feet per year. So, the unconventional gas alone could be at least 50 percent, and

possibly higher. I want to emphasize that the estimates that we are making in these reports are not intended to represent a forecast of what will occur. They really represent what could happen if our estimates of reservoir characteristics are reasonable, if pipelines are constructed in a timely fashion, with research and development continue to evolve as they have in the past and that demand for gas is not artificially constrained.

In short, what we are saying is that the United States does have a gas option and this option might be used, for example, to back out a significant fraction of oil imports.

Now, achieving this potential of unconventional gas will not be easy. For coal seams and Devonian shales, the better areas must first be located. Then several hundred thousand wells must be drilled by the year 2000 and these are shallow wells and they are well within the industry capability.

The tight gas reservoirs, a large and successful exploration and delineation program must be undertaken in a variety of areas. Success and exploration will lead to construction of pipelines and to development drilling, something like 120,000 tight gas wells must be drilled by the year 2000 if we are to achieve a rate of 8 trillion cubic feet per year at that time.

We do not wish to minimize the task of exploring for tight gas. Finding these deposits will be difficult. It will require careful geological study and much drilling and seismic will not be particularly helpful. We must also learn better how to recognize, evaluate and simulate these tight gas reservoirs. A continued improvement will be required and a method for making extremely long fractures, somewhere between 1,000 and 4,000 feet.

Now, someone may ask what is unconventional about tight gas reservoirs. Now the answer is until recently the wells penetrated the tight gas formations in Texas were called dry holes. Two things have changed that.

The first one is price. The real price of gas has increased and secondly, massive hydraulic fracturing. This technique can substantially increase the production rate particularly of the tight gas wells.

We also should note that demand must go hand in hand with exploration and development for this unconventional gas. The exploration and development will not proceed unless the operators receive a demand for that gas and in turn, the customers will demand the gas only if they can be assured of a long-term supply. Therefore, a constant interaction is required.

And I will close by citing a few conclusions of our study of unconventional gas. The first is that market

demand at the prices necessary to produce the gas may not be available until the last 1980's.

Secondly, more operators will have to become convinced that the production technology is dependable, the gas resources are there, and the economics are favorable before any unconventional gas wells will be undertaken.

Their pipeline capacity would be a constraint now in many parts of the country, but new pipelines can be built as exploration and development take place.

Next, the supply of materials, manpower and services is not likely to be a constraint, except for the highest production rates.

Also, the supply of investment funds will be large enough to meet the requirements that we anticipate for exploration and development.

And next a major portion of this unconventional gas of the potential is on federal land so continued access to federal lands is important. However, it appears in the lower 48 states that the federal lands proposed for withdrawal will only reduce the tight gas potential something less than 5 percent.

And finally, the new gas price regulations do encourage unconventional gas exploration and development. And when gas prices are deregulated in 1985 and '87, the pace of exploration for tight gas, which is a major resource,

should increase.

Thank you.

MR. NELSON: Our Committee on Unconventional Gas Sources met yesterday to review all the written comments that we have received and all the oral comments at the meeting. We have been responsive to practically all of those comments and they have been or are being included in the report.

The committee recommended that we issue the volume on tight gas reservoirs along with the Executive Summary. All of you received copies of these two volumes, three volumes. Well, there are three volumes; two parts on Volume V. You received copies of that in mid-November.

Mr. Chairman, on behalf of the committee I move that Volume 5 Tight Gas Reservoirs and Volume I, the Executive Summary be adopted by the National Petroleum Council subject to fine editing in response to the request of the Secretary of Energy.

MR. MURPHY: Mr. Nelson, once again, a job well-done. You have the report before you. You have heard the summary here this morning. Is there a second to the motion for adoption.

(Voices: Seconded)

MR. MURPHY: It is seconded. Discussion of the report? Those who favor its adoption will let it be known

by saying aye.

(Chorus of ayes.)

MR. MURPHY: Is there opposition? The report is adopted.

As you know, ladies and gentlemen, the Secretary has asked for three far-reaching new studies. The committees have been appointed. The chairmen of those study groups are there today and we will ask for a report on their approaches. Bob Anderson, Chairman of Arco, is Chairman of the Arctic Oil and Gas Resources and he has asked Dr. Howard Slack to present a progress report.

end #3

STATEMENT OF DR. HOWARD A. SLACK, PROGRESS REPORT OF THE NATIONAL PETROLEUM COUNCIL'S ARCTIC OIL AND GAS RESOURCES

MR. SLACK: Thank you, Mr. Chairman. Ladies and Gentlemen, this morning I would like to bring you up-to-date on the status of the activities that are underway to fulfill the Secretary's request for a comprehensive study on Arctic area oil and gas development. Now there is in the brochures, in the folder that you have, a series of papers that I would just kind of like to leaf through, I won't be reading from them, but if you would turn to them it would facilitate our discussion.

The Secretary's letter in which he requested this study is given as Attachment A, about the sixth page back. And after review by the committee, the study was authorized

by the council at the meeting on June 11th, and an Arctic Resources Committee was appointed under the chairmanship of Mr. Anderson and that committee is given as Attachment C in your report.

The subcommittee was also developed and that is Attachment D, and I am chairman of that coordinating subcommittee.

The subcommittee developed a program for the study and presented it to the committee at a meeting October 3rd, and it was approved and the study got underway.

Now on establishing the scope of the study, both the Secretary's request and the deliberations of the National Petroleum Council Agenda Committee were taken into account and we believe that the objective that were established will be satisfied by our study that includes essentially the following features.

First, comprehensive independent assessment of the Arctic oil and gas resources based on all available information will be developed and in addition, technology of exploration, production, transportation in the Arctic region will be fully described and the significant and economic conditions will -- imposed by the Arctic conditions will be evaluated.

Furthermore, recommendations will be proposed for technological development effort that could expedite the

relevant of these resources. And finally, full attention will be given to environmental protection in all aspects of the study.

As it will be discussed a little later this morning, the National Petroleum Council is also conducting a parallel study for the Secretary which consists of an update of their 1971 report on environmental conservation and we consider that the coordination of our Arctic study with their study to be of major importance and we have developed an appropriate coordination mechanism with their coordinating subcommittee in that they will provide four members for our environmental section task force that will be drawn from each of their major task groups.

