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EFFECT OF IRAQI-IRANIAN CONFLICT ON U.S. ENERGY POLICY

TUESDAY, SEPTEMBER 30, 1980

HOUSE OF REPRESENTATIVES,
ENVIRONMENT, ENERGY,
AND NATURAL RESOURCES SUBCOMMITTEE
OF THE COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2247, Rayburn House Office Building, Hon. Toby Moffett (chairman of the subcommittee) presiding.

Present: Representatives Toby Moffett, Robert S. Drinan, Floyd J. Fithian, Andrew Maguire, Peter H. Kostmayer, Mike Synar, Arlan Stangeland, and Joel Deckard.

Also present: John R. Galloway, staff director; Steven Engelmyer, counsel; and Catherine Sands, minority professional staff, Committee on Government Operations.

OPENING STATEMENT OF CHAIRMAN MOFFETT

Mr. MOFFETT. The subcommittee will come to order.

Today the subcommittee will examine the effects of the Iraqi-Iranian conflict on U.S. energy policy.

The United States and its Western allies, who import over 17 million barrels of oil a day from the Persian Gulf region, have anxiously watched this battle drag on over the past week. The very lifeline of the industrialized world, the Straits of Hormuz, may be threatened by this long simmering border dispute which has escalated into a full scale battle.

This hearing is designed to help prevent some of the mistakes that we as a nation have made during past threatened or actual oil supply interruptions.

When the Iranian revolution led to a cutoff of oil exports from that troubled nation last winter, for example, a sense of panic and a psychology of shortage took hold. As such, both industry and Government sought frantically to obtain oil on the spot market.

Spot market prices soared dramatically. That, in turn, led to a major increase in OPEC contract prices to the further detriment of the Western economies.

In the present instance we appear more sophisticated and less inclined to panic. Crude oil, gasoline, and distillate inventories, moreover, in both the United States and the world in general are at record levels.

Consumption, meanwhile, is down because of high prices and soft economies. As the subcommittee noted however in a recent report, emergency planning has not received a top priority and we are not

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prepared to respond to a major supply interruption in an effective and coordinated manner.

That report was released yesterday and details the failure of the Department of Energy and the States to come up with effective emergency conservation plans.

Today we have invited representatives of two major oil corporations, Exxon and Gulf, to share with us their perceptions of the current world oil supply outlook and our ability to cope with supply interruptions of varying magnitude.

Our third witness is William Edwards, a well-known oil industry consultant and analyst. In previous testimony before our subcommittee on the administration's ill-fated oil import fee. Mr. Edwards provided us with valuable insights concerning the intricacies of the world petroleum market.

All three witnesses agreed to testify today on relatively short notice and on behalf of the subcommittee I wish to thank them for extending themselves and for their cooperation throughout.

Our first witness today is Mr. Brice A. Sachs; executive vice president of Exxon International.

Mr. Sachs, as you may know, it is the practice of this subcommittee to swear in all witnesses without exception so as not to stigmatize any witness, so will you please stand and raise your right hand.

Do you swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. SACHS. I do.

Mr. MOFFETT. Thank you again for being with us.

Your full statement, without objection, will be considered part of the hearing record and you may paraphrase or summarize that statement in any way you wish.

Would you identify yourself formally for the record and then proceed.

STATEMENT OF BRICE A. SACHS, EXECUTIVE VICE PRESIDENT, EXXON INTERNATIONAL CO.; ACCOMPANIED BY WILLIAM R. CARTER, INDUSTRY AND GOVERNMENT ANALYSIS COORDINATOR, SUPPLY DEPARTMENT, EXXON CO.

Mr. SACHS. Thank you. My name is Brice Sachs and I am executive vice president of Exxon International Co., a division of Exxon Corp. Exxon International is responsible for planning and operating Exxon's international crude oil supply and distribution system. Therefore, the events of the past 1 or 2 weeks in the Middle East are of significant concern to us.

I would like to begin my comments today by telling you how we analyze the oil supply situation in the involved countries and in the other Persian Gulf oil exporting countries. I will then comment on the implications of these recent events on world oil markets.

First, it is important to point out that we in Exxon have limited sources of information on oil activities in Iran and Iraq even in more normal times. Of course, as a U.S. company we have had no dealings with Iran since mid-November of last year.

Although we have no employees or other involvements in Iraq, Exxon affiliates have contracts to purchase some 50,000 barrels a day of crude from Iraq. However, our most recent tanker lifting

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from Iraq took place before the major hostilities started and our next tanker is not scheduled to load until October 6.

We are reasonably certain that no exports are being made currently from either Iran or Iraq. This means that crude oil supplies to worldwide importing nations have been reduced by a quantity just under 4 million barrels per day. To put this in perspective, this represents about 7 percent of worldwide daily oil consumption.

As of September 29 the narrow Straits of Hormuz at the southern end of the Persian Gulf are still free to transit, although many vessels entering the gulf have been shifted to a shipping lane further away from the Iranian coast. Loaded oil tankers are still using the normal shipping lanes in exiting the gulf, since to do otherwise might result in groundings.

Since major hostilities between Iran and Iraq began on Monday, September 22, five Exxon-owned or chartered vessels have entered the Persian Gulf and six have left the gulf. Based on reports from our tanker captains, there have been no serious incidents, although one of our tankers was queried by a small Iranian ship as to its destination. The tankers that I have mentioned loaded crude and products in Saudi Arabia for delivery to our worldwide affiliates.

Now I will make some comments about current crude production and export facilities in the Persian Gulf as a whole.

Prior to the outbreak of the Iraqi-Iranian conflict the Persian Gulf countries as a group were producing about 18 million barrels of crude oil per day. They were consuming about 1.5 million barrels per day of that production to meet local product demands and were exporting the balance of 15.6 million barrels of crude and products per day to worldwide markets.

Of these exports, 15.5 million barrels per day were loaded into tankers in the Persian Gulf which transited, of course, through the Straits of Hormuz, while about 1 million barrels per day were shipped by Iraq via pipeline to eastern Mediterranean ports in Syria and Turkey. There is a third eastern Mediterranean port outlet for Iraqi crude located at Tripoli, Lebanon, but this terminal has not operated since 1976 due to pipeline tariff disputes and other problems.

An obviously critical factor in analyzing the seriousness of losing Iranian and Iraqi exports is the expected length of time to restore oil exports once hostilities cease. Unfortunately, we do not have any information on the extent or nature of the damage to either country's oil facilities. This will probably remain a major uncertainty at least until hostilities cease.

Regarding the other Persian Gulf countries of Saudi Arabia, Kuwait, the United Arab Emirates, Bahrain, and Qatar, to the best of our knowledge, they are still producing about 13.5 million barrels a day, with exports averaging about 12.7 million barrels a day.

Another key unknown at this point is whether these, as well as other OPEC countries, will revise their existing policies on crude oil production ceilings and allow more production and exports, thereby compensating at least partly for the losses from Iran and Iraq.

Now I would like to discuss our views on how the Iranian and Iraqi losses might impact on world oil markets.

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First of all, it would appear that the free world is in better shape to face this supply disruption than they were in 1978, prior to the first Iranian crisis. For instance, free world oil demand—this excludes all Communist nations—has dropped by 4 percent from 53 million barrels per day in 1979 to an estimated 51 million barrels per day for 1980 due to more efficient use of oil, the use of coal and nuclear energy, and slower economic growth in key industrialized countries.

Also, crude production outside of the OPEC countries has increased from 17.8 million barrels per day in 1979 to 18.7 million barrels per day in 1980, which is a 5-percent increase.

Third, and very important, free world crude and product inventories in primary storage both on shore and afloat in oceangoing tankers are significantly larger than they were in December 1978 when Iranian exports were halted.

However, despite lower oil demand, higher crude production in the non-OPEC countries, and larger inventories, the free world oil importing countries are still vulnerable to crude disruptions in the OPEC countries, since more than half of the free world's current oil demand of about 51 million barrels per day is still dependent on supplies from OPEC countries.

The United States, despite recent impressive decreases in oil consumption of 6 percent compared to 1979 and hence reductions in our import dependence, still relies on imports of crude and refined products to meet 40 percent of our oil demand.

I would like to dwell more on inventories. We estimate that the free world currently has about 500 million barrels of crude and product inventories above historic levels for this time of year. This is in addition to an estimated 800 million barrels the industry normally has in inventory at this time of year to cover higher seasonal requirements in the winter and to meet other supply and demand variations. Then there is an additional 500 million barrels of consumer governments' mandatory and strategic requirements which are not normally made available to companies to meet commercial needs.

These three sources amount to approximately 1.8 billion barrels. Adding to this the estimated 3.7 billion barrels of oil that are in transit in ships and pipelines, which are required to keep refineries operating, one can arrive at the approximately 5.5 billion barrels often mentioned in the press as representative of total world inventories.

However, it is important to focus on the first inventory figure I mentioned, the 500 million barrels of inventory that currently exist above historical levels.

The importance of this 500 million barrels in terms of the Iranian-Iraqi situation is that the loss of 3.8 million barrels per day could be sustained for over 4 months before overall inventories would return to historically normal levels. Obviously, if the consumer governments were willing to allow the use of the 500 million barrels of mandatory and strategic stocks I mentioned a moment ago, this would provide an additional 4 months of offset to the Iranian-Iraqi loss.

Despite the apparent ability of the total free world to use the inventories to cover Iranian-Iraqi supply losses for a reasonable

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period, the trade press reports that spot purchase and sale transactions in major export market centers, such as Rotterdam, the Mediterranean, and Singapore, have already reflected some signs of buying pressure in recent days.

Although the volumes transacted in these so-called spot market centers are relatively small compared to total free world oil consumption, the prices are widely publicized in the trade and general press and the escalation in these prices in early 1979 following the Iranian export suspension was used by OPEC as a key reason for their increases in official OPEC government selling prices for crude during 1979 and early 1980.

Hopefully, the current high level of worldwide inventories—which was not the situation in early 1979—will mitigate against escalating spot crude and product prices if the current crisis does not extend too long. Obviously, the willingness of other OPEC producers to increase current production levels and the willingness of oil consumers worldwide to use oil even more conservatively than they have in recent months are other key factors.

Now I would like to comment on the U.S. situation.

Total oil demand has averaged 17 million barrels per day over the first 8 months of 1980, with imports averaging 6.9 million barrels per day. Of course, the United States has not imported any oil from Iran since last November and recent imports of Iraqi crude into the United States would appear to be less than 50,000 barrels a day.

Given these relatively low imports from Iraq, one would not expect any dramatic or immediate market changes on what has been a relatively comfortable supply situation. U.S. crude and product inventories are in relatively good shape, with some 175 million barrels representing volumes above historically normal levels at this time of the year. In addition, there is the Government strategic inventory cushion of 90 million barrels.

As a final, but to me a very obvious and critically important point, the oil importing nations of the world, including of course the United States, are and will continue to be for many years vulnerable to political uncertainty and possible sudden supply disruptions in the Middle East oil exporting countries. Thus, the need continues even greater than before to find ways to use oil more conservatively and to concurrently accelerate efforts to develop major new sources of domestic energy supplies.

Thank you. Now I will try to answer any questions you may have.

Mr. MOFFETT. Mr. Sachs, the Chair wishes to thank you on behalf of the subcommittee for an excellent and informative statement, particularly in view of the short notice which you had. We are most appreciative.

At this time, as is our practice, the Chair will recognize members for questioning under the 5-minute rule. The Chair reminds members that we do have two other witnesses who will speak on roughly on the same topics. Let us save some questions for them and not have Mr. Sachs bear the brunt of all of the questioning.

At this time, the Chair recognizes the gentleman from Massachusetts, Mr. Drinan, for 5 minutes.

Mr. DRINAN. Thank you, Mr. Chairman.

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Mr. Sachs, I wonder if you could tell us whether there is any permanent damage to the oilfields in Iraq or Iran.

Mr. SACHS. As I tried to say, this certainly has to be one of the major factors to consider, but unfortunately we at Exxon do not have any knowledge of it.

As I mentioned, we are quite certain that exports have been suspended, but as to the reasons therefor or the extent of damage, I am sorry, we do not have any knowledge.

Mr. DRINAN. In your judgment, could Iraq or Iran block the Straits of Hormuz, if they chose to do so?

Mr. SACHS. Again, you are getting me a little bit out of my field.

Mr. DRINAN. I know, sir, but you are such a good witness and we rely upon people like you because you have more information over an extended period of time than we do, so I would appreciate anything that you would want to say about what you people, who are well informed about this field, think.

Is there a threat that Iran or Iraq could cut off the Straits of Hormuz?

Mr. SACHS. Again, I am going to have to defer because we are talking about an area, if I understand your question correctly, that would involve an assessment of military ability and so on. This is far afield from my expertise.

As I tried to point out, we have happily seen the operations both in and out of the Straits of Hormuz basically continue normally through yesterday. That is about the only point of reference that I can give.

Mr. DRINAN. On another topic, I think that the oversight function of this subcommittee relates to doing all that we can to prevent the spot market from escalating as it did some months ago. Would you elaborate on what you say here; namely, "Apparently, there has been some movement in the spot market, in Rotterdam and elsewhere, that would suggest that prices will go up." Do you say that if Iran and Iraq go on to have a rather long war and if they do not export oil, that spot market prices will almost inevitably go up?

What would be the reaction of your company to some Federal Government regulation seeking to contol any such escalation of the spot market?

Mr. SACHS. Sir, I have been fortunate in having been involved in the analysis of worldwide international markets on both crude and products for almost 20 years now. For one to speculate on an area as dicey as the spot market is tantamount to suicide, in my mind.

I will say this. In recent days the trade press has reported—and to the best of my knowledge quite accurately—that there have been signs of more activity in the spot markets, particularly in the product markets. Most notably in Rotterdam there have been signs of more buying interest.

I might venture to say that, knowing a little bit about that market, some of it could be attributed to trader activity, trader marketing, and the taking of positions. Some of it might in fact be attributable to searching around on the part of those most directly impacted by the loss of Iranian and Iraqi supplies.

However, fortunately—and I say this based on my judgment alone in reading these reports—it would not appear to me that

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there are any distinct trends appearing right now. There have been signs of buying pressure, but on a day-to-day basis this market has actually bounced back and forth. That is a distinctly different pattern than we saw evolve following the Iranian problem in early 1979.

Mr. DRINAN. Thank you very much, Mr. Sachs.

I yield back the balance of my time.

Mr. MOFFETT. The Chair now recognizes the gentleman from Minnesota, Mr. Stangeland, for 5 minutes.

Mr. STANGELAND. Thank you, Mr. Chairman.

Mr. Sachs, I do want to compliment you on a very good statement.

You state that in the reserves that are held now in the free world we have 4 months supply, and then we have another 4 months if the mandatory strategic stocks could be released. Therefore, we have approximately 8 months' of reserves in the free world.

What is the situation in the United States? How long can we operate if the Straits of Hormuz were closed? What kind of a reserve do we have?

Mr. SACHS. I pointed out in my statement, I believe, that using the same reference that I attempted to use for the worldwide inventory description, it appears that we have 175 million barrels of crude and products above what would be deemed historically normal for this time of year. That does not include the 90 million barrels that are in the SPR reserves.

I would say, without having the arithmetic at my fingertips, roughly that we have a similar inventory situation as that which I described for the free world.

However, let me point out the importance, at least immediately and in the near term, of the relatively small dependence that U.S. refiners have on the import of Iraqi, and of course Iranian, crude into this country. At least for the immediate future, I would not expect to see any noticeable signs of this suspension of exports from those two sources here in the United States.

Mr. STANGELAND. The question I raised is this. What happens if the Straits of Hormuz are closed? Does that alter the picture?

Mr. SACHS. I am sorry. I did not understand that.

Mr. STANGELAND. There is a lot more than Iraqi and Iranian oil coming through the Straits of Hormuz.

Mr. SACHS. Yes, sir.

Mr. STANGELAND. I think that is the critical point, given the disturbances going on over there.

Mr. SACHS. Yes, sir. Roughly one-third of the free world's oil goes through there.

Mr. STANGELAND. What is our potential for increased production and how long a time frame would it take to make up for some of the shortfall that we might experience if the Straits of Hormuz were closed?

Mr. SACHS. If I might, I have a colleague here from our domestic affiliate in Houston, who is quite a bit more familiar with the U.S. production situation than I am, so if you will bear with me for one moment, I just want to consult him.

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Mr. MOFFETT. Could we swear him in? Will you state the witness' name.

Mr. SACHS. This is Mr. Bill Carter from Exxon U.S.A. Co.

Mr. MOFFETT. Will you raise your right hand. Do you swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. CARTER. I do.

Mr. MOFFETT. You may come up to the table if you would like to.

We are not as concerned at this particular hearing about a long discussion of domestic production, but I think the gentleman's question is well taken in terms of how we can deal with this eventuality.

Mr. STANGELAND. Being from northern Minnesota, I ask these questions since a 4 month supply would bring us to the first of February. I want to make absolutely sure that we have capabilities to heat homes up there if something drastic should happen over in that part of the Middle East.

Mr. CARTER. In answer to your question, in general U.S. producers are producing at the level of their capability. There is very little excess capacity in the United States that is not being produced at this time.

Mr. STANGELAND. How long would it take to increase that production capacity—opening old wells, bringing in new wells? What is our rate of drilling and bringing in new wells today?

Mr. CARTER. In the short term I do not think there is significant additional capacity there. As you know, the industry is actively drilling in the offshore area and in other areas, but where oil fields have been discovered, they are essentially being produced at capacity.

Mr. STANGELAND. I think Secretary Duncan has said that we have increased production in this country by 55,000 barrels a day and expect to increase domestic production for next year by 350,000 barrels a day. Is there any way to accelerate that, if need be, if an emergency arose?

Mr. CARTER. That would take a very careful assessment. The risk in accelerating production is that you will damage the long range life of the field, and I am not qualified to really give you a more definite answer than that. I can only say that if we produce faster now, then there will be long range damage to the fields.

Mr. STANGELAND. Thank you.

Mr. Sachs, apparently, I judge from your statement that it is your feeling that the available inventories for the near future are going to prevent any escalating prices in the near future. Is that correct?

Mr. SACHS. What I tried to point out, Congressman, was that I believe that, given the inventory situation, I would think that that will be a key factor that will influence the direction of the prices. I have no way of predicting in which direction prices will go per se.

Mr. STANGELAND. Thank you.

I will yield back the balance of my time, Mr. Chairman.

Mr. MOFFETT. The gentleman's time has expired.

At this time, the Chair recognizes the gentleman from Oklahoma, Mr. Synar, for 5 minutes.

Mr. SYNAR. Thank you, Mr. Chairman.

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Mr. Sachs, is there a feasible way to keep the spot prices down? Mr. Synar also made a reference to "whether United States and allies could take measures to control level of imported oil prices."

Mr. SACHS. As I mentioned earlier, the dynamics of the spot market on the international crude scene is a very very interesting and almost impossible to analyze or predict situation.

I have read with interest in the recent year the various initiatives that have been begun both within this country and between the various major consuming nations about this general area that you mention, if I understand your question.

I basically have not seen anything that has come out of the actions of the nations studying this that would imply that they have found an answer on which they have come to any agreement.

Mr. SYNAR. All right. At what point, presuming that fighting continues, should we expect the International Energy Agency's emergency sharing mechanism to be triggered, and which member country do you think is likely to experience the first shortfall which will trigger the mechanism?

Mr. SACHS. First of all, I think I have given my best assessment of the overall situation at this point in time. Again, I have to continually emphasize the inventory situation versus the kind of situation that existed at the time of the Iranian shortfall. I would have to venture that the potential or possibility of the IEA (international emergency agencies) trigger, as I understand the procedure, the process, and the mechanism, being called in the near term is highly unlikely.

Does that answer your question, Mr. Synar?

Mr. SYNAR. What you are saying is that you do not think that it will be triggered, even if the fighting continues.

Mr. SACHS. I think that, given the procedures or requirements for triggering the IEA emergency sharing and the inventory situation the way it is, that is unlikely in the immediate future.

Mr. SYNAR. All right. Assume for me, for just a second, that indeed the mechanism is triggered. Is it not the United States that is most likely to bear the biggest sharing burden of all the member nations?

Mr. SACHS. Again, I am not an expert in the area of the emergency sharing procedures, but what I do know is that it was designed and approved by the member nations to share the pain equally, one might say, in terms of a world shortfall.

Mr. SYNAR. Let me ask one final question. It is my understanding that the OPEC nations either have an understanding or an actual agreement that, under no circumstances would oilfields be attacked. Now, what impact do you think the current attacks on the oilfields will have on the relationship between the various OPEC nations?

Mr. SACHS. I cannot answer that question, because I have no knowledge whatsoever of the original premise you mentioned. If there is such an understanding between the OPEC countries, I am not aware of it at all.

Mr. SYNAR. All right. Thank you very much, Mr. Chairman.

Mr. MOFFETT. The time of the gentleman has expired. The Chair now recognizes the gentleman from Pennsylvania, Mr. Kostmayer, for 5 minutes.

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Mr. KOSTMAYER. Mr. Sachs, the Carter administration has painted a fairly rosey picture of the situation here, telling us that we have a 100-day supply despite the fact that the strategic petroleum reserve contains, I gather, only about a 5- or 6-day supply?

Also, we may be going into a cold winter and if we have an economic upturn and the need for oil increases, things could be worse.

You have painted a fairly moderate picture, yet last week's front page of the Oil Daily says: "Iran/Iraq fighting will tighten supplies and hike prices." Who is right and who is wrong, and exactly how bad is the situation? Why is this prominent industry publication giving us an entirely different forecast than the Carter administration?

Mr. SACHS. I guess the only way I could answer that would be to say that newspapers, even the Oil Daily, make their living on speculation in areas like this. I have tried to say two or three times that I think that type of speculation about the price situation is not only dangerous, but I call it very very premature.

Certainly, one cannot deny——

Mr. KOSTMAYER. Do you think it is inaccurate?

Mr. SACHS. I tried to say that my personal assessment of the situation is such that the significant inventory situation will act in a way to keep the situation reasonably calm and certainly significantly different from what occurred at the time of the Iranian crisis.

Mr. KOSTMAYER. What about the impact of psychological panic which, again according to the Oil Daily, will begin to take place and bid up prices gradually as traders sit on their supplies?

Mr. SACHS. I kept hearing that expression all through the last year following the Iranian problem. I guess there is something to it.

On the other hand, I have to stress that I believe that what really occurred after the Iranian situation in 1978 and early 1979 was a situation in which there were more anxious buyers than there were sellers. I think it is far from clear, at least in the immediate situation we are in following the outbreak on the 22d, that that would be the case in the market today, if such a thing could be measured.

Mr. KOSTMAYER. Can you tell me, as a representative of the industry and not of the Federal Government, what you think of our preparedness in this country and how well prepared we are to cope with a cutoff if fighting should spread from Iraq and Iran into the other gulf states like Saudi Arabia, the United Arab Emirates, and Kuwait? This could mean, I gather, about a 20- or 25-percent reduction in our daily oil supply.

Mr. SACHS. Again, if I may, I would like to defer to my colleague here.

Mr. KOSTMAYER. Sir?

Mr. CARTER. You are speaking primarily to the questions with respect to the Straits of Hormuz, are you not?

Mr. KOSTMAYER. I am sorry. I cannot quite hear you.

Mr. CARTER. Would you restate your question.

Mr. KOSTMAYER. Yes. I am concerned that if the fighting which is going on now in Iraq and Iran spreads into the other gulf states—

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Saudi Arabia, Kuwait, and the United Arab Emirates—and we lose our oil from that part of the world, what the effect would be in this country. In the view of the industry, is the Government currently prepared to cope with that kind of massive, sudden, and possible shortage?

Mr. CARTER. The inventory situation that exists today in the most extreme situation would give about 1 to 2 months' reaction time. In that period of time our basic reaction would have to be along the conservation line.

Mr. KOSTMAYER. Do you mean we would have a 2-month supply of oil if we are considering our current use?

Mr. CARTER. I am saying that, if we continue to consume oil at the current rate and we utilize the inventories above normal and possibly consider using the SPR inventories, we would be looking at somewhere in the neighborhood of one to two months.

Mr. KOSTMAYER. In the SPR we have about 5 or 6 days. Is that right?

Mr. CARTER. That depends upon how deep a shortfall we are looking at. We have about 92 million barrels there.

Mr. KOSTMAYER. Then, we could have as much as 300 days, if we are filling it somewhere between 150,000 and 200,000 barrels a day, which we are not now.

Mr. CARTER. I do not understand your 300-day statement.

Mr. KOSTMAYER. It is my understanding that the maximum potential of the strategic petroleum reserve is about 300 days if it were filled. It is not filled now. It is filled only to the extent of 5 or 6 days.

Mr. CARTER. I think the SPR was set up in response to our participation in the IEA agreement. That agreement proposes that the countries attempt to maintain on hand somewhere in the range of a 90-day supply.

Mr. KOSTMAYER. Let me ask you this as a final question.

Mr. MOFFETT. Will the gentleman yield for a clarifying point?

Mr. KOSTMAYER. I have one more question. Then I will. Let me ask just one more question. I guess I am not articulating my concern.

If you had to give the Government a letter grade on how well we are prepared for an emergency, which is a possibility in this part of the world, would it get an A plus or a failing grade, in the view of the industry? I recognize that you are not here representing the Government, but from your point of view as an expert in this area, what kind of a grade would you give the administration in terms of being prepared to cope with the kind of crisis which is a possibility?

Mr. CARTER. Let me answer that by saying that I think the administration has recognized a need to go farther in the area of emergency preparedness. They have set up a special office in the DOE. They have asked the assistance of the NPC in exploring this area of emergency preparedness.

I think there is a recognized need for——

Mr. KOSTMAYER. Mr. Chairman, let me say this.

You certainly could qualify for a job with the administration, if you do not have one now. [Laughter.]

Mr. Chairman, I yield to you.

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Mr. MOFFETT. The gentleman's time has expired.

I would just say that the mandating of the strategic petroleum reserve stemmed from that 1975 law and is of course required, as I recall and as you correctly stated, by the International Energy Agreement.

We learned that DOE was going to start refilling the strategic reserve, beginning about tomorrow, but it is our guess that due to the current situation that that may not happen. Have you heard anything with regard to that?

Mr. CARTER. No, sir. I have not.

Mr. MOFFETT. We will direct that at Government witnesses, but I wondered if you had. It is an interesting question as to whether or not the rather optimistic picture that you paint, Mr. Sachs, with regard to supply could in fact allow us to continue with plans to refill the strategic reserve. That is a question that needs to be answered.

At this time, the Chair recognizes the gentleman from Indiana, Mr. Fithian, for 5 minutes.

Mr. FITHIAN. Thank you, Mr. Chairman.

Thank you, Mr. Sachs. Even though the American supply is not so directly effected by the Iraqi-Iranian controversy because of our historical purchase patterns, will there not be a tendency for oil companies to take advantage of this situation and raise oil prices rapidly over the next year?

Mr. SACHS. I think that we are hardly in a position to speak for any other marketer in terms of that aspect of the business. I think the standard of Exxon in supplying customers is to continue trying our best to get products to the consumer in the most economical way possible.

I would have an awful lot of trouble translating that into the connotation that I believe you expressed.

Mr. FITHIAN. However, as an expert in this area, if you were betting your own money in Las Vegas, you would bet on higher prices of oil pretty rapidly, would you not?

Mr. SACHS. I tried to say earlier that I would not bet that way immediately. The spot market, again, is a small part of the industry picture but one that is highly publicized and highly volatile. It has shown mixed signals. Some buying pressures are starting to show up in the product market. The crude market is almost frozen. There is hardly any activity at all. That is in complete contrast to what happened after the Iranian situation.

Mr. FITHIAN. However, given the percentage of the world's supply that comes from those two countries, even if it does not spread to any other area, if the damage reports about which we now read are true and if the repair is significantly delayed by continued military activities, that shortage will rather quickly wipe out whatever oversupply we have, certainly in 3 to 4 months. I am talking about this year, 1980, when decontrol will be there and the Government will not in any way be able to hold the price.

It just seems to me, as a nonexpert in this area, that it would be an absolutely safe bet that we will see domestic oil prices very appreciably higher, unless we get a very rapid cessation of the Iraqi-Iranian conflict and a pretty rapid repair of the facilities.

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Mr. SACHS. Mr. Fithian, as I tried to say several times, I am in no position to estimate the basic pattern of the future spot market. Again, let me stress that in January of 1979 our estimate of world-wide inventory was such that there was not 500 million barrels above normal levels for that time of the year. In fact, existing inventories on a global basis at that point in time were below the normal levels for that time of year.

Therefore, the kind of things that happened in the spot markets—and that is history now—could be traced to a great extent to that type of environment.