The Arctic environmental aspects of the study will be developed in our organization and they will then become a part of their study also. In this way we expect to eliminate any duplication and/or conflicting conclusions.

Now, the organization study is being directed and integrated by the Coordinating Committee and we have five task groups. I believe the organizational chart you will find in Attachment B. And at the present time the Coordinating Subcommittee consists of 17 members of which, if you look through them, that was Attachment B, the 11 are from industry and six represent other interests. I think this is somewhat of a departure from past Coordinating Committees

of the National Petroleum Council has set up. We have a number of individuals from the State of Alaska and including their Lieutenant Governor and in addition, representation from the Sierra Club is planned but it does not show up on the list.

Each of the task force chairmen are members of the Coordinating Committee and the five task forces follow and their organizations follow along in the handout and the five task forces that are set up; Resource Assessment, Exploration, Production Engineering, Transportation and Environmental Protection.

Their specific responsibilities are described in the first part of the handout and in addition to these task forces we are putting together a group on economic studies as well as one on national and international jurisdiction questions. And these will be introduced, or will be addressed I should say, by the Coordinating Subcommittee.

Each of the task force groups have organized so as to bring together experts in their particular area and in each group participation by representatives of the State of Alaska and the federal government has been established in order to assure full recognition of the government's position in this study.

If I could just say a word, if I may, about each one of these task groups.

The Resource Assessment Task Group is working closely with the U.S. Geological Survey of the Department of Interior and after a detailed review, which they will have in early January of next year, they will use the U.S.G.S.'s data as a base and from that the independent assessment will be developed.

The Exploration Task Group is putting particular emphasis on identifying regulatory impediments to oil and gas exploration.

The Production Engineering Task Group will be concentrating on the unique engineering problems that are associated with the different areas of the Arctic and is also developing requirements for exploratory drilling along with the Exploration Task Group.

The Transportation Task Group is addressing both land and water transportation needs to deliver oil and gas to the lower 48 states and it will develop alternate scenarios, but it will not attempt to establish a comprehensive plan.

The Environmental Protection Task Group is making a maximum effort to be sure that all Alaskian interests are considered in this study. About half of their membership on that task group, if you will notice, is from Alaska and they are holding a series of meetings in Alaska in order to obtain full public participation.

The Jurisdictional Issue Study Group is working

closely with the Department of State and the Department of Interior and expects to provide an early report.

And finally, the Economic Study Group, which I referred to, which is just now being organized, will use the cost provided by the other task groups to develop some of the fundamental economics of Arctic oil and gas production.

The last page of the handout, the one that is folded in, is put in there as a kind of a maze to confound you, is our timetable. You see there in December it has the solid vertical line on the 10th to the 12th month. That is the meeting we are having today and we are presenting the Progress Report to the National Petroleum Council which is the first top line on that chart.

And then there is a line for the Arctic Resources Committee, a line for the Coordinating Committee. You will notice that the Coordinating Committee met on the 5th, just last week, and then there is a line for each one of the task groups.

As of this time the task groups have each had at least two meetings and work sessions. They have ironed out a number of the problems that they saw in getting started and they are presently off in a daily gathering and a writing mode.

We have set as a timetable a target date of August '81 for the task groups to have completed their work and we

plan a final report to the council, should be available from the committee, in November of 1981.

This is an ambitious schedule and it will require some dedicated effort by the various representatives involved in the study.

Now, within this timeframe work we plan to more or less alternate the meetings between the Coordinating Subcommittee and the task groups as you can see from our plan. We also plan to be ready with a meaningful progress report next spring and expect that the Committee on Arctic Oil and Gas Resources will hold its next meeting in April of 1981 and at that time we will present a progress report from the task groups for approval at that time.

Completion of the task group studies and schedules will allow the Coordinating Subcommittee to develop its final report in October. We expect to submit our report for the council in November and with early approval and submittal to the Secretary before the end of 1981 should be possible.

We consider this to be an extremely important study and all members of the Coordinating Committee and the task groups are making an effort that is commensurate with the importance which they attach to this study.

(A copy of Dr. Slack's report follows.)

PROGRESS REPORT OF THE NATIONAL PETROLEUM COUNCIL'S COMMITTEE ON ARCTIC OIL AND GAS RESOURCES

Dr. Howard A. Slack
Chairman, Coordinating Subcommittee
December 10, 1980

The Secretary of Energy, Charles W. Duncan, Jr., has requested and the Council has agreed to undertake a comprehensive study of Arctic area oil and gas development (see Attachment A for Secretary Duncan's letter). For purposes of this study, the Arctic area is defined as territory under U.S. jurisdiction north of the Aleutians offshore and north of the Brooks Range onshore.

STRUCTURE

The following organizational structure has been established for assisting the Council in conducting the study (see Attachment B for the study Organization Chart):

- Committee on Arctic Oil and Gas Resources
- Coordinating Subcommittee
- Task Groups:
  - Resource Assessment
  - Exploration
  - Production Engineering
  - Transportation
  - Environmental Protection.

SCOPE AND FUNCTION

Committee on Arctic Oil and Gas Resources

The Committee will carry out a study leading to a comprehensive report covering oil and gas development in the Arctic area as requested by Secretary Duncan's April 9, 1980 letter. The Committee's work will be submitted to the entire National Petroleum Council for consideration as a response to the Secretary's request. (See Attachment C for the Committee roster.)

Coordinating Subcommittee

The Coordinating Subcommittee will serve as the integrating organization to assure that:

- Appropriate task groups are established to develop detailed studies of various aspects of the overall study.
- Task group scope assignments are defined so as to provide for comprehensive treatment of the subject study.
- Scheduling and reporting of the task group activities will lead to timely production of the subject report.
- Preparation of drafts of the subject report are developed for approval by the Committee.

In addition to these coordinating functions, the Coordinating Subcommittee will be responsible for developing information regarding national and international jurisdictional issues that will affect development of the Arctic area as well as discussions of other matters such as the infrastructure requirements and social impacts of Arctic development. The Subcommittee will also be responsible for coordinating the input from the task groups in assessing the prospects for reserve additions, production rates, and economics under various conditions. (See Attachment D for the Coordinating Subcommittee roster and the task group rosters.)