I think all of us have a tendency to be impressed by that recent history. It certainly was impressive to all of us, certainly as consumers, but I must point out that the inventory situation as we read it today is a significantly different one. Therefore, the implications on the spot market, even in the days thus far, are not surprising to me. They are considerably more mixed and considerably more dampened than they were. Granted, we are only working with a few days.

Mr. FITHIAN. I have one final question. I just would really hesitate, Mr. Chairman, to have the subcommittee assume at the conclusion of these hearings that we will not see pretty rapidly escalating oil prices with decontrol and this event happening in the world. I just think that the logic is overwhelmingly on that side.

Let me ask another question pertaining to your own supply. If Iraq should become the major power in the Persian Gulf, and it is entirely possible given the lineup now with everybody against the Persians, if that is possible, what does that do, if anything, to Exxon's source of supply? Does that effect you at all?

Mr. SACHS. Without having a better grasp of what you mean by becoming the dominant power in that area——

Mr. FITHIAN. I guess I am in a roundabout way asking about what your relations are—that is the company's relations—with the Iraqis, and beyond your company, the American oil company's relations with Iraq.

Mr. SACHS. I cannot comment very much for the other companies because, as I said earlier, our information on Iraq is extremely limited, the trade press, and picking it up in bits and pieces.

We, Exxon, do have contracts for about 50,000 barrels a day for crude from Iraq, which is not really a significant amount of oil in our system at all.

Mr. DRINAN. Would the gentleman yield?

Mr. FITHIAN. I would be happy to yield.

Mr. DRINAN. Going back to a point that has been already made, would your company be agreeable to a congressional directive or some Presidential encouragement to stay off the spot market?

We are leaving here this week. Five weeks from today there will be the election. What if the President, with the sense of Congress, urged the oil companies to stay off the spot market? How would you react to that?

Mr. SACHS. I think we would have to study a situation like that pretty carefully. I frankly would have to defer in looking at precisely the kind of situation you are describing here. If it were legislated, obviously we would have to follow the law.

Mr. DRINAN. Thank you for yielding.

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Mr. FITHIAN. I yield back the balance of my time.

Mr. MOFFETT. At this time the Chair recognizes the gentleman from New Jersey, Mr. Maguire, for 5 minutes.

Mr. MAGUIRE. Thank you, Mr. Sachs, for appearing here today to help us clarify some of the factual matters that relate to this current crisis.

In the Wall Street Journal yesterday it is indicated that insurance rates for ships have jumped about fivefold and for cargoes as much as fourfold. I wonder if you could tell us what kind of an impact that is having or is likely to have on the amount of shipping going through the Persian Gulf and the Straits of Hormuz.

Also, what does your company have now by way of insurance rate quotations and what do you expect to be happening to those rates in the coming days?

Mr. SACHS. Mr. Maguire, let me be very honest with you on that point. The situation with regard to insurance on vessels entering that area has become very changed in the last few days and might very well be changing at this moment, for all I know.

I tried to obtain from our staff an assessment of the impact of this. I would have to tell you that I did not get a specific answer to that yet. The situation is quite dynamic. The rates have been quoted higher for vessels entering that area.

However, I think it is important to put in perspective that, when we talk about insurance on vessels and on freight portions of the vessels, we are talking about a relatively smaller portion of the overall cost of the raw material as it is delivered to the refinery and thence through products to the consumers. So while I think that the matter certainly deserves interest and attention and we certainly are trying to give it that with the vessels we have in that trade, I would try to respond to you by saying that I think it is an area that has to be watched but one that will have limited significance in the overall picture on prices.

Mr. MAGUIRE. Could I ask you about the suggestions which I and some members of the administration have made, to the effect that, if necessary, we should convoy or escort, with our naval vessels, oil bearing ships through the Straits?

We would do that jointly with other countries that share in this interest or do that by ourselves if necessary.

Do you have a view as to whether that would be desirable if we really get to the crunch?

Mr. SACHS. Once again, the area of military tactics or strategy, I really feel, is quite far afield from my knowledge. Certainly, I think all of us recognize the significance of the volume of oil that is coming through the Straits.

It has been pointed out time and again here this morning. That is obviously a point of extreme sensitivity and importance, but exactly what sort of military practices or strategy should be adopted, if in fact—as you speculate—the situation worsens or moves in a direction that might require looking at that——

Mr. MAGUIRE. They are in international waters, of course. They are international waters and we are talking about international trade and commerce on the high seas.

I would assume that you would be sympathetic to keeping the commerce lanes open. Would I be correct in that assumption?

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Mr. SACHS. I would like to see oil keep moving.

Mr. MAGUIRE. If one of the ways in which we had to do that was to provide an escort, presumably that would be acceptable.

Mr. SACHS. In all fairness, Mr. Maguire, I think that is a decision for the Government.

Mr. MAGUIRE. That is fair enough.

First, has the Government been in touch with your company specifically in the last 2 weeks with respect to this conflict and have you been sharing information which you have that they might need? Second has the Government contacted you with respect to suggestions by the administration as to what they are doing with our allies or contacted you with respect to planning or steps that might need to be taken? What sort of contacts have there actually been between the administration—either the White House, or the Department of Energy, or others—and yourselves?

I know Secretary Duncan, for example, has spoken with our allies about various contingencies. Has he or have any of his representatives spoken to you or to representatives of your company about any of these issues? How often and how intimately have these conversations taken place?

Mr. SACHS. Congressman, I personally know of two conversations to which I can refer. One of them is the one that you alluded to, which was stated in the press as a contact between Secretary Duncan and the Exxon management in which, I believe, the terms of discussion involved our particular situation from a supply-demand standpoint and how we viewed the significance of the Iraqi-Iranian conflict on our activities.

I personally had conversation as well with a member of the Department of Energy on precisely the same subject area.

Mr. MAGUIRE. Are you saying that the sharing of information has been pretty good so far?

Mr. SACHS. I would say that with the two conversations I am aware of, that is so.

Mr. MAGUIRE. Did you know that the Energy Coordinating Committee which was set up 2 years ago has not met. Do you know about that?

Mr. SACHS. No, sir.

Mr. MAGUIRE. Alright.

Thank you, Mr. Chairman.

Mr. MOFFETT. The gentleman's time has expired.

The Chair has just a few questions. Again, I want to thank you for your cooperation, Mr. Sachs.

We would like to know a little bit more about how a decision is made in a situation like this as to whether or not to send a tanker through the Straits of Hormuz. You were very clear in saying that you had not been scheduled to load your next tanker until October 6. You gave us a fairly accurate picture, it seems, of your own situation.

However, Mr. Maguire asked about insurance rates and other members have asked about other factors. What goes into making a decision at this point about whether or not to send a tanker out? How is that decision specifically effected in this instance?

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Mr. SACHS. In the case of the instance you mentioned, the October 6 loading, that had been scheduled before the conflict broke out in Iraq in conformance with the contracts I alluded to earlier.

Our affiliates have been served notice by the Iraq National Oil Co. of a force majeure situation, a total force majeure situation, which means no oil at all; so obviously the people involved in our ships' scheduling have scratched that vessel for the moment (from that October 6 loading) until we get further notice.

In terms of the other vessels entering the Persian Gulf—and as I mentioned earlier, primarily for Saudi Arabian liftings as our major source of supply—we are moving those vessels normally and hope we can continue to do that. We appraise the situation through reports from our captains. They keep us informed and we keep trying to run the operation normally.

Mr. MOFFETT. Do you have tankers in or near the Straits at this moment, to your knowledge?

Mr. SACHS. I am not sure. I believe we had one go through over the weekend and we have another one that should be coming out within the very immediate period.

Mr. MOFFETT. Your testimony is that, as far as the traffic that you create there is concerned, things are going on as usual.

Mr. SACHS. Yes, sir. I did mention that we moved from the normal ingress or the normal shipping channel into the Gulf. We did move that south, but on leaving the Gulf, because of the navigational issues involved with a laden vessel, we have had to stay with the existing exit channel which is closer certainly to the Iranian coast than is the new route that we are taking coming in.

Mr. MOFFETT. Have you had only one encounter with the Iranians?

Mr. SACHS. One Iranian vessel signaled one of our larger vessels that they would like to have a word with us. They did ask whence we were coming and whither we were going. They then wished us God's speed in our sailing.

Mr. MOFFETT. That is probably the only contact we have had with Iran.

Can you tell us something about your own inventory now with regard to petroleum and petroleum products? How specific can you be with us?

Mr. SACHS. I can say that we, like industry, are in a fortunate inventory position. I can also say that we as a company were hit unusually hard by the situation that occurred in Iran last year and the following events that resulted primarily from the dramatic changes in the Iranian crude situation.

As such, our ability to rebound and recover from that has been somewhat slower than the general trend of industry overall, in the sense of inventory build which has been dramatic since the second quarter of 1979.

Nevertheless, I can say today that I feel we are in a comfortable position.

Mr. MOFFETT. Is it fair to say that you have no plans at this time to reduce refinery runs in order to, in any way, tighten the marketplace and husband your inventory?

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Mr. SACHS. Our instructions to the people involved in the company of which I am executive vice president are to carry out our operations normally.

Mr. MOFFETT. Good. That is very good.

Are there any factors which would influence the rate at which you draw down your inventories?

Mr. SACHS. I think, again, this reference to the high inventory situation, the inventory above normal inventory at this time of the year available for commercial use, has got to be a consideration as the situation winds out. It will have to be taken into account to in effect meet requirements in the most prudent way.

If supply does decrease and stays that way, I would certainly anticipate that that inventory situation would be called upon.

Mr. MOFFETT. When you say "if supply does decrease,"——

Mr. SACHS. I am talking about the Iraqi-Iranian situation continuing for any sustained period.

Mr. Chairman, I believe this is really a matter that is consistent with our ongoing process of study in our operation and in trying to run it in the most efficient, economical way that we can.

Mr. MOFFETT. Mr. Fithian asked you about the extent of damage to the oil facilities in the two countries involved. You said that you have no information.

Mr. SACHS. I really do not know.

Mr. MOFFETT. Maybe, my image of the companies is not realistic, but I would think that you would have information on that. You fellows are in business and this is really one of your lifelines, as well as a lifeline for all of us. Do you not have any sources of information to give you an idea of what the extent of damage is?

For example, Mr. Fithian asked how long can we expect these facilities to be down. That is a very important question. It is not just a matter of how long the hostilities continue or suddenly getting the 3 million barrels a day back, is it? It is really this question. If they are damaged severely, how long are we going to have to live in the world without the 3 million barrels? Is that not so?

Mr. SACHS. Congressman, let me be very honest with you on this point. I tried to recognize in my prepared comment the significance of the very point you are making, not just the cessation of hostilities—and I hope that comes very soon—but the aftermath, the analysis of what is necessary to get things back to normal.

I, more than anyone I would say, am anxious to understand that situation and get reliable information on it, but without any employees in Iraq, without any operations there at all, we are at a loss in that situation. All we can go by is the fact that we have received a total force majeure notice vis-a-vis our export contracts.

Therefore, all we are seeing is what gets registered, in effect, at the point where oil gets delivered from Iraq to an oceangoing vessel. That is my most honest assessment.

Mr. MOFFETT. Do you utilize information generated from, let us say, the State Department? Do you use that to try to get a handle on——

Mr. SACHS. I personally do not receive any information of that kind.

Mr. MOFFETT. Does Exxon?

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Mr. SACHS. I cannot really answer that question. I have no knowledge of it personally.

Mr. MOFFETT. I have one final question and one final point. This subcommittee spent weeks and months on the issue of emergency energy preparedness. I think every member of this subcommittee, Democratic and Republican, has said at one time or another on the record, that it looks as though a turmoil in the Persian Gulf is not only possible but likely. Now, here we are.

We have turmoil in the Persian Gulf. Would you say that, realizing that you are not a foreign affairs expert per se, but is it your experience, when you think about the Persian Gulf and the stake of your company there, that it is safe to assume that this is likely to be a turmoil-filled region for some time, to come?

Mr. SACHS. I think, as an individual as well as in my statement, I tried to refer to the fact that, just based on recent history, one would have to have some concerns about the stability of that area and that, I have to venture to say, that I think I would like to see the situation either resolved or a little clearer in terms of calm and perspective on calm, or see the oil elsewhere.

Mr. MOFFETT. Thank you very much.

Are there any additional questions for this witness?

No response.

Thank you very much for your cooperation. We appreciate it.

Our next witness is Mr. C. L. Campbell, senior vice president of Gulf Oil Trading and Transportation, who is accompanied I believe by P. E. Luitwieler, vice president for crude oil, Gulf Oil Refining and Marketing.

Gentlemen, will you please stand and raise your right hands.

Do you swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. CAMPBELL. I do.

Mr. LUITWIELER. I do.

Mr. MOFFETT. Thank you for being with us.

It is my understanding that you do have a presentation to make with the slide projector. Is that correct?

STATEMENT OF C. L. CAMPBELL, SENIOR VICE PRESIDENT, GULF OIL TRADING AND TRANSPORTATION; ACCOMPANIED BY PETE P. E. LUITWIELER, VICE PRESIDENT FOR CRUDE OIL, GULF OIL REFINING AND MARKETING; AND ROBERT HILL, GULF OIL TRADING AND TRANSPORTATION

Mr. CAMPBELL. That is right, Mr. Chairman. We have a paper written for you, but I think that we can do this with a little bit of verbalization on the slides. It basically follows the text.

We have a handout for you at the end about some of the current inventories, which we were not able to get on the slides, and then we can talk after that.

Mr. MOFFETT. Let me say that your statement, for which we are very appreciative since you gave it on such short notice, will be included as part of the record. You may proceed in whatever fashion you desire and then we will proceed to questions by the members.

While you are getting that set up, let me say that we have had witness from Gulf on several occasions and we have been very

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impressed by them. We are grateful for the cooperation that the company has shown us once again.

Mr. CAMPBELL. Thank you. I am C. L. Campbell, senior vice president with Gulf Oil Trading and Transportation. I have with me Pete Luitwieler, vice president with the Refining and Marketing Co. of Gulf.

I think the way we will handle this, if we can, is that we will go through the slides. Then we have a handout of about five sheets—on some current inventory numbers, and some of the loss projections that we see for various countries.

I have about three members of our staff here, so that if we get into things like internal, perhaps ethnic, or political situations, there is someone who can talk about that. If someone wants to talk about some of the macroenergy balances, I have someone who can talk about that.

Let us start with this. [Slide shown.]

I think we can say that for the first 70 years of this century we were basically self-sufficient in oil. We fueled the Allies in the First World War. We fueled the Allies in the Second World War.