Resource Assessment Task Group

The Resource Assessment Task Group is responsible for developing a comprehensive picture of the oil and gas resources in the defined Arctic area. In performing this function they will review and reconcile all pertinent information that is in the public domain and provide an analysis that will attempt to resolve conflicting information and define high potential areas. Their analysis will be primarily based on U.S. Geological Survey data, with modifications based on other available information. Where possible, a measure of the reliability of the estimates will be provided. Information will be presented in a format that will relate to federal and state leasing schedules. Recommendations will be made for appropriate measures that should be taken to provide an early expansion of knowledge of reserves.

Exploration Task Group

The Exploration Task Group is responsible for developing a comprehensive review of all factors related to Arctic exploration.

Limitations on the use of conventional exploration methods imposed by Arctic conditions will be defined and opportunities for innovative techniques will be established. Particular emphasis will be given to the effect of the Arctic environment on the timely acquisition of exploratory data. Close liaison will be maintained with the Environmental Protection Task Group to assure that their concerns are given full consideration. Recommendations will be made for programs that would result in improved Arctic exploratory efforts.

Production Engineering Task Group

The Production Engineering Task Group is responsible for developing a comprehensive review of all factors related to oil and gas production in the Arctic region. Both offshore and onshore production will be covered. Since the defined Arctic area covers a broad range of environmental conditions that present significantly differing problems, the review will also define areas with similar environments and treat them separately. The adequacy of existing technology will be established and the needs for research and development work that would lead to innovative technology will be defined. An analysis of development and production will be a part of this study with emphasis on the effects of an accelerated program to utilize our Arctic resources. Full consideration will be given to the concerns of the Environmental Protection Task Group by maintaining a close liaison with them. Recommendations will be made for programs to allow more effective development and production of Arctic reserves.

Transportation Task Group

The Transportation Task Group is responsible for developing a comprehensive review of the adequacy of the existing oil and gas transportation infrastructure in the Arctic area. The review will consider not only all existing and planned transportation facilities related to current production, but will also focus on defining the transportation alternatives that could be made available to serve areas that will be developed. It is not intended that the Task Group develop a complete transportation plan, but rather that they define the nature of the problems and the range of options that will provide solutions. Close liaison with the other task groups will be maintained and particular attention will be paid to meeting environmental protection requirements. Recommendations for programs that would aid in solving transportation problems will be proposed.

Environmental Protection Task Group

The Environmental Protection Task Group is responsible for developing a comprehensive picture of the problems associated with all aspects of protection of the Arctic environment during the

exploration, production, and transportation of oil and gas. Since an NPC Committee on Environmental Conservation is also carrying out a related study simultaneously, close liaison and coordination will be maintained with this group so as to avoid duplication of effort and conflicting conclusions. Likewise, close liaison will be maintained with the other task groups in the Arctic study to assure that they have given adequate consideration to protection of the environment in their recommendations. Recommendations for programs needed to develop further environmental protection information will be made.

SCHEDULE

The status and proposed schedule for the Arctic Oil and Gas Resources study is graphically presented in the December 1980 schedule (see Attachment E for the December 1980 schedule). The Coordinating Subcommittee and all of the task groups have organized and defined the details of their program. Their schedules lead to a progress review by the Committee on Arctic Oil and Gas Resources in April 1981 and submission of a final report to the Committee in October 1981.

Attachment A

THE SECRETARY OF ENERGY
WASHINGTON, D.C. 20585

April 9, 1980

Mr. C. H. Murphy, Jr.
Chairman
National Petroleum Council
1625 K Street, N.W.
Washington, D.C. 20006

Dear Mr. Murphy:

The future of United States domestic oil and gas production is of great concern. In the lower 48 States we are depleting our proved reserves of oil and gas twice as fast as we are finding new reserves. Since alternative and renewable energy sources may take years to produce in substantial amounts, oil and gas development in frontier regions represent two of our best hopes for energy supplies in the near term.

The Alaskan North Slope province and Arctic area Outer Continental Shelf appear to be the frontier regions with the highest potential for significant oil and gas resource development. Unfortunately, the exploration and development of these resources is not proceeding as quickly as we might wish.

I request that the National Petroleum Council undertake a comprehensive study of Arctic area oil and gas development. Specifically, the study should include: resource assessment information; an engineering economic analysis for exploration, development, and production activities; a state-of-the-art presentation on the adequacy of available recovery technology and prospects for innovative technology required by the harsh Arctic climate; an assessment of the environmental impact of Arctic oil and gas operations and of the available mitigating measures; a comprehensive review of the adequacy of the existing oil and gas transportation infrastructure and proposals for improving this situation; and a discussion of any international jurisdictional questions that may affect Arctic area development.

For purposes of this study, I will designate R. Dobie Langenkamp, the Deputy Assistant Secretary for Resource Development and Operations, Resource Applications, to represent me and to provide the necessary coordination between the Department of Energy and the National Petroleum Council.