We got into trouble in 1970. We had proration from the 1950's on through the 1970's. We ended up at 100-percent allowables in 1970.

Since that time, domestic production has kept even or gone down a little bit. We imported 8.2 million barrels a day in 1979. [Slide shown.]

Let us look a little bit at what we have totally. The United States—again this is 1979 data—has 18.4 million barrels a day. We had 10.2 domestic production. We imported 45 percent of our oil. [Slide shown.]

We are going to talk a little bit about our Russian friends here. They only use 8.9 million barrels a day. Their production is 11.7 barrels a day. They control Eastern Europe by selling oil to their affiliates, if you will, at below-market prices. /

The other biggies in this equation are these. Japan has nothing domestically. Most of Western Europe has nothing domestically. The United Kingdom is almost self-sufficient. Canada, with some exchanging, is almost self-sufficient. The LDC's—Brazil, Korea, Taiwan—have a problem as Europe does. [Slide shown.]

Here are the producers. OPEC was formed by the five guys in yellow in 1960, because the oil companies at that time were trying to drive the price of crude down.

In the 10 years that followed the rest joined in. There are now 13 members of OPEC. They produced 27.5 million barrels per day in the second quarter of this year. The rest of the world produced about 32 million barrels per day. You have in total about 60 million barrels per day.

If you put the Russians in on the non-OPEC side and the United States, below that there is really no significant productive capability. [Slide shown.]

We are going to talk a little bit here about what has happened in OPEC. OPEC production peaked in 1973. That is probably as high as it will ever be, based on what we think their internal needs and desires are. That period was also the peak of the major international oil companies' control and ability to manage situations such as the one we have. [Slide shown.]

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Here is what has happened to supply during this 10-year period. We had about 90 percent of the oil—These are the five American companies, the Aramco partners, ourselves, Royal Dutch Shell, BP [British Petroleum], and CFP of France. We had almost 90 percent in 1973.

During this whole period, which I will talk about a little later, the nationalization occurred. We now have contracts. We get 12.5 million barrels a day out of OPEC's 27.5 million, so roughly we have less than half of what we used to have. The rest now goes to independent companies—Japan, Europe, state-to-state deals, and that sort of thing. [Slide shown.]

Here is how we got to where we are. After OPEC had been in position for about 10 years, there was the change in Government in Libya. Then, in 1970 there were two separate incidents in which the Tapline failures occurred. This is a line that goes from Saudi Arabia, through the Golan Heights, on through to Lebanon.

At that point in time, there were two separate failures. The second one took 2 days to repair, but there was a 272-day period following that during which the Libyan Government moved and decided that, since we no longer had pipeline supply, since the Suez had been closed in 1967, since we had a huge problem getting oil from the Middle East to Europe, and since Libyan oil was extremely valuable, they wanted more money for their oil.

At that point, the West and the oil companies lost control of pricings.

During the Middle Eastern war of 1973 and 1974, we also lost control of production. At that point in time they said: "We have some things that we want done to conform to OPEC's needs, or you will not get the oil."

They also tried at that time a bit of destination restriction. As you can see down below, we still had major control, over 80 percent of the oil. We were able to redistribute and meet allocation procedures on both the consuming side and the producer side without violating anybody's sovereignty or their legal regulations in this area. We were able to manage that crisis pretty well.

The price did go up by a factor of four. During the rest of that period of time, until 1978, because the price went up, because we had the recession, and because conservation started, OPEC was not quite capable yet of figuring out how to totally control price, volume, and that sort of thing.

Therefore, there was about a 4- or 5-year period of consolidation on their part. Iran happened at the end of a period in which most of the nationalization of concessions occurred. [Slide shown.]

From that period on, we entered into a situation of only having basically the amount of oil that is needed for our own refineries. Gulf was a major reseller until that point in time, principally in the Far East. There were some big customers in South America.

However, we no longer have that capability. It is the producers' desire that they sell directly to end users. As you can see, as we have lost control of the oil, the price has skyrocketed. [Slide shown.]

Let us look at the OPEC production profile a little bit. They have the capability of producing 34.4 million barrels a day on a sustainable daily basis. That was before last week.

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They could, if they so desired, produce that much oil.

In 1979 they did not produce that much oil. They produced 30.4 million barrels per day. They had 26 million barrels per day on the long-term market to the old concessionaires plus their new customers in Japan, Europe, and South America. They had an internal consumption of 2.4 million barrels per day and they put 2.4 million barrels per day on the spot market.

Again, I do not want to be an apologist for OPEC. I also do not want to be derrogatory about what they are trying to do. Today, concessions are largely gone, and OPEC countries are determined that they are going to make their own destiny. Because of this they decided to sell some spot oil.

By doing that, they can judge pretty well what the market is. If there is too much oil in the market, individually they can figure out whether the spot price is higher than or lower than their term contract. If it is higher than, they can produce a little more oil. If it is lower than, they can cut the production.

That was in 1979. We have moved to a new era. During the second quarter 1979, demand as shown here was about 27.5 million barrels per day. It is now down a little bit from that. OPEC's internal consumption is 2.7 million barrels per day.

In addition, they have a financial requirement for 16.6 million. That is all they really need to produce—about 19.3 million barrels per day.

They have the option of producing or not producing about another 8.2. million barrels per day. You can argue. We have done some more recent calculations, and maybe that number is down about 5 million barrels per day, because of some of their increased costs on imports. But, fundamentally, OPEC is now in a situation where it does not have to produce all the oil the West needs.

They have generally stated policies that they will reduce their production to save their oil for the long term. There is a very good paper, an excellent paper, by Ali Khalifah al-Sabah, the Kuwaiti oil minister. He gave it to Oxford last September. It is in the Middle East Economic Survey of September 17, 1979. It is a good one.

The former executive vice president of Sonatrach, Algeria's state oil company, Nordine Ait-Laoussine, just in last week's Petroleum Intelligence Weekly (PIW) gave an excellent paper on this.

The ex-oil adviser to the Prime Minister of Iran is now in Honolulu. He gave a very good paper in the last OPEC Review.

Fundamentally, what these gentlemen all are saying is this: "In a commercial sense, your reserve-to-production ratios are maybe 10 to 12 to 1." The Ali Khalifa paper says that it ought to be 100 to 1, rather than 10 to 12 to 1, which means that they would produce one-tenth of what they are now producing.

He goes on to very explicitly define oil use from a producer nation's point of view. They need the oil for their future generations. That is all they have. They have to develop an infrastructure in that society. They should, on a planned basis, cut production, he says.

Some things have happened. With the impounding of the Iranian funds, these people are now extremely goosey about investing for-

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eign. Therefore, they are going to be more cautious about putting their money foreign.

There are some countries which have ruling populations that are a minority. They have a bunch of foreign workers. They are really afraid of becoming another Iran if they produce and put more money into their own country to build more plants and hire more foreign workers.

The end result of all of this is that they are probably going to cut their production. This would cut the amount of "option" oil that we get now. They ask for things in return—like helping them to build their society. You know, there are massive projects in Saudi—chemical plants, new refineries, joint ventures, and that kind of thing. They will produce that option oil if there is something that helps them in the long term.

The end result will be an increased infrastructure, more West-oriented, but not going very fast, and a trend toward pulling down the production and keeping it for the future. [Slide shown.]

Let us now look at OPEC. OPEC is a very diverse group. There are 13 countries with all kinds of different ethnicities, religions, races, per capita incomes, types of government, languages, and geographies, but there are some common denominators—Muslems, Arabs, and large oil resources.

The total world oil reserve is 675 billion barrels. OPEC reserves are 470 billion. The Arab OPEC reserves are 367 billion barrels. Their percentage of the total world reserve is 47 percent, and a bit more importantly, their percentage of the world reserves outside Russia and China is 62 percent.

There are 4.4 billion people in the world and 44 million Arab OPEC people. The Arab OPEC population is 1 percent of the people in the world; they have 47 percent of the oil. [Slide shown.]

Let us look at it even a little closer. We have thrown out Algeria and Libya and the non-Arab OPEC members—not because they are not important but we are trying to isolate this thing on the current problem. The Middle East Arab OPEC members who have oil are Saudi Arabia, Kuwait, Qatar, Iraq, UAE United Arab Emirates. Iran is not Arab. Iran is basically Persian. [Slide shown.]

For the next little piece of analysis, we are going to talk about reserves. Reserves are what are important for the future. Current production is not as important. It is not just a current problem that we have. We have a longer term problem here of not having enough energy.

In the Middle East, looking in the gulf itself, Saudi Arabia has 30 percent of the non-Chinese, non-Russian oil. Kuwait has 11 percent. Qatar has 1 percent. The UAE has 5 percent. In those countries, which are basically monarchies, there is 47 percent of the oil in the non-Russian and Chinese world.

Iraq and Iran each have about 10 percent. If you want to take this into a little bit more narrow perspective, there is an area of land that is about 250 miles wide and the bulk is in an 800-mile section which has most of the oil in the world. Let us say that the total range is perhaps 1,500 miles long, 250 miles wide. This has 46 percent of the free world oil in the monarchies plus another 10 percent in Iraq and another 10 in Iran. There is about 66 percent of the non-Russian, non-Chinese oil.

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That area is very sparsely populated. There is a fairly large population in Iran, but in the oil area the population is small. [Slide shown.]

Let us now look at Iraq. The other two, which we are not going to worry about here, have 9 percent of the oil. The Socialist Republic has 13 million people. They are Arab. The basic ruling religion is Sunni, but they are a minority. There are 50 percent who are Shi'ite Arabs and 25 percent who are Sunni Kurds.

As in the monarchies, we have a situation where the ruling part of the population is a minority. They have a fairly low per capita income. The monarchies that we were talking about before have per capita incomes between $15,000 and $28,000 per year. The U.S. per capita income is $8,700. [Slide shown.]

Let us now look at Iran and go into this a little bit more deeply. They have 10 percent of the free world's oil. The Islamic Republic has 38 million people. They are Persian and Shi'ite. The ruling religious and ethnic group is again a minority of the population.

There is a mistake there, on that slide. I have something there called Sunni Arabs. Those are really Shi'ite Arabs. The Shi'ite Arabs are in the oilfields.

The basic Persian ethnic group does not populate the oilfields. There have been, in the past several years, attempts by the central government to move Persian Shi'ites into some of the higher classes of jobs in the oilfields, but there is still this basic Shi'ite Arab group there.

There are Kurds, which go across both countries, and the Turks.

We have something else portrayed, called "Other." The others are the Baluchis and the Sistanis. They both live in the same area. The Sistanis are Shi'ite and are much more compatible with the Persian Shi'ite branch of the government. The Baluchis are really a group of people who are Sunni and not close to the ruling Persians. There used to be an area called Baluchistan which went partially into Afghanistan, into Pakistan, and this little drip and drop which got pushed over into Persia.

Now, it does not take too much imagination to figure out why the Russians are in Afghanistan. It is because if anything happens in central Iran they are prepared to act immediately. You do not necessarily have to assume that the Russians are going to take some kind of action directly against the oilfields, but you can say that if there is a need for help in taking out an oppressed state, like the Baluchis, I am sure that they would be very happy to cooperate in that activity. [Slide shown.]

We have given you this last little goodie here. If you really look at what could happen, you can see that there is Mother Russia up there in red. There is client Afghanistan. There is Syria as a client. There is Ethiopia as a client and Sawit Yemen as a client.

You have an area of land which is not really very populated, containing just about 58 percent of the oil in the world. You have Russia with 10 percent. Again, I do not have to tell you what some of the conclusions can be. [Slide shown.]

There are two final slides here. OPEC has total control of foreign crude—prices, production, and destination. The old major oil companies do not have any stroke there at all.

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OPEC produces more oil than is required for their financial needs. Most major industrialized countries are very heavily reliant on OPEC.

OPEC has plans to reduce their crude production and are going to save their resources for their future generations. OPEC cannot be generalized, however. You have to say that some of the countries—those countries that do not have so much oil are going to produce as fast as they can because some of them have big populations.

Those in the Middle East, basically the monarchies, have too much money, not enough local population, and they will probably be cutting back.

Kuwait has already gone from 3 million barrles/day down to 1½ million barrels/day on sort of that philosophy.

Russia is located close to most of the OPEC oil reserves. We are heavily committed to foreign oil supplies. Russia is self-sufficient.

Even forgetting any kind of Russian activity, you will find that we will have tremendous competition, both political and commercial, for whatever crude oil is left, because as OPEC either holds constant or tries to cut and as the population of the world increases, there will be a need for more energy.

You will find that the other have-not nations—the French, the Germans, the Japanese, the Koreans, the people in Taiwan, the Brazilians—will have to be very very commercial, very aggressive in terms of getting the oil that they need.

The United States is extremely vulnerable to supply cutoffs. Russia is not. [Slide shown.]

Let us now go to the end. Again, as I said, I am not an apologist for OPEC, but let us say that OPEC forced the United States to reduce our oil consumption, after we had not otherwise done it. Suppose they forced us into it for their interests. We should have done it willingly but we have not done it.

We have missed an opportunity to remain self-sufficient. It takes tremendously long lead times to get into alternative energy. We will have continued disruptive economic and social costs.

I think, if you look at the whole situation in Detroit, that is literally a little ripple after Iran wherein all of a sudden everyone got frightened. They purchased foreign-made cars. We are going to have more of that, because we just do not have the alternatives that we should have.

One thing that I would like to talk a little bit about is Government and private cooperation, both national and international. I think, if you look at what happened in World War II, we had a tremendous problem with coastal tankers being sunk by submarines, trying to get Texas oil up to the East Coast, tremendous Government and company cooperation to build the pipelines to get the products through. I would say that we really do not have that today.

We have a much more separatist kind of thinking now, tending to divide Government and industry cooperation. Other nations in the world do not have that.

We have to look for more conventional oil and gas. That is the only intermediate solution we have. I am not an expert in Federal land reserves or anything like that, but my people tell me that an

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area as large as like the area east of the Mississippi is presently unavailable for energy reserves. Some development has to happen.

In the long term we have a lot of coal. We have nuclear power. They are solutions which must be applied in the long term. We have synthetic fuels from coal and shale oil. There is a lot of shale oil.

I am not discounting the environmental problems, but since I am testifying, let us hope that someone will forgive me if I make a few little errors in my mathematics. There are 670 billion barrels of oil in the world. We have 30 billion barrels or about 5 percent of the world's reserves.

If we find no more oil and we produce at the existing rate, we will use up that oil in 10 years. If we have no imports, we would use it up in 5 to 6 years.