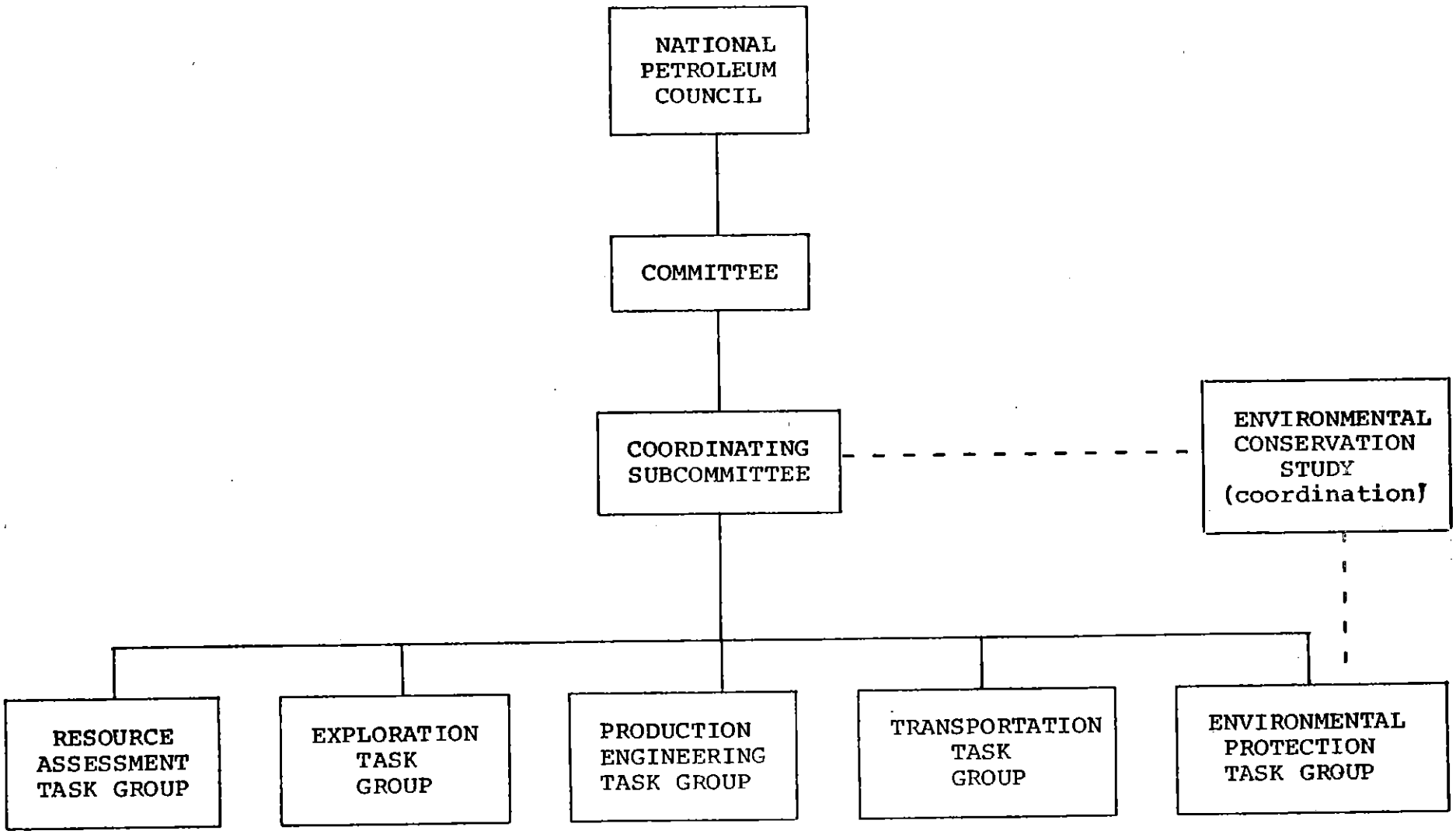
Sincerely,

Charles W. Duncan, Jr.

ORGANIZATION CHART

Attachment B

NATIONAL PETROLEUM COUNCIL'S
COMMITTEE ON
ARCTIC OIL AND GAS RESOURCES



Attachment C

NATIONAL PETROLEUM COUNCIL

COMMITTEE ON
ARCTIC OIL AND GAS RESOURCES

CHAIRMAN

Robert O. Anderson
Chairman of the Board
Atlantic Richfield Company
515 South Flower Street
Los Angeles, California 90071

GOVERNMENT COCHAIRMAN

Ruth M. Davis
Assistant Secretary for
Resource Applications
U.S. Department of Energy
Room 3400 - Federal Building
12th and Pennsylvania Avenue, N.W.
Washington, D.C. 20461

EX OFFICIO

C. H. Murphy, Jr.
Chairman
National Petroleum Council
c/o Murphy Oil Corporation
200 Jefferson Avenue
El Dorado, Arkansas 71730

EX OFFICIO

H. J. Haynes
Vice Chairman
National Petroleum Council
c/o Standard Oil Company
of California
225 Bush Street
San Francisco, California 94104

SECRETARY

Marshall W. Nichols
Executive Director
National Petroleum Council
1625 K Street, N.W.
Washington, D.C. 20006

* * *

John F. Bookout
President and
Chief Executive Officer
Shell Oil Company
One Shell Plaza
Post Office Box 2463
Houston, Texas 77001

I. David Bufkin
Chairman and
Chief Executive Officer
Texas Eastern Corporation
Post Office Box 2521
Houston, Texas 77001

Theodore A. Burtis
Chairman, President and
Chief Executive Officer
Sun Company, Inc.
100 Matsonford Road
Radnor, Pennsylvania 19087

Frank E. Fitzsimmons
General President
International Brotherhood
of Teamsters
25 Louisiana Avenue, N.W.
Washington, D.C. 20001

Melvin H. Gertz, President
Guam Oil & Refining Company, Inc.
2600 One Main Place
Dallas, Texas 75250

Frederic C. Hamilton, President
Hamilton Brothers Oil Company
1600 Broadway - Suite 2600
Denver, Colorado 80202

ARCTIC OIL AND GAS RESOURCES

Armand Hammer
Chairman of the Board and
Chief Executive Officer
Occidental Petroleum Corporation
10889 Wilshire Boulevard
Los Angeles, California 90024

John P. Harbin
Chairman of the Board and
Chief Executive Officer
Halliburton Company
2600 Southland Center
Dallas, Texas 75201

Fred L. Hartley
Chairman and President
Union Oil Company of California
Union Oil Center
Los Angeles, California 90017

John D. Haun
Immediate Past President
American Association
of Petroleum Geologists
c/o Geology Department
Colorado School of Mines
Golden, Colorado 80401

H. D. Hoopman
President and
Chief Executive Officer
Marathon Oil Company
539 South Main Street
Findlay, Ohio 45840

James L. Ketelsen
Chairman and
Chief Executive Officer
Tenneco Inc.
Tenneco Building
Houston, Texas 77001

Paul W. MacAvoy
The Milton Steinbach Professor
of Organization and Management
and Economics
The Yale School of Organization
and Management
Yale University
Box 1A
New Haven, Connecticut 06520

John G. McMillian
Chairman and
Chief Executive Officer
Northwest Alaskan Pipeline Company
1801 K Street, N.W. - Suite 901
Washington, D.C. 20006

John H. Murrell
Chief Executive Officer
DeGolyer and MacNaughton
400 One Energy Square
Dallas, Texas 75206

Travis H. Petty
Chairman of the Board
and President
The El Paso Company
Post Office Box 2185
Houston, Texas 77001

John G. Phillips
Chairman of the Board and
Chief Executive Officer
The Louisiana Land
& Exploration Company
Post Office Box 60350
New Orleans, Louisiana 70160

Theodore Snyder, Jr.
Immediate Past President
Sierra Club
Route 1 - Box 77
Walhalla, South Carolina 29691

Attachment D

COORDINATING SUBCOMMITTEE OF THE NATIONAL PETROLEUM COUNCIL'S COMMITTEE ON ARCTIC OIL AND GAS RESOURCES

IAIRMAN

Dr. Howard A. Slack
Vice President -- Technology
Atlantic Richfield Company
515 South Flower Street
Los Angeles, California 90071

GOVERNMENT COCHAIRMAN

R. Dobie Langenkamp
Deputy Assistant Secretary
Resource Development and Operations
Resource Applications
U.S. Department of Energy
Room 3426 - Federal Building
12th and Pennsylvania Avenue, N.W.
Washington, D.C. 20461

ASSISTANT TO THE CHAIRMAN

Dr. K. A. Smith, Director
Arctic Resource Study
Atlantic Richfield Company
555 Seventeenth Street
Denver, Colorado 80217

SECRETARY

John H. Guy, IV
Deputy Executive Director
National Petroleum Council
1625 K Street, N.W.
Washington, D.C. 20006

* * *

MEMBERS

Lawrence A. Dinneen
Executive Vice President
Arctic Slope Regional Corporation
Post Office Box 129
Barrow, Alaska 99723

L. W. Funkhouser
Vice President
Exploration and Production
Standard Oil Company of California
225 Bush Street
San Francisco, California 94104

John N. Garrett
Manager -- Business Research
Gulf Exploration and
Production Company
Post Office Box 2100
Houston, Texas 77018

Dr. John D. Haun
Geology Department
Colorado School of Mines
Golden, Colorado 80401

Dan B. Johnson
Senior Vice President
Tenneco Oil Company
Post Office Box 2511
Houston, Texas 77001

Michael McIntosh
Vice Chairman
Natural Resources Defense Council
45 Rockefeller Plaza
New York, New York 10010

P. David Mantor
Executive Vice President
Hamilton International Oil Company
1600 Broadway
Suite 2525
Denver, Colorado 80202

Terry Miller
Lieutenant Governor of Alaska
State Capitol
Juneau, Alaska 99811

COORDINATING SUBCOMMITTEE
ARCTIC OIL AND GAS RESOURCES

Donald F. Rodgers
Director of Energy and
Government Relations
International Brotherhood
of Teamsters
25 Louisiana Avenue, N.W.
Washington, D.C. 20001

E. Robert Schroeder
Vice President
DeGolyer and MacNaughton
400 One Energy Square
Dallas, Texas 75206

Dr. Carleton B. Scott
Director, Environmental
Sciences Department
Union Oil Company of California
Post Office Box 7600
Los Angeles, California 90051

C. H. Siebenhausen
General Manager
Construction and Design
Shell Oil Company
Post Office Box 2099
Houston, Texas 77001

J. Frank Wolfe, Manager
Production Operations
Division
Exxon Production
Research Company
Post Office Box 2189
Houston, Texas 77001

RESOURCE ASSESSMENT TASK GROUP
OF THE
NATIONAL PETROLEUM COUNCIL'S
COMMITTEE ON
ARCTIC OIL AND GAS RESOURCES

CHAIRMAN

Robert Schroeder
Vice President
DeGolyer and MacNaughton
400 One Energy Square
Dallas, Texas 75206

GOVERNMENT COCHAIRMAN

Lawrence B. Luhrs
Physical Science Administrator
Office of Oil and Natural Gas
U.S. Department of Energy
Room 3512 - Federal Building
12th and Pennsylvania Avenue, N.W.
Washington, D.C. 20461

SECRETARY

John H. Guy, IV
Deputy Executive Director
National Petroleum Council
1625 K Street, N.W.
Washington, D.C. 20006

* * *

MEMBERS

Ronald C. Crane
Senior Staff Geologist
Exploration Department -
Western Region
Chevron U.S.A. Inc.
Post Office Box 3862
San Francisco, California 94119

Paul S. Day
Senior Regional Geologist
Gulf Oil Company
Post Office Box 1392
Bakersfield, California 93302

Theodore R. Fons
Petroleum Geophysicist
State of Alaska
Department of Natural Resources
Division of Minerals and
Energy Management
03 West Northern Lights Boulevard
Anchorage, Alaska 99503

Douglas G. Garrott
Operations Manager - Offshore
Exxon Company, U.S.A.
Post Office Box 2180
Houston, Texas 77001

Charles R. Harrison
Manager - Alaska and
Canada Geology
Texas Eastern
Exploration Company
Post Office Box 2521
Houston, Texas 77001

Charles W. Hayward
Manager of Geology -
U.S. Frontier
Sunmark Exploration Company
Post Office Box 30
Dallas, Texas 75221

C. J. Lewis
Operations Manager -
Exploration Group
Sohio Petroleum Company
100 Pine Street - 30th Floor
San Francisco, California 94111

Dr. Betty M. Miller
Assistant Director -
Eastern Region
U.S. Geological Survey
109 National Center
Reston, Virginia 22092

ESOURCE ASSESSMENT TASK GROUP
ARCTIC OIL AND GAS RESOURCES

Dr. Robert H. Nanz
Vice President of Western Exploration
and Production Operations
Shell Oil Company
Post Office Box 576
Houston, Texas 77001

Daniel E. Nedland
Staff Geologist
Atlantic Richfield Company
Post Office Box 2819
Dallas, Texas 75221

Richard D. Nehring
Social Scientist
Rand Corporation
1700 Main Street
Santa Monica, California 90406

James E. Nielson
Managing Director
Nielson International
Post Office Box 380
Cody, Wyoming 82414

John J. Parker
Independent
9858 East Maplewood Court
Englewood, Colorado 80111

Roy E. Roadifer
Manager of Regional Geology
Mobil Exploration and
Producing Services Inc.
Post Office Box 900
Dallas, Texas 75221

Dr. Loring P. White
Operations Research Analyst
U.S. Department of the Interior
Room 4445
18th and C Streets, N.W.
Washington, D.C. 20240

MR. MURPHY: Thank you. Dr. Slack, there is no specific action this morning that is indicated. This is a Progress Report, but the time for discussion is when the reports and the studies are in these working stages. So I invite your comments and questions to Dr. Slack.