Ten billion of those barrels are in Alaska and if we had shipping lane problems getting Alaskan oil to the west coast, we would take a third of our reserves away. Therefore, the Continental United States totally relying on domestic production would run out in something less than 5 years.

I think I have those numbers right. They are at least approximate.

There are renewable things for the future—solar power and the wind. A lot of research has to be done, but it will not be done in this century. In the next century they will be contributors, but not at this time.

Our basic problem overall is that we have used up much of what we have. What we need is in a place that is extremely volatile. We have no alternative at this point in time, and there is no immediate solution. There is no quick fix in this situation.

Thank you very much.

I have a handout here showing the current reserves in the world and where we think the reserves are going to end up, including what we think has happened to various oil facilities in the Middle East.

Mr. MOFFETT. Does the subcommittee have copies of those?

Mr. CAMPBELL. It is included on the back of my written testimony.

Mr. MOFFETT. Without objection, your written testimony will be made a part of the record at this point.

[Mr. Campbell's prepared statement follows:]

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TESTIMONY OF

CHARLES L. CAMPBELL, SENIOR VICE PRESIDENT

GULF TRADING AND TRANSPORTATION COMPANY

MR. CHAIRMAN, MEMBERS OF THE SUBCOMMITTEE:

Good morning.

I am Charles Campbell, senior vice president of Gulf Trading and Transportation Company -- a division of Gulf Oil Corporation.

I appreciate your invitation to meet with the Subcommittee and discuss the outlook for crude oil imports in the wake of the recent disturbing developments in the Middle East. It is also my understanding that you are interested in what effect the conflict between Iran and Iraq will have on the overall, worldwide petroleum industry, and the United States in particular.

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THESE ARE DIFFICULT QUESTIONS OF GREAT COMPLEXITY, AND I BELIEVE IF THEY ARE TO BE ANSWERED MEANINGFULLY, THEY MUST BE CONSIDERED IN THE CONTEXT OF ALL THAT HAS BEEN HAPPENING IN THE INTERNATIONAL OIL TRADE DURING RECENT YEARS. THUS, WITH YOUR PERMISSION -- FOR I RECOGNIZE THAT MUCH OF WHAT I WILL SAY WILL NOT BE NEWS TO YOU -- I SHOULD LIKE TO REVIEW SOME OF THE CHANGES WHICH HAVE OCCURRED. AFTER THAT, I PROPOSE TO ADDRESS BOTH POTENTIAL LONG AND SHORT TERM EFFECTS OF THE CURRENT FIGHTING, THEN CONCLUDE WITH SOME REMARKS ABOUT STEPS WHICH THE UNITED STATES MUST BEGIN TAKING SOON.

TO SET THESE QUESTIONS IN PERSPECTIVE, THEN, LET'S BEGIN BY REVIEWING THOSE RECENT EVENTS WHICH HAVE SO PROFOUNDLY ALTERED THE RELATIONSHIP BETWEEN THE U.S. AND OTHER INDUSTRIALIZED CONSUMING COUNTRIES, ON THE ONE HAND, AND THE OIL-PRODUCING COUNTRIES, ON THE OTHER HAND.

FOR MOST OF THIS CENTURY, THE U.S. ENJOYED THE OPTION OF EITHER IMPORTING CRUDE OIL OR USING DOMESTIC PRODUCTION. WE WERE NOT DEPENDENT ON IMPORTED OIL.

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THAT CHANGED DRASTICALLY TOWARD THE END OF THE 1960s AND THAT CHANGE HAS LED THE U.S. TO A GREATLY WEAKENED INTERNATIONAL POSITION.

Chart #1 TEN YEARS AGO, WE IMPORTED 3.4 MILLION BARRELS PER DAY OF OIL, OR 23% OF OUR TOTAL OIL REQUIREMENTS. LAST YEAR THE UNITED STATES IMPORTED 8.2 MILLION BARRELS PER DAY OF OIL, OR 44% OF OUR REQUIREMENT -- 7 OUT OF 10 OF THOSE IMPORTED BARRELS CAME FROM OPEC.

Chart #2 THIS CHART SHOWS WORLD-WIDE PRODUCTION JUST PRIOR TO THE IRAN/IRAQ CONFLICT. IT WAS ABOUT 60 MILLION BARRELS PER DAY, OF WHICH OPEC WAS PRODUCING ALMOST 50%. NOTE ALSO THE LACK OF PRODUCTION IN THE CONSUMING WORLD, WITH THE EXCEPTION OF THE UNITED STATES, RUSSIA AND THE NORTH SEA. EVEN AT A PRODUCTION RATE OF 8.6 MILLION BARRELS PER DAY, THE U.S. STILL MUST IMPORT 38 PERCENT OF ITS PETROLEUM NEEDS.

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THE U.S.S.R., ON THE OTHER HAND, IS SELF-SUFFICIENT AND EXERTS CONTROL IN EASTERN BLOC NATIONS THROUGH EXPORTS OF CRUDE OIL AT PRICES BELOW COMPETITIVE WORLD MARKETS.

OPEC IS RELATIVELY NEW TO THE WORLD AND WAS ORGANIZED IN THE EARLY 1960s, BUT BY 1970, OPEC HAD DEVELOPED A PHILOSOPHY THAT IN THE LONG TERM WOULD INCREASE THE PRICE OF THEIR OIL TO A LEVEL COMPARABLE TO THE COST OF ALTERNATIVE ENERGY SUPPLIES. INITIALLY, THOUGH, THEY WERE NOT POLITICALLY CAPABLE OF CARRYING OUT THEIR POLICIES. A LOT HAS HAPPENED SINCE 1970, AND OPEC'S AIMS ARE NOW FAR REACHING IN TERMS OF INTERNATIONAL STATURE.

THE ORIGINAL MEMBERS OF OPEC WERE SAUDI ARABIA, IRAQ, VENEZUELA, KUWAIT AND IRAN. AS YOU CAN SEE, SAUDI ARABIA IS BY FAR THE MOST SIGNIFICANT CURRENT FACTOR IN OPEC.

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PRIOR TO THE EMERGENCE OF OPEC AS AN EFFECTIVE FORCE, THE MAJOR INTERNATIONAL OIL COMPANIES EXPLORED FOR, PRODUCED AND MARKETED NEARLY ALL THE MIDDLE EASTERN OIL OUTPUT THROUGH CONCESSIONS WITH HOST COUNTRIES. BUT THIS POSITION ERODED GRADUALLY BETWEEN 1960 AND 1970, ENDING ABRUPTLY IN THE EARLY 1970s.

UP UNTIL THAT POINT, THE OIL COMPANIES WERE REQUIRED BY THE PRODUCERS TO INCREASE PRODUCTION AT RAPID RATES. AS A RESULT, WORLD CRUDE PRICES REMAINED LOW. WHEN OPEC TOOK CONTROL OF ITS RESOURCES AWAY FROM THE OIL INDUSTRY, PRICES WERE SET -- NOT BY MARKET FORCES -- BUT BY OPEC.

DURING THE 1973 WAR, OPEC REDUCED VOLUMES SIGNIFICANTLY.

Chart #3

OPEC PRODUCTION PEAKED THAT YEAR, AT ABOUT 31 MILLION BARRELS PER DAY. THIS IS PROBABLY THE HIGHEST LEVEL THAT OPEC WILL EVER PRODUCE.

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Chart #4 SINCE THAT PERIOD OF TIME, OPEC PRODUCTION HAS DROPPED TO AN ESTIMATED 27.5 MILLION BARRELS PER DAY, OF WHICH LESS THAN HALF OR 12.5 MILLION BARRELS PER DAY IS AVAILABLE TO THE MAJOR INTERNATIONAL OIL COMPANIES.

Chart #5 BY THE END OF THE 1973 CONFLICT, PRICES HAD BEGUN TO RISE SHARPLY AND THE INDUSTRIAL NATIONS HAD LEARNED WHAT A DISRUPTION IN OIL IMPORTS FROM OPEC COUNTRIES COULD MEAN.

IN ADDITION TO RAISING PRICES, SOME OPEC MEMBERS ATTEMPTED DURING THE 1973-74 PERIOD TO SPECIFY DESTINATIONS FOR THE OIL THROUGH AN EMBARGO AGAINST VARIOUS CONSUMING COUNTRIES. BUT AT THAT TIME THE OIL COMPANIES STILL MARKETED MORE THAN 80% OF THE OIL, AND WERE SELLING LARGE AMOUNTS TO INDEPENDENT REFINER/MARKETERS IN EUROPE, ASIA, AND SOUTH AMERICA.

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THIS SET THE STAGE FOR A RESTRUCTURING OF COMMERCIAL CONTRACTS WITH THE OIL COMPANIES. THIS RESTRUCTURING LIMITED THE COMPANIES' FREEDOM TO DISPOSE OF CRUDE OIL. IN THE PERIOD 1974 THROUGH 1978, NATIONALIZATION WAS LARGELY COMPLETED AND THE OPEC COUNTRIES ORGANIZED SOPHISTICATED PLANNING STAFFS WITH YOUNG NATIONALS SCHOOLED IN THE UNITED STATES AND EUROPE. THE OPEC PLANNERS WERE ABLE TO STUDY AND UNDERSTAND WORLD OIL MARKETS AND PETROLEUM LOGISTICAL SYSTEMS.

IN THE LAST FEW YEARS, THE OIL COMPANIES' CRUDE OFFTAKE IN THE FORM OF PURCHASE CONTRACTS HAS BEEN REDUCED TO BASICALLY THAT AMOUNT OF CRUDE WHICH THEY COULD RUN IN THEIR OWN REFINERIES. RESALE OF CRUDE BY THE MAJORS TO INDEPENDENT REFINER/MARKETERS, BOTH FOREIGN AND DOMESTIC, WAS GREATLY REDUCED; MOST OF THESE SALES ARE NOW MADE BY THE PRODUCING NATIONS DIRECTLY TO END USERS OR CONSUMING GOVERNMENTS.

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SEVERAL OTHER CONSTRAINTS ARE WORTH MENTIONING.

IN THE PAST, PRODUCING COUNTRIES WOULD ALLOW A TOLERANCE IN LIFTINGS. A PURCHASER COULD TAKE TEN PERCENT MORE OR LESS THAN WAS SPECIFIED IN THE CONTRACT AND THERE WAS CONSIDERABLE FLEXIBILITY IN LIFTING SCHEDULES WITHIN THE QUARTER. BUT THIS IS NO LONGER TRUE. THE PURCHASER MUST TAKE EXACTLY THE AMOUNT IN THE CONTRACT AND IN MOST CASES ON A RATABLE MONTHLY BASIS.

ALSO, CARGOES MUST BE PICKED UP ON THE DATES SPECIFIED BY THE PRODUCING COUNTRY. THE PURCHASER CANNOT, AS IN THE PAST, WORK WITH ANOTHER CONCESSION HOLDER TO VARY LEVELS AND LIFTING PATTERNS TO MINIMIZE TRANSPORTATION AND INVENTORY COSTS. SOME PURCHASERS ARE NO LONGER ABLE TO CAPITALIZE ON THE ECONOMY OF SCALE PROVIDED BY THE GIANT ULTRA LARGE CRUDE CARRIERS. WE MUST USE SMALLER CARRIERS INSTEAD. THIS REDUCES OIL COMPANY FLEXIBILITY AND INCREASES THE COST OF TRANSPORTATION.

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THESE NEW CONSTRAINTS MAKE IT MUCH MORE DIFFICULT TO DO BUSINESS, SINCE THEY MAKE THE SYSTEM MUCH MORE RIGID. THEY ALSO CONTRIBUTE TO HIGHER OPERATION COSTS WHICH MUST BE PASSED ON TO THE CONSUMER.

AS YOU CAN SEE, OVER A TEN-YEAR PERIOD PRODUCTION AND MARKETING DECISION-MAKING RESPONSIBILITY HAS LARGELY PASSED FROM THE HANDS OF THE MAJOR OIL COMPANIES TO THOSE OF OPEC MANAGERS. AT THE SAME TIME, INTERNATIONAL PETROLEUM MARKETS ONCE CHARACTERIZED BY PRICE STABILITY AND FLEXIBILITY, ARE NOW CHARACTERIZED BY INSTABILITY, RIGIDITY AND ESCALATING PRICES. WITH MOST OF THE OIL CONCESSIONS NOW GONE, THE MAJOR COMPANIES NOW HAVE ACCESS TO LESS THAN ONE-HALF OF OPEC'S CRUDE PRODUCTION.

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Chart #6 EVEN BEFORE THE OUTBREAK OF CURRENT HOSTILITIES, THE OUTLOOK FOR OPEC OIL SUPPLY THIS YEAR WAS UNCERTAIN. SHOWN HERE IS OPEC's 1980 PRODUCTIVE CAPACITY. THIS IS THE MAXIMUM PRODUCTION RATE THAT COULD BE SUSTAINED FOR SEVERAL MONTHS AND DOES NOT REFLECT PRODUCTION CEILINGS APPLIED BY VARIOUS OPEC MEMBERS. OPEC HAS THE PRODUCTIVE CAPACITY NECESSARY TO MEET THE CONSUMING NATIONS' NEEDS, BUT UNDER PRESENT CIRCUMSTANCES IT IS IN THEIR INTEREST TO REDUCE PRODUCTION AND THEREBY INCREASE PRICES.

Chart #7 LAST YEAR, WHEN OPEC PRODUCED 90% OF ITS PRODUCTIVE CAPACITY, IT STARTED TO FURTHER CHANGE ITS CRUDE OIL MARKETING STRATEGY. LONG-TERM CONTRACTS WERE REDUCED, AND SOME OIL PREVIOUSLY SOLD AT OFFICIAL GOVERNMENT PRICES WAS SOLD AT SPOT PRICES SOMETIMES TWICE THE OFFICIAL SELLING PRICE. WITH THIS CHANGE EACH OPEC COUNTRY IS NOW ABLE TO JUDGE INDIVIDUALLY THE WORLD SUPPLY/DEMAND SITUATION. IF THERE IS A SHORTAGE OF OIL IN THE WORLD, THEY CAN SELL SPOT CARGOES ABOVE THE OFFICIAL GOVERNMENT PRICE.

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IF THE SPOT PRICE FALLS BELOW THE OFFICIAL PRICE, THEY CAN INDEPENDENTLY REDUCE PRODUCTION TO TIGHTEN THE SUPPLY.