There being none, the Progress Report will be accepted.

Now, the next on the agenda is the Emergency Preparedness Committee chaired by Mr. Garvin, but I am going to go out of order in order to recognize Mr. Whitehouse of the Environmental Consideration Study because of the very close relationship between his committee's effort and that of Mr. Anderson and Dr. Slack.

Mr. Whitehouse.

(Continued on next page.)

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DOE

STATEMENT OF ALTON W. WHITEHOUSE

CHAIRMAN, ENVIRONMENTAL CONSERVATION

MR. WHITEHOUSE: I'm just going to give you a summary that is in the folder, and included in there is the identification of the subcommittee chairman and members of the subcommittee.

In April 1980, Secretary Duncan requested NPC to update its 1971 study on environmental conservation in the oil and gas industry. NPC accepted this charge, and has appointed this Committee on Environmental Conservation. The scope of the study will include the fairly formidable list of items.

Number One is literally an update of the 1971 NPC study to cover changes during the last decade in technology and legislation and regulation, and in a sense, apropo the entire comment, the possible major importance of the Arctic area.

Two, an examination of the impact of oil and gas operation on the environment along with an assessment of current environmental control regulations on the availability and cost of petroleum products and natural gas.

Three, a determination of the most serious environmental problems as we can identify them today, and we can try to identify them in the future.

Four, an analysis of the environmental concern of

the developing synthetic fuels industry. This, in and of itself, is a rather broad and complex part of the study.

And finally, as Chairman Murphy has referred to, coordination and major support to the Committee on Arctic Oil and Gas Reserves relative to environmental impacts in the Arctic of exploration and development activities in the future, both onshore and offshore.

We've established a coordinating subcommittee and task group to conduct the study. Committee members and task gropu members include people from both within and outside the industry, along with Department of Energy representatives.

Today, all the task groups have met and are proceeding with the intent of submitting a final report to this Council for consideration by the end of 1981.

And finally, I want to express my gratitude to both the Council members and non-Council members for the support that they have shown to date in connection with this entire effort.

Any questions?

(Mr. Whitehouse's written statement follows.)

WHITEHOUSE

PROGRESS REPORT OF THE
NPC COMMITTEE ON
ENVIRONMENTAL CONSERVATION

Alton W. Whitehouse, Jr., Chairman
December 10, 1980

By letter dated April 9, 1980, Secretary of Energy Charles W. Duncan, Jr., formally requested the National Petroleum Council to undertake a comprehensive study in which the Council's 1971 report, entitled *Environmental Conservation - The Oil and Gas Industries*, is updated. In his request, Secretary Duncan stated that "special emphasis should be placed on determining the environmental problems that are most serious and the impact of current environmental control regulations on the availability and cost of petroleum products and natural gas." (A copy of Secretary Duncan's letter is attached.)

The Agenda Committee favorably reported on the Secretary's request at the June 11, 1980, meeting of the National Petroleum Council and the study was approved by the Council during that session. Accordingly, NPC Chairman C. H. Murphy, Jr., with the approval of the Department of Energy, appointed the Committee on Environmental Conservation to assist the Council with its response. Hon. Ruth C. Clusen, Assistant Secretary for Environment, U.S. Department of Energy, was designated Government Cochairman by Secretary Duncan. The Committee met on September 23, 1980, and agreed upon the scope, organization, and timetable of the study effort. The Committee established a Coordinating Subcommittee and five task groups to assist in this effort: Air Quality, Water Quality, Land Use, Hazardous Wastes and Synthetic Fuels. I would like to acknowledge my gratitude to the chairmen of these subgroups who will be contributing considerable time and expertise to the study effort for the Committee:

Coordinating Subcommittee

Donald L. Cawein
Director -- Engineering, Health
and Environmental Affairs
The Standard Oil Company (Ohio)

Air Quality Task Group

Dr. W. J. Coppoc, Consultant
Texaco Inc.

Land Use Task Group

Harold F. Elkin, Director
Environmental Affairs/
Energy Conservation
Sun Company, Inc.

Water Quality Task Group

J. M. Rieker
Environmental Engineer
Mobil Oil Corporation

Hazardous Wastes Task Group

Dr. Harry M. Brennan, Director
Environmental and Energy
Conservation
Standard Oil Company (Indiana)

Synthetic Fuels Task Group

John J. Moon, Manager
Environment and Consumer
Protection Division
Phillips Petroleum Company

The government is ably represented on these subgroups by DOE representatives designated by the Department. The subgroups are comprised of individuals from both within and outside of the industry to provide a broad perspective for the study. The subgroups are now proceeding with their charge as determined by the Committee and anticipate the presentation of a draft report for consideration by the Committee in the fall of 1981.

The Committee has developed a three-pronged approach to respond to the Secretary's request:

1. An update of the 1971 National Petroleum Council report, entitled *Environmental Conservation - The Oil and Gas Industries*, focusing primarily on changes in technology and legislation and regulations which have had an impact on the relationship between oil and gas operations and the environment over the last decade;

2. An examination of the impact of oil and gas operations on the environment and of current (1980) environmental legislation and regulations on future industry operations, particularly addressing possible impacts on cost and availability of petroleum products and natural gas; and

3. A determination of the environmental problems that are most serious in the timeframe of the 1980s.

The 1971 report did not include an analysis of synthetic fuels development. It is the Committee's belief that while the synthetic fuels industry may not contribute significantly to the petroleum supply in the 1980s, the decisions concerning that industry will be made in the timeframe of the study effort. The Synthetic Fuels Task Group was established, therefore, to initially review and critique existing literature regarding the environmental impacts of synthetic fuels development, particularly the June 1980 U.S. Department of Energy report, *Synthetic Fuels and the Environment*. The Task Group will then submit its recommendations regarding further study to the Committee for its consideration.

By mutual agreement with the Committee on Arctic Oil and Gas Resources, the assessment of environmental impacts in the Arctic will be handled and reported by that Committee. Close coordination and major support will be assured, however, by including representation from each of the pertinent Environmental Conservation task groups on the Arctic Resources Environmental Protection Task Group.

To summarize, the Committee has been gratified by the response evidenced by Council members and non-Council members alike to its request for support for this study effort. The subgroups have been organized and are fulfilling their charge and the Committee expects to meet its schedule of submitting a report to the Council for its consideration by the end of 1981.

CHAIRMAN MURPHY: Once again, is their discussion of the progress report that you have just heard?

(No response)

CHAIRMAN MURPHY: Thank you very much, Mr. Whitehouse. This Nation's readiness to face emergencies is always uppermost in our minds, and we've had a painful reminder of the importance, since the request to proceed, and there could be no more timly subject than that which we will now go into. And this is the committee report, or a status report on emergency preparedness.

Mr. Garvin.

STATEMENT OF C. C. GARVIN, JR.

CHAIRMAN, EMERGENCY PREPAREDNESS

MR. GARVIN: Thank you very much, Mr. Chairman, ladies and gentlemen. Before I just comment on the progress of this task force, I would just like to say to Charlie that I add my congratulations to your receiving your medal. One expects that such awards are given when they complete assignments. I trust that this one will be because the Secretary is taking proper action because he is departing the premises, and you will be around to run this thing for a couple of years. If that is the case, you will wear that medal to these meetings. You will find no report in your folder. And that is typical of our emergency prepardness. I am not sure that is a just comment. But obviously, there

is much to be done. And of course, the Secretary did recognize that back in June, when they requested that this Council study the Nation's emergency preparedness planning for an interruption on petroleum imports. And of course, this group agreed to that, to undertake the study. We are a committee of 25 Council members and at the time, John Sawhill was designated as the Government Co-Chairman. I have not made any inquiries since. We met in September and tried to come up with a scope and organization, and in discussing the scope of this preparedness study, it was agreed that the purpose was not to develop a long-range plan to reduce U.S. dependence on imports, but rather to identify measures whereby this country could minimize its vulnerability to an interruption in the imports in the near term. And in that connection, the Department of Energy provided us with a kind of a base case study for U.S. crude in shortfall scenarios, ranging from one million barrels per day to 4.6 million barrels per day, and asked us to project that to an analysis.

We are not looking at small supply emergencies that would stem from things that would take place in this country, such as a river freeze or pipeline interruption or refinery fires, working on the theory that those things are adequately covered with the industry flexibility that has been demonstrated so well over the years.

Now, in the request for the study, John Sawhill

outlined three areas of particular concern that this group was addressing itself to. The first was the ability of the Nation's supply and distribution system to operate under constrained conditions.

Second, the regulatory and statutory climate needed to minimize damage to the Nation.

And third, and most important, the organization and method of operation of the industry-Government relationship under the emergency conditions.

We, like the other committees, have established a coordinating subcommittee chaired by one of my associates in my company, and co-chaired by Mr. House of the Department of Energy and composed of 20 individuals coming from industry, academia, labor and public interest organizations. They've been a very active subcommittee, and they've had five days of meetings since September and are scheduled to be meeting in the next 30 days.

There is some thought that it would take until the end of Summer of next year to bring something forth that is meaningful, as Charlie indicated, of all these things, to remind us this work is most important. There will be a debate, undoubtedly, in the Congress, I'm guessing in early 1981, over the scheduled expiration of the Emergency Petroleum Allocation Act, and all these things seem to us would suggest that we try to get on with this a bit faster, and see if we can have

this proposition ready for Council review by the Spring of 1981, and that is our agenda.

Now, some of the work that is going to go on, some of it is paralelled with different groups, some simultaneously will cover three general areas. For example, the DOE is currently developing some disruption scenario base reports. They are looking at intra-Government assessment and decision mechanisms and they're looking at a public communications plan. We are both working together to try to develop reasonable assumptions on the strategy to minimize the adverse impact on the economy and the degree of utilization of the market mechanism, the relaxation of regulatory and environmental constraints and demand reduction and fuel substitution strategies.

Specific areas that the NPC group is studying would provide advice to the DOE, fall in these areas. Emergency oil and production, emergency crude distribution mechanism, emergency product distribution mechanism, emergency refinery operation, storage and transportation capability, a system for mobilizing industry personnel to assist Government, legislative and regulatory initiatives needed for Government to operate effectively during an emergency, utilization of the strategic petroleum reserve, and of course the international implications of all of those.

I feel certain, Mr. Chairman, that the dedication

of that group as reported now will allow us to make a final report in April.

CHAIRMAN MURPHY: Cliff, I'm sure that Dr. Lewis and others join me in commending you for accelerating this, and knowing of some of your accomplishments and those of your colleagues in this study, I doubt not that it will be ready in April. But it will be a great thing if it can be. Because it is just right up at the top of the list.

Are there suggestions to the Chairman of this terribly important study?

Thank you. We'll move on, then. Last Summer when the Council approved of the undertaking of these studies, as you've just heard reports of, I noticed to you that it would require considerable contribution of time, and that has come out loud and clear throughout these reports. You've heard of 17 men on this coordinating committee, 28 on a subcommittee, so many more on task forces, and the work being done. Now, we also can put you in view on the necessity of paying the bills. And the Finance Committee met yesterday and we will hear the news from John Phillips, Chairman of the Finance Committee.

STATEMENT OF JOHN PHILLIPS

CHAIRMAN, FINANCE COMMITTEE

MR. PHILLIPS: Mr. Chairman, the Finance Committee did meet yesterday, and I'm happy to report to you the financial condition of the Council is excellent. We reviewed

the calendar year 1980 expenditures, which at the June 11 Council meeting had been budgeted in the amount of $1,750,000 to provide the adequate funds for the two ongoing studies which have been completed, and to undertake the three new studies the Secretary had requested.