PRIOR TO THE CURRENT CONFLICT, AND BECAUSE OF THE EXTREMELY RAPID PRICE INCREASES IN 1978 AND 1979 THE OPEC COUNTRIES WERE PRODUCING MORE OIL THAN WAS NECESSARY FOR DOMESTIC CONSUMPTION AND TO SUPPORT THEIR OWN FINANCIAL REQUIREMENTS. DESPITE PREVIOUS REDUCTIONS, WE BELIEVE THEY COULD COLLECTIVELY FURTHER CUT PRODUCTION BY AS MUCH AS 8 MILLION BARRELS PER DAY WITHOUT DAMAGE TO THEIR OWN ECONOMIES. PRIMARY REASONS WHY THEY PRODUCE THE EXTRA OR OPTION OIL, ARE TO AVOID A TOTAL BREAKDOWN OF THE INDUSTRIALIZED NATIONS' ECONOMIES AND TO REQUIRE HELP FROM THESE SAME COUNTRIES IN DEVELOPING THE PRODUCERS INFRASTRUCTURE, BY PARTICIPATING IN PROJECTS ESSENTIAL TO THEIR OWN NATION.

WESTERN PLANNERS SHARE A COMMON MISCONCEPTION WHEN THEY VIEW THE INTERNATIONAL SUPPLY SITUATION. THEY CALCULATE THE WORLD DEMAND, SUBTRACT INDIGENOUS SUPPLIES AND ASSUME THAT OPEC WILL PRODUCE THE NECESSARY CRUDE TO BALANCE WORLD ENERGY DEMAND.

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FEW ANALYSTS HAVE MADE AN ASSESSMENT OF THE PROBLEM FROM AN OPEC PERSPECTIVE. SINCE THE PRODUCING NATIONS ARE NOW IN CONTROL, THIS WOULD BE MUCH MORE REALISTIC. OPEC PRODUCTION POLICIES RELATE TO THEIR OWN INDIVIDUAL INTERNAL DEVELOPMENT, SOCIAL STRUCTURE AND INTERNATIONAL POSTURE. THEIR NEED FOR FUNDS WILL DICTATE THE WORLD'S NEED FOR OTHER ENERGY SOURCES. OPEC WILL NOT BE DICTATED TO BY THE CONSUMERS. THIS FUNDAMENTAL DIFFERENCE IN VIEW POINT IS ONE OF THE SERIOUS WEAKNESSES IN THE U.S. ATTITUDE TOWARD THE ENERGY CRISIS.

THE PURPOSE OF THIS HISTORICAL REVIEW HAS BEEN TO MAKE THE POINT THAT THE INTERNATIONAL OIL SUPPLY SYSTEM IS MUCH MORE RIGID -- MUCH LESS FLEXIBLE, AND MUCH LESS RESPONSIVE -- THAN WAS THE CASE IN THE PAST. SHOCKS SUCH AS THE IRAQ-IRAN WAR COULD BE CUSHIONED BY TEMPORARILY INCREASING PRODUCTION ELSEWHERE AT THE OPTION OF THE MAJOR OIL COMPANIES. THAT OPTION, HOWEVER, IS NO LONGER AVAILABLE.

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GIVEN THE DIFFICULTIES BROUGHT ABOUT BY PRODUCERS CONSTRAINTS, AND THE CONSEQUENT LOSS OF ABILITY TO PROTECT AGAINST THE SHOCK OF DISRUPTION, IT IS ESSENTIAL THAT WE TRY TO UNDERSTAND JUST WHAT IS AT STAKE IN THE IRAN-IRAQ CONFLICT.

PRIOR TO THE WAR, IRAQ WAS SHIPPING OIL THROUGH THE PERSIAN GULF AND PUMPING IT THROUGH TWO PIPELINES TO THE MEDITERRANEAN.

ABOUT 600,000 BARRELS PER DAY (600 MB/D) WAS BEING PUMPED THROUGH THE IRAQI/TURKISH PIPELINE FROM IRAQ'S NORTHERN FIELDS OF KIRKUK, JAMBUR AND BAI HASSON TO CEYLON, TURKEY. THIS LINE, WHICH HAS A CAPACITY OF ABOUT 700 MB/D WAS REPORTED CUT OFF ON SEPTEMBER 26, AND ITS STATUS REMAINS UNCERTAIN. REGARDLESS, OF WHATEVER AMOUNT PUMPED, TURKEY HAS TRANSIT RIGHTS TO 40 PERCENT.

IRAQ ALSO EXPORTS VIA A SECOND PIPELINE SYSTEM TO THE MEDITERRANEAN.

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THIS SYSTEM CROSSES SYRIA AND HAS TWO TERMINALS. THE TERMINAL IN BANIAS, SYRIA IS STILL IN USE, BUT THE TERMINAL IN TRIPOLI, LEBANON HAS NOT BEEN USED FOR SOME TIME DUE TO POLITICAL UNREST IN THAT COUNTRY. THIS TRANS-SYRIA PIPELINE SYSTEM HAS A CAPACITY OF ABOUT 1.4 MILLION BARRELS PER DAY (1.4 MMB/D).

THE MAJOR MEANS OF IRAQI EXPORT, NOW HALTED BECAUSE OF THE WAR, HAS BEEN PERSIAN GULF SHIPPING. EXPORTS ARE DISPATCHED FROM BASRA, VIA THE LAND DISTRIBUTION CENTER AT AL-FAO THROUGH THE OFFSHORE TERMINAL OF AL-BAKR AND KHOR-AL-AMAYA.

EACH TERMINAL POSSESSES 69 FOOT DRAFTS AND CAN HANDLE TANKERS IN THE VERY LARGE CRUDE CARRIER (VLCC) CLASS.

KHOR-AL-AMAYO HAS THE LARGEST CAPACITY. IT IS CAPABLE OF HANDLING UP TO ABOUT 1.4 MMB/D. THE AL-BAKR TERMINAL IS NEWER AND CAN HANDLE ROUGHLY 1 MMB/D.

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FINALLY, THE PORT OF AL-FAO, WHICH IS MUCH SMALLER, CAN HANDLE A LESSER CAPACITY. SHIPS NO LARGER THAN THE 35 MDWT CLASS CAN UTILIZE THIS PORT.

PRIOR TO WAR, IRAQ WAS AVERAGING BETWEEN 2.5 AND 3.0 MILLION BARRELS PER DAY. THIS WAS FROM A CAPACITY OF ABOUT 4.5 MMB/D.

IRAN HAD SEVEN OPERATING REFINERIES BEFORE THE CRISIS. BUT IF THE GREAT REFINERY AT ABADAN HAS BEEN DESTROYED, AS REPORTED, THEN PERHAPS AS MUCH AS 60% OF THE COUNTRY'S ACTUAL OPERATING CAPACITY HAS BEEN LOST. THAT EQUATES TO ABOUT 500,000 BARRELS PER DAY IN EXPORTS.

IRAN'S OTHER REFINERIES ARE INLAND, LOCATED NEAR CONSUMING POPULATION CENTERS. DAMAGE MIGHT HAVE OCCURRED AT SOME OF THOSE REFINERIES, AND CERTAINLY ALL RELY ON A TENUOUS PIPELINE SUPPLY SYSTEM FROM PRODUCING FIELDS IN THE SOUTH.

THE LOSS OF ABADAN WILL CREATE A SEVERE SHORTAGE INSIDE IRAN. FIRST, IT WILL SEVERELY LIMIT THEIR ABILITY TO CONTINUE THE WAR. SECONDLY, THE MIDDLE DISTILLATES INCLUDING HOME HEATING OIL AND KEROSENE ARE THE PRODUCTS MOST HEAVILY IN DEMAND IN IRAN AND WILL BE HIT VERY HARD.

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HISTORICALLY, IRAN HAS BEEN AN EXPORTER OF FUEL OIL, BUNKERS, AND LIGHT END GASOLINES, BUT NOT MIDDLE RANGE PRODUCTS.

IN SHORT, THE LONGER THE WAR LASTS, THE MORE SEVERE THE CONSEQUENCES FOR IRANIAN DOMESTIC CONSUMPTION ARE LIKELY TO BE. THIS OIL-RICH LAND IS LIKELY TO BECOME AN OIL IMPORTER. MEANWHILE, OIL SALES HAVE CEASED.

THE APPROXIMATELY HALF MILLION BARRELS PER DAY WHICH IRAN HAD BEEN EXPORTING VIA PERSIAN GULF SHIPPING HAS STOPPED FLOWING.

IRAN'S BALANCE OF PAYMENTS IS CONTINUING TO DETERIORATE, AND NO MATTER THE FINAL OUTCOME OF THE WAR, IT MAY BE THAT IRAN CAN NO LONGER AFFORD TO REMAIN ISOLATED INTERNATIONALLY. IT WILL NEED TO TURN TO OUTSIDE SOURCES FOR MASSIVE SHORT-TERM AID DURING ITS RECOVERY.

THE IMPLICATIONS OF THE EXPORT LOSSES FROM THESE TWO COUNTRIES ARE MANY AND SIGNIFICANT:

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WESTERN EUROPE, REGIONALLY, MAY BE THE MOST SERIOUSLY AFFECTED:

SPAIN COULD LOSE OVER 30% OF ITS IMPORT NEEDS IF IRAQ AND IRAN HALT THEIR OWN EXPORTS;

FRANCE RELIES ON IRAQ TO MEET OVER 20% OF TOTAL IMPORT NEEDS; AND

ITALY RECEIVES AT LEAST 10% OF ITS IMPORTS FROM IRAQ.

BRAZIL FACES THE WORST SINGLE-COUNTRY CONSEQUENCES: OVER 40% OF ITS OIL IMPORTS COME FROM IRAQ AND OVER 6% ARE SUPPLIED BY IRAN. IN SUM, BRAZIL, WHICH RELIES ON IMPORTS TO MEET 86% OF DOMESTIC OIL NEEDS, RECEIVES NEARLY 50% OF ITS IMPORT REQUIREMENTS FROM THE TWO COUNTRIES.

JAPAN, WHICH HAS REFUSED TO TAKE IRANIAN OIL (ONCE ONE OF ITS MAJOR SOURCES) SINCE APRIL, MAY LOSE CLOSE TO 10% OF ITS IMPORT SUPPLY IF SHIPMENTS FROM IRAQ ARE CURTAILED ENTIRELY.

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As has become obvious, the United States will not be directly affected by a disruption of crude oil produced by either of the countries.

The international situation is one of surpluses, at present. International Energy Agency countries of Western Europe are thought to have as much as 110 days supply on hand. France, which is not an IEA member, probably has a little more than the other European nations, and Japan has almost as much.

Thus, for the short term the effects of the war might not be too severe. Nevertheless, there are already indications of some escalation in crude costs.

Certainly if the disruption continues, and is severe in those two producing countries, then prospects for the long term are not rosy.

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IMPORTING NATIONS WHICH LOSE CRUDE IMPORTS WILL LOOK ELSEWHERE TO MEET THEIR NEEDS. IT IS POINTLESS TO TRY TO PREDICT WHAT THE WORST CASE MIGHT BE, SO UNPREDICTABLE HAS THE OIL BUSINESS BECOME. BUT IT MIGHT BE PRUDENT TO NOTE THAT WHEN THE 1979 REVOLUTION IN IRAN DISRUPTED THE SYSTEM, CRUDE COSTS MORE THAN DOUBLED.

SOME STEPS HAVE ALREADY BEEN TAKEN TO CUSHION AGAINST A SEVERE SUPPLY SHOCK. FOR EXAMPLE, SHOULD ANY MEMBER COUNTRY OF THE INTERNATIONAL ENERGY AGENCY SUFFER A LOSS OF AS MUCH AS SEVEN PERCENT OF SUPPLY, THE U.S. -- ALONG WITH OTHER IEA MEMBERS -- WOULD BE OBLIGED TO SHARE IMPORTS.

THE CENTRAL PROBLEM, HOWEVER, IS NOT CONFINED TO THE LOSS OF IRANIAN AND IRAQI EXPORTS. THE MAIN QUESTION CONCERNS THE EFFECT ON SHIPPING IN THE PERSIAN GULF, SINCE ABOUT 40 PERCENT OF THE OIL CONSUMED IN THE NON-COMMUNIST WORLD AND NEARLY 60 PERCENT OF OIL MOVING IN INTERNATIONAL TRADE MUST FLOW THROUGH THE STRAITS OF HORMUZ.

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INSURANCE RATES FOR TANKERS OPERATING IN THE GULF HAVE ALREADY INCREASED SOME 300 PERCENT AS A DIRECT RESULT OF THE HOSTILITIES. OBVIOUSLY, THE NON-COMMUNIST WORLD COULD NOT TOLERATE ANY THREAT TO THE STRAITS WHICH WOULD IMPERIL SUPPLIES OF THIS MAGNITUDE.

THUS, WE SEE THAT THE QUESTION OF OIL IMPORTS IN THE WAKE OF THE WAR IS REALLY TWO QUESTIONS. THERE IS THE QUESTION OF IMMEDIATE, SHORT-TERM EFFECTS, AND THE ANSWER TO THIS IS THAT SUPPLIES SEEM ADEQUATE FOR THE PRESENT. BUT IN ANSWER TO THE QUESTION OF SUPPLIES OVER THE LONGER TERM, THE ANSWER IS THAT THE IRAN-IRAQ HOSTILITIES COULD VERY WELL POSE GRAVE IMPLICATIONS FOR OUR NATIONAL ECONOMY AND NATIONAL SECURITY.

THIS IS NOT A NEW SITUATION. WE HAVE RECOGNIZED FOR NEARLY A DECADE NOW THAT TROUBLE IN THE MIDDLE EAST COULD BE POTENTIALLY DISASTEROUS FOR OUR ENERGY SUPPLIES. THIS LATEST FLARE-UP IS JUST ONE MORE IN A LONG SERIES OF WARNINGS THAT THE U.S. AND ITS ALLIES, ALONG WITH THE REST OF THE WORLD, ARE VULNERABLE.

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OURS IS BASICALLY A PETROLEUM-FUELED ECONOMY. OIL AND NATURAL GAS WILL CONTINUE TO BE THE BACKBONE OF OUR ENERGY SUPPLY FOR A LONG TIME TO COME.

AT THE PRESENT TIME, WE ARE CONSUMING THE ENERGY EQUIVALENT OF 38 MILLION BARRELS OF OIL EACH DAY IN THE UNITED STATES: 19 PERCENT IS FROM COAL; 49 PERCENT IS FROM DOMESTIC OIL AND NATURAL GAS; NEARLY 4 PERCENT IS FROM NUCLEAR ENERGY; AND ALMOST 4 PERCENT IS FROM HYDROELECTRIC, GEOTHERMAL, SOLAR, AND SIMILAR SOURCES. THUS THE REMAINING NEARLY ONE-QUARTER OF OUR TOTAL ENERGY SUPPLY IS MADE UP OF IMPORTS.

THE U.S. NEED NOT STAND IDLY BY. THERE ARE POSITIVE STEPS THAT CAN BE TAKEN, AND QUICKLY.

WE MUST INTENSIFY THE ONGOING EFFORT TO AWAKEN THE AMERICAN PEOPLE TO THE TRUE DIMENSIONS OF THE PROBLEM, AND THE DANGER.

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SOMEHOW, WE MUST DO A BETTER JOB OF EDUCATING THE PUBLIC ABOUT THE FACT THAT UNDER PRESENT CIRCUMSTANCES CRUDE OIL IMPORTS ARE GROWING NOT ONLY MORE EXPENSIVE BUT MORE DIFFICULT TO OBTAIN.

WE MUST ALSO CONTINUE TO PRESS HARD TO DEVELOP OUR OWN RESOURCES -- OUR OWN ALTERNATIVES TO MAJOR DEPENDENCY ON CRUDE OIL IMPORTS.

I HAVE ATTEMPTED TO ASSESS THE IMPACT OF THE IRAN/IRAQ CONFLICT ON THE U.S. AND THE INTERNATIONAL OIL TRADE. I HAVE TRIED TO LAY OUT WHAT I CONSIDER A PROPER FRAME OF REFERENCE FOR STUDYING THE MATTER, SPELLED OUT THE HARD FACTS OF IRANIAN AND IRAQI PRODUCTION, AND POINTED TO POSSIBLE SHORT AND LONG TERM CONSEQUENCES.

I WELCOME YOUR QUESTIONS.

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CHART #1

U.S. petroleum supply and demand — 1930-1979

Million barrels per day

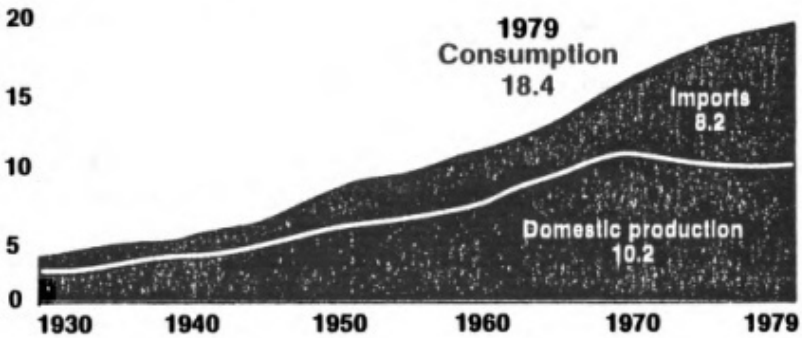

CHART #2

1980 WORLD CRUDE SUPPLY MMB/D

OPEC		NON-OPEC	
Saudi Arabia	9.50	U.S.S.R	11.70
Iraq	3.50	U.S.	8.64
Venezuela	2.05	North Sea	2.27
Nigeria	2.10	China	2.20
Libya	1.82	Mexico	2.04
U.A.E.	1.65	Canada	1.45
Kuwait	1.50	Egypt	.62
Iran	1.45	Malaysia/Brunei	.55
Indonesia	1.50	Argentina	.49
Algeria	1.00	Australia	.40
Qatar	.48	Oman	.29
Neutral Zone	.53	India	.26
Gabon	.20	Trinidad	.22
Ecuador	.22	Other	1.63
TOTAL	27.50	TOTAL	32.76

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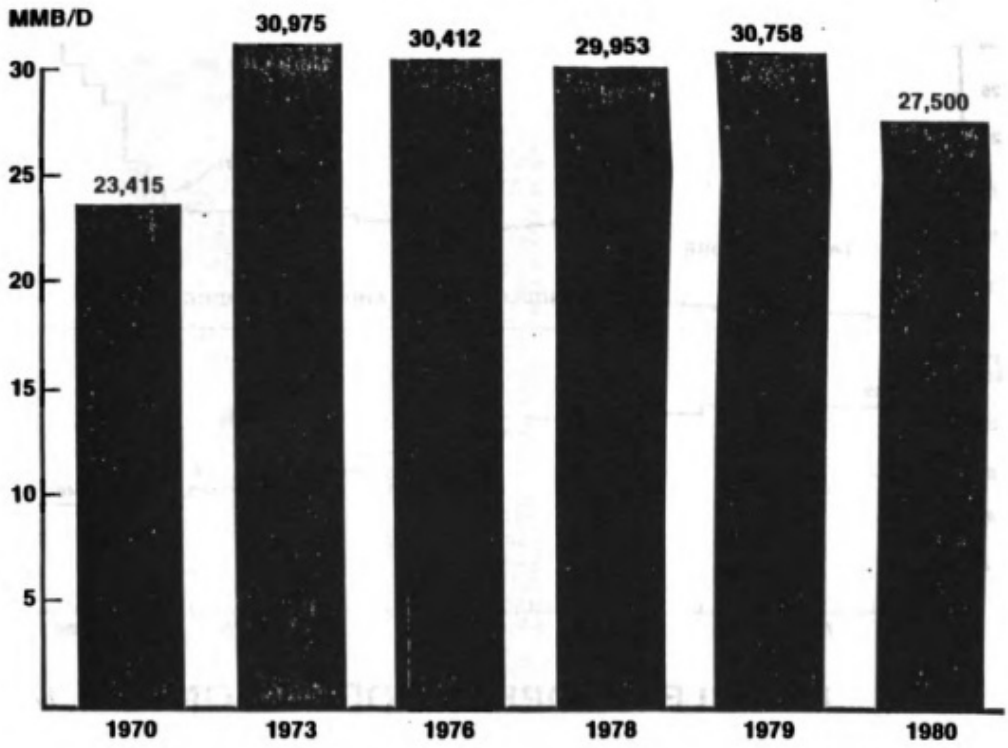
CHART 13

OPEC PRODUCTION



OPEC TERM SUPPLIES TO MAJORS

CHART 14

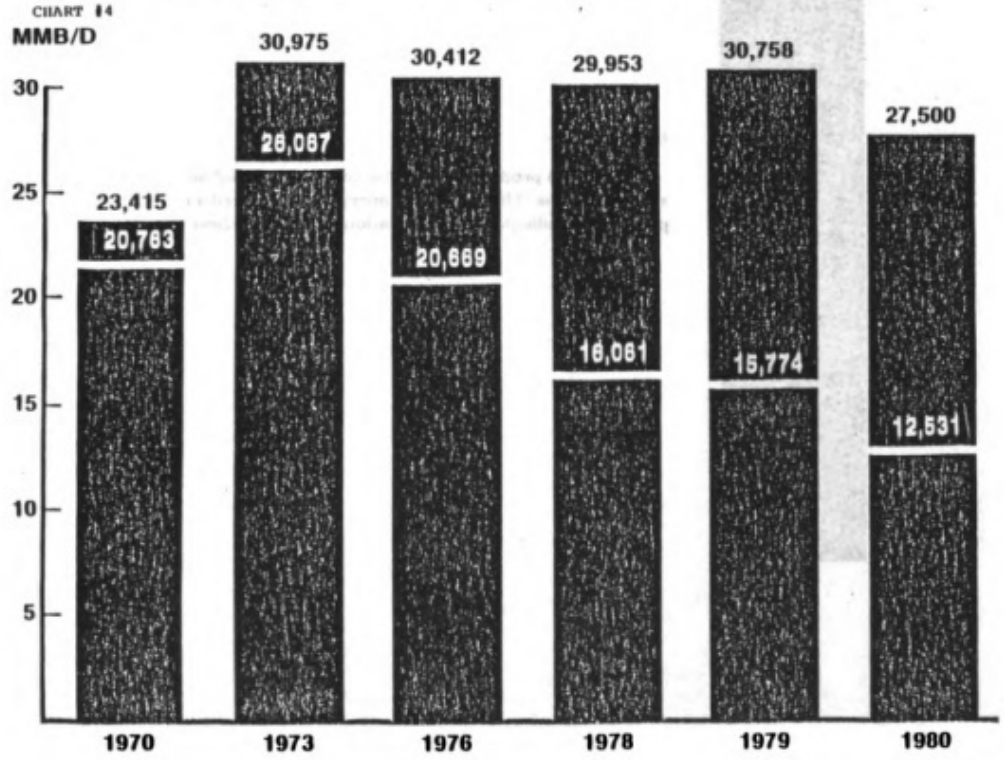


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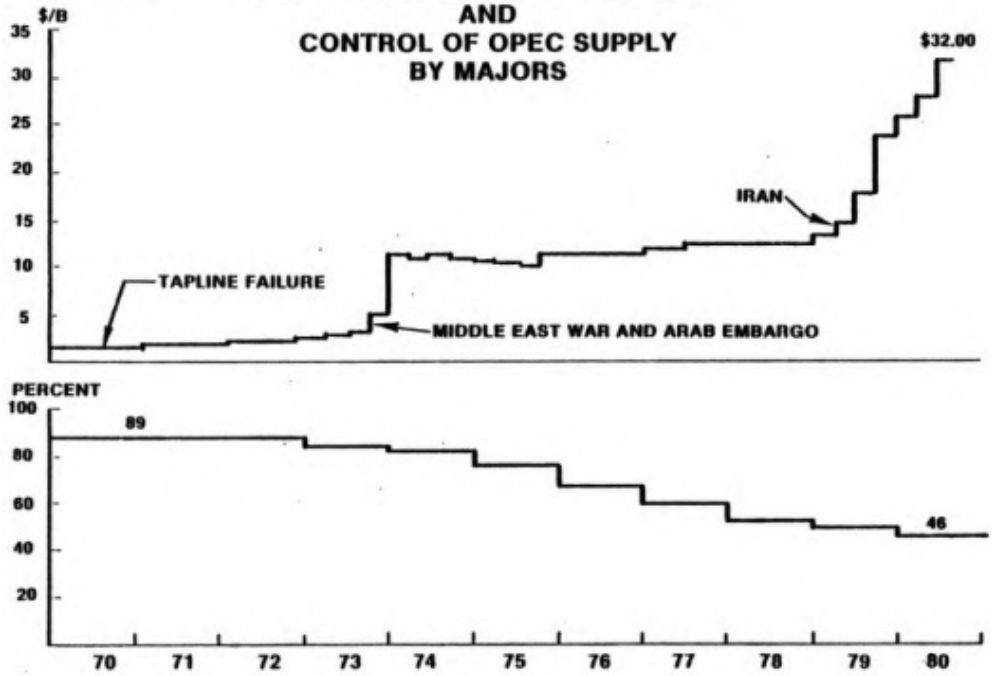
CHART 15

OPEC OFFICIAL CRUDE OIL PRICES AND CONTROL OF OPEC SUPPLY BY MAJORS



PROFILE OF OPEC PRODUCTION

CHART 16

1980 PRODUCTIVE CAPACITY MMB/D

DEFINITION -

Maximum production rate that can be sustained for several months. This capacity concept does not reflect production ceilings applied by various OPEC members.

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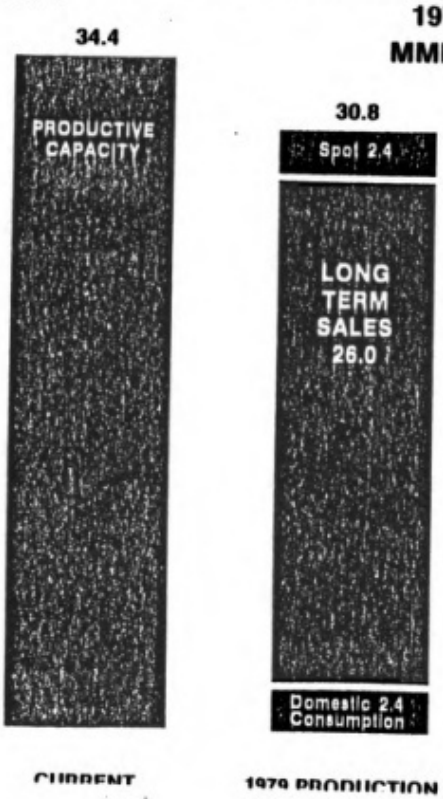
CHART # 7

PROFILE OF OPEC PRODUCTION

1979

MMB/D



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Mr. MOFFETT. Let me ask that the members be allowed to look this over. Meantime, we will move to questions and you can explain this as you go along. I am sure there will be questions.

Mr. CAMPBELL. Certainly.

Mr. MOFFETT. At this time, the Chair recognizes the gentleman from Minnesota, Mr. Stangeland, for 5 minutes.

Mr. STANGELAND. Thank you, Mr. Chairman. I have not had a chance to look at this chart.

Your slides were very informative. In your opinion—I asked these questions of Mr. Sachs—what does the supply situation look like for us, should we be cut off from not only Iranian and Iraqi crude, which we were not getting anyway, but other sources if the Straits of Hormuz were blocked? How long can we operate at a normal pace? How long a time will it take before we would be able to adjust to the cutoff ourselves?

Mr. CAMPBELL. In 1977 we had a peak level of about 3.2 billion barrels of inventory in the world. Right now, we have more inventory than the world has ever had. At least in our case, this is the first time that we have had a significant amount of floating storage. That is the 3.5 billion barrels.

Mr. STANGELAND. Excuse me. Does that mean that you are renting tankers for storage?

Mr. CAMPBELL. Let us say that we all have spare tankers, simply because there is not as much oil being produced as we built tankers for in 1974. There is generally a surplus of tankers.

If you want to put it in economic terms, we are using tankers that would have gone out in the spot market if we had not stored oil, so on a book basis we are taking losses but on a cash basis we are not really going out and chartering in ships.

The world needs about 2.2 billion barrels for working inventory, oil in pipelines, oil in tank trucks, and that kind of thing. If it is only Iran and Iraq that go down, we see that you could get through into about the second quarter of next year before there is any really significant problem.

We are starting to approach the minimum working inventories at that point in time, but in terms of the way the rest of the world will react you cannot expect people who have no oil to sit around and not go after oil.

The reason that the inventories are so awfully high today is that people did not need the oil. They were afraid to cut the contracts with any individual producers, so they just kept buying and storing. The reason we have all of this oil now is because people were afraid of an eventuality such as we have. Therefore, we are in a fairly fortuitous position now.

The question you ask is this. If we lost the whole Middle East, what would happen? We would have chaos if you ask how long it would take to get out of it. I would say 10 to 15 years.

We do not have sufficient alternative energy sources. Japan and Western Europe are totally dependent upon Middle Eastern oil. Brazil is a country that has been very badly hit by all of this.