The two old studies have been completed, as you've heard today. The three new ones are well underway. And we still expect to show a budget surplus of about $225,000 this year.

This will increase our contingency fund to about one-half of our annual operating budget. The committee then reviewed and discussed a proposed 1981 budget. During our discussion, it was noted that weaknesses existed in the benefits program of the NPC staff, particularly in the pension plan area. The committee will study this, and will make recommendations for corrections to the Chairman soon. But based on our review, the committee recommends a 1981 budget in the amount of $1,800,000 to provide the adequate funds to complete the three ongoing studies which have been discussed today.

Finally, Mr. Chairman, the really good news. The committee recommends that the members' contribution be the same as last year and that you be authorized to make additional expenditures from the contingency fund, if that should be necessary.

Mr. Chairman, I move the report of the Finance Committee and the recommendations contained therein be adopted by the Council.

CHAIRMAN MURPHY: Is there a second?

VOICES: Second.

CHAIRMAN MURPHY: Hearing a second, we are accustomed to fine work, and these people are guardians of the work, and I just feel completely comfortable with how the money is being handled.

Now, having said that, I remind you that when you vote aye, which I comfortably expect in regards to this report, you are also signalling your willingness to respond to the assessments.

Those who favor adoption of the Finance Committee recommendations will let it be known by saying "aye" loudly.

(Chorus of ayes)

CHAIRMAN MURPHY: Thank you.

At the last meeting of the Council it was agreed that it would be appropriate for us to spell out in writing the policy regarding collection of data for the various study reports. The staff and the general counsel have drafted such a statement. I mailed it to you. It has been before you. As I said then and I repeat now, I concur with the recommendation, and there is also a copy available to you this morning.

Is there discussion of the statement? It doesn't seem necessary to bring this matter to a vote. My own perception, and on the advice of learned counsel, it is a matter of consensus and in the absence of objection, why we will consider this the consensus of the Council concerning data collection. Is there any objection?

(No response)

(The "Proposed Statement of Policy Regarding Data Collection by the National Petroleum Council" follows.)

PROPOSED
STATEMENT OF POLICY
REGARDING DATA COLLECTION
BY THE
NATIONAL PETROLEUM COUNCIL

The sole function of the National Petroleum Council is to provide advice and recommendations in writing to the Secretary of Energy, at his request, on matters relating to oil and gas and the oil and gas industries. All advice is provided to the Secretary in the form of written reports developed by the Council and formally approved by the Council acting as a plenary body. All NPC reports are made public and receive Library of Congress catalogue numbers.

The collection and assessment of data from a variety of sources, published and unpublished, is often required to respond to a request from the Secretary. Such collections of data are subject to consideration by one or more study groups assisting in the preparation of the study and, ultimately, by the Council. Each meeting of the Council and study group is (a) open to the public; (b) the subject of advance notice in the *Federal Register*; (c) attended by a government cochairman who has approved in advance the holding and agenda of the meeting and who has authority to terminate the meeting at any time; (d) the subject of minutes or transcripts which are publicly available; and (e) subject to the requirement that all documents and working papers utilized by subgroups are available for public inspection.

The collection and utilization of data by the NPC shall be subject to the following:

1. Published data, and unpublished data which are not proprietary, may be used by any NPC study group; working papers containing such data shall be subject to public access requirements.

2. Proprietary data may only be used if an independent third party receives such data in confidence and forwards it to the study group in such a form that individual contributors are not identified. Individual contributions shall be either returned to the sender or destroyed after aggregation by the independent third party.

CHAIRMAN MURPHY: Now, the last item I would like to bring before you today is the next meeting of the Council. People are busy, and it seems desirable to propose today as far in advance as possible, and you've just heard from Mr. Garvin that he intends to have a report in the Spring, and the date has been worked out by the staff as being probably most agreeable all around. It's the time of annual meetings, April 16. Now, this of course is subject to change. It is some months in advance, and it will have to be cleared with the Secretary at the time.

But in view of your problems in working out your own schedules, I want to ask that you make a note in your calendars now for a tentative meeting on April 16, 1981.

That completes the matters that the Chairman knows that have come before us today, and I will open the meeting now for anything that you think we ought to be doing that the Chairmen and the staff and I may have overlooked.

I am going to ask the Chairman of the -- I beg your pardon. Do we have a question? Yes, sir.

VOICE: Mr. Chairman, I don't know how appropriate it would be, but as a result of actions in Canada recently, there are a number of rigs in the process that have presently come across the border, and there will be more in all probability. The problem exists of the personnel to run these rigs, and whether or not they would come with the rigs. And I

think that if this Council and the Secretary or anyone in a position of authority could impress upon the immigration officials the necessity that adequate personnel be allowed to come with these rigs, if they are to come, it would be most important in helping solve the rig shortage of this country.

Thank you.

CHAIRMAN MURPHY: Well, frankly, that is something I had overlooked, and I am embarrassed not to have noted it. It is going on here and now. I am going to ask Jack Harbin, who is the Chairman of the Manpower and Materials Committee, to take a look at his report concerning the manpower phase, not the material phase, and Jack, if you would get back to me on what you think would be an appropriate response to this suggestion. It's very timely and very appropriate.

Is there anything else? Yes, Dr. Lewis?

DR. LEWIS: I just wanted to add that from my point of view I think we've heard a very impressive work program this morning and I think it is just clear that this Council is going to be serving the next Administration as well as it served us, and I think it is very commendable with what is going on.

(Applause)

CHAIRMAN MURPHY: I'm asking the Chairmen of the committees and the staff to stay here for just a minute after adjournment, including Dr. Slack and Dick Nelson, in case any

members of the press want to pose questions.

There being no further business, the plenary session of the National Petroleum Council is adjourned.

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

End 5A

REPORTER'S CERTIFICATE

DOCKET NUMBER:

CASE TITLE: National Petroleum Council

HEARING DATE: December 10, 1980

LOCATION: Washington, D.C.

I hereby certify that the proceedings and evidence herein are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before United States Department of Energy and that this is a true and correct transcript of the same.

Date: December 11, 1980

J. F. Coughlin

Official Reporter
Acme Reporting Company, Inc.
1411 K Street, N.W.
Washington, D.C. 20005