If you are saying, "Well, will it go away;" it just is not going to go away. We have a big problem on our hands.

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Mr. STANGELAND. Your projection then is that for the present, short term, with the reserves that we have, we will not see much market disruption.

Mr. CAMPBELL. I did not say that. I said that there will be inventories around for the world to use, but I can see that as this thing goes on, the have-not nations might become panicked, and they could start buying as they have in the past. It has been going on for 10 years like this. I see nothing that will change human nature in the next 10 years.

Mr. STANGELAND. I am now saying, with the inventories that we have on hand which are more than our historically normal inventories, there will not be a great price disruption in the price mechanism because of what is happening in Iraq and Iran for the short term. Is that correct?

Mr. CAMPBELL. Let us say that there will be an awful lot of wild speculation and lots of stories of people buying oil for $50 or $60 a barrel, but generally the oil that we are talking about here is under long-term contract. The amount of oil that is actually in the spot market, which everyone likes to talk about, is small.

You may have seen in my slide that OPEC had 2.4 million barrels per day on the spot market. This was out of 30 million barrels. They had 8 percent of the oil on the spot market.

What no one ever talks about are the long-term commercial contracts. If you are buying on the spot market, you are buying 8 percent on the spot market. But you are buying 92 percent on long-term contracts.

If the rest of the Middle East hangs together, there will be some disruptive things in the spot market, but I think that people get much too concerned about the fact that spot prices are going up. That is just a fact of life.

There are people who do not cover themselves and they get caught.

Mr. STANGELAND. I have no further questions.

Mr. MOFFETT. The gentleman's time has expired.

At this time, the Chair recognizes the gentleman from Oklahoma, Mr. Synar, for 5 minutes.

Mr. SYNAR. I have no questions, Mr. Chairman.

Mr. MOFFETT. The Chair recognizes the gentleman from Pennsylvania, Mr. Kostmayer, for 5 minutes.

Mr. KOSTMAYER. Thank you, Mr. Chairman.

Mr. Campbell, are the Iranians and the Iraqis prepared technically to restore their productive capacity once this conflict is over, that is within a reasonable period of time?

Mr. CAMPBELL. I would say, not without considerable outside help and in one country's case, financing.

Mr. KOSTMAYER. Is it so that the United States is probably the only country with the technical ability to go in and rebuild the Iraqi and Iranian oilfields and the installations there once this conflict is over?

Mr. CAMPBELL. I would say that there is someone there who is much closer, who could also do the same thing, not nearly as efficiently as we could, but there is someone much closer who could do it.

Mr. KOSTMAYER. Is that the Soviet Union?

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Mr. CAMPBELL. Yes.

Mr. KOSTMAYER. It is true, is it not, that we are much better prepared?

Mr. CAMPBELL. Of course, we are better than they are.

Mr. KOSTMAYER. That is in terms—of course. [Laughter.]

Six weeks before an election day, I would not argue with you on that. [Laughter.]

Have you had any discussions with the Iranians or with the Iraqis regarding going in there after this is over, or have you had any discussions with the American Government, the State Department, at all in terms of going in after the conflict is over to rebuild the installations?

Mr. CAMPBELL. To my knowledge, no, we have not.

Mr. KOSTMAYER. Toward the end of your very excellent presentation, you were somewhat pessimistic about the future of our oil situation here in this country. Can you give us some indication, as an industry representative, of what you think our preparedness is now to cope with the possibility of this conflict's spreading into the other gulf states—into Kuwait, Saudi Arabia, and the United Arab Emirates? What if the conflict did spread? How prepared are we now to cope with that?

Mr. CAMPBELL. I hate to quote somebody, but I am sure you all know Bob Goralski, who is a very good friend. He has a comment that goes like this: "If someone invited us to a war today, we could not go."

Basically, wars are fuel. The number that I have heard thrown around is—again, giving my numbers a little bit of latitude—4 million barrels a day are required to do anything of a major military nature. What you would be doing is taking out of 16 million barrels a day—of which about half is imported—about 4 million barrels a day and putting it into a military activity.

That is a very big slice.

Mr. KOSTMAYER. What you are saying is that if we are using about 18 million barrels a day, we would lose about what portion of that supply?

Mr. CAMPBELL. Let us say that——

Mr. KOSTMAYER. It would not be as much as a half.

Mr. CAMPBELL. We have about 16 million barrels a day, of which something like 45 percent is imported. That was last year. We are now down to about 6 million barrels a day of imported oil, so let us say that it is 8 to 9 domestic production and another 6 that is imported.

We really have—and again I would like to commend the American public for this, because I do not think anyone but they have done it. They went out and bought Japanese cars. That is one of the big reasons why——

Mr. KOSTMAYER. You do not mean to say that you want to commend the American people for buying Japanese cars, do you?

Mr. CAMPBELL. No, but I would commend the American people for—

Mr. KOSTMAYER. Either you are going to be patriotic today or you are not. You have to make up your mind. [Laughter.]

Mr. CAMPBELL. I would commend the American people for being conservative.

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Mr. KOSTMAYER. You want to commend them for being conservative.

Mr. CAMPBELL. That is right.

Mr. KOSTMAYER. This is going from bad to worse. [Laughter.]

I asked a previous witness if he could assign a letter grade to the administration's ability to prepare for the kind of crisis which, as the chairman of the committee has pointed out, is a possibility if the conflict spreads into these other areas. Could you do that, looking, for example, at the strategic petroleum reserve which could hold 300 days' worth and holds only 5 or 6, although I gather that hopefully that will change fairly shortly?

I also understand that our supply of about 100 days' worth, or a little more, is pretty much the same as most of our European allies', so maybe we are not in relationship to other countries in as bad shape as——

Mr. CAMPBELL. I have that on a sheet here. It says we have 160 days. France has 114. The IEA, Western Europe, has 110. Japan has 105.

I think you have to recognize that generally, of that, although governments like to give those numbers, you may have 50 days of that as working inventory that you cannot get.

In response to your question, I do not think you can lay this on any particular administration. We have had a problem since 1970 and we are running out of oil. No one has done anything about it.

Mr. KOSTMAYER. We are running out of oil and no one is doing anything about it. Let me ask you once more if you could assign a letter grade to give us some indication of how the administration is doing in terms of coping with this crisis and possibly a worsening crisis.

Mr. CAMPBELL. Again, I do not think you can put it on any individual administration. We have had 10 years of a problem.

Mr. KOSTMAYER. Thank you.

Thank you, Mr. Chairman.

Mr. MOFFETT. The gentleman's time has expired.

The Chair now recognizes the gentleman from Indiana, Mr. Fithian, for 5 minutes.

Mr. FITHIAN. Thank you, Mr. Chairman.

Mr. Campbell, what do you think oil prices are going to be during the year 1981?

Mr. CAMPBELL. Let me give you an oblique answer. The posted price of Kuwait crude was $1.59 in 1970. It is now $32, so if you extrapolate on semilog paper, you can say that by 1990 it will be $600.

This is extreme, but if you look at what has happened in the past 2 years, the price went from about $12 a barrel up to $30.

Therefore, your guess is as good as mine.

It depends upon how these disruptions occur and it depends upon whether or not——

Mr. FITHIAN. Let us assume that, to use an earlier witness' statement, we keep everything else together in the Middle East.

Mr. CAMPBELL. All right.

Mr. FITHIAN. Let us also assume that the Iraqi-Iranian situation continues, and let us further assume that it is going to take some time, some months, to repair the facilities. Given that kind of loss

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of the Iraqi-Iranian supply to the world, is there not somebody in the industry who can do some projections for us as to what that will do to price?

I know that you hate to speculate on price and hate to estimate price. It just seems to me as a layman that the temptation on the part of companies and individuals who have oil, in the face of decreasing supply or an increasing shortage, will go to a higher price. They will drive it to a higher price, if for no other reason than the economic motive, the profit motive.

I do not think that that is necessarily evil. I am simply trying to get at the fundamental question that we are all faced with. How desperate will the supply situation become, on one hand, and on the other, what is price going to do in this interim period?

Mr. CAMPBELL. Let me again give you an oblique answer. You are asking the wrong people, for we in industry do not control the oil prices. Pricing of crude is set by OPEC. They are trying to develop a program which basically ties the price of oil to some kind of inflation index.

Mr. FITHIAN. Let me ask this of you. The American oil companies do produce oil. Your charts show that you produce more than half of what we are consuming.

OPEC does set the price on 45 percent of our oil. Will the domestic price, then, simply float to the same level as the OPEC price will be driven to if Iraqi and Iranian supplies are cut off?

I do not think we can just simply pass it to OPEC. I think, if we control more than half of our own oil supply—I know the Government has now decontrolled oil and I know the tendency is going to be for our domestic oil price to rise. My calculation is that roughly half of our oil is under a controlled price now and that that half will come out from under control in 1981, thereby doubling in price.

That, in itself, is a sorry spectacle and a difficult thing for the American people to perceive. What I am asking you is this. How much worse is it going to be in terms of the rapid escalation in price as a result of the Iraqi-Iranian interruption?

Mr. CAMPBELL. For the last 2 years oil was $12 a barrel and it went to $32 because of the Iranian situation.

Again, I do not think I can speculate.

Mr. FITHIAN. That was on the basis of what? What is the Iranian percentage of the world's production?

Mr. CAMPBELL. It was 6 million barrels a day out of 60 million barrels a day.

If you want to give the numbers, on 10 percent of the production, which went down for a time to 3 million—let us say, that is a loss of 5 percent of the world's oil which raised the prices by a factor of about 2½.

Mr. FITHIAN. I guess, then, my question is this: If you add to that the Iraqi shortage and you say it will project on out over another year, are you estimating as your best guess that it will go 2½ times the price again?

Mr. CAMPBELL. That depends on how long the Iraqi-Iranian thing keeps going. We have a lot——

Mr. FITHIAN. I was assuming that the damage is severe and I was assuming that the hostilities are sustained for a few more weeks so

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that it really becomes severe, and you are talking about 1 year of replacement or repairing of the difficulties and damage.

Mr. LUITWIELER. Let me just interject, if I may. I think a lot depends on the consuming countries—the United States and others. In the United States the domestic crude price of uncontrolled crude did take a drop over the past 2 months because there was a surplus.

That will probably turn around if the Iranian-Iraqi crisis continues on into 1981 and there is a projected shortfall, so you could begin to see those prices begin to creep back up.

However, I think what Chuck Campbell is trying to explain is that there is no way to say definitely where the price is going. Still, I think you are absolutely right in assuming that it is going to go upward.

I do not think we are trying to say that it is not going to go upward, by any means, but whether it will go up by a factor of 1 or 2. I do not know.

Mr. FITHIAN. I have one final question, Mr. Chairman.

Do either of you think it conceivable that the Iraqi-Iranian difficulty would trigger gasoline rationing in the United States?

Mr. LUITWIELER. I think that again gets down to how long it lasts. Let us say, for example, that it does last so that you take 3 million barrels a day off the world market for 6 months or longer. That is going to have an impact around the world, which will impact here.

Whether or not Iraq oil is directly coming in here, you only see 50,000 barrels a day, as Mr. Sachs pointed out, but it will have an impact. I think that at that point you may see gasoline rationing unless the U.S. consumer continues to cut back and unless there is a rational way of supplying it rather than getting the Government involved.

I think we learned from the last situation back in 1979 that some of the problem did stem from Government involvement in how it was regulated. I think we need to learn from our past lessons, which I think was one of the things Mr. Moffett said this group was for. The purpose of this is to learn from our past mistakes.

Hopefully, we will not have as much Government control on where the oil is put, because I think we know where the markets are, where the people are asking for the oil, and can do a better job of shifting it if we are given a freer hand in doing so.

Mr. MOFFETT. The gentleman's time has expired.

I might make the observation that, if the companies have total control over the allocation in a crisis, they might be anxious to give a chunk of it back to the Government. It might be a very difficult thing to do, it seems to me. You might not be happy with the public relations implications of having the burden either. Regardless of who does it, I think it is pretty difficult.

I say that with all respect to your expertise and the lack thereof, perhaps, on the part of the Department of Energy.

Mr. LUITWIELER. I agree with you.

Mr. MOFFETT. Let me, if I may, ask just a few questions about the situation as you see it with regard to the hostilities between Iraq and Iran.

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Do you have any information on the damage at the Abadan refinery at this time?

Mr. CAMPBELL. Nothing definite, just that there appears to be significant damage.

Mr. MOFFETT. That apparently supplies a great amount of kerosene for Iran's own needs. Is that not true?

Mr. CAMPBELL. That is right.

Mr. MOFFETT. What happens if the Abadan refinery is seriously damaged and Iran has to get kerosene elsewhere? That is certainly possible. What kind of impact does that have on distillate markets elsewhere, if any?

Mr. CAMPBELL. Peter Luitwieler, would you like to answer?

Mr. LUITWIELER. I think, if the situation in Iran becomes such that they do require imports, they will have to come out of a source probably somewhere in the Middle East, depending upon how the political situation is, or elsewhere.

That would have the effect of a drain on middle distillate production somewhere in the world, probably not directly from the United States. I think one has to understand that you have a total worldwide system, and when you pull something out of Singapore, for example, as we saw during the Vietnam situation, that does have an impact in Europe, back here, or in the Caribbean.

Yes; it would have an impact. The size of it would depend upon what the supply-demand situation is worldwide on distillates.

Mr. MOFFETT. Again, we are not trying to sound an alarm here, but it is conceivable that heating oil prices in the Northeast could be impacted in some way if the Abadan refinery is seriously damaged. Is that not true?

Mr. LUITWIELER. Yes. I think the way Mr. Sachs answered the question of prices would be similar to the way I would look at it. We do not know where it will go. The high inventories will soften the blow. The reduced demand and weather will have an impact one way or the other.

I think directionally that everything we see in the United States is an upward cost pressure. You have your domestic decontrol on crude oil prices. As an example, Gulf has not raised its distillate prices since May. In fact, we recently decreased them, so in essence we are not recouping our costs that are being generated.

Therefore, when the market does get to the situation wherein there is greater demand than there is supply, you will see some price increases. I think it is rather obvious. I think Mr. Fithian kept getting at it. There will be some increases if this thing does continue and if there is a cold winter.

Mr. MOFFETT. What about the straits themselves? Short of a blockade, if you wanted to disrupt or effectively reduce traffic in the straits, how is that done?

Mr. CAMPBELL. It is very difficult to answer without knowing what the Department of Defense's position on it is. I mean, I think if there is no U.S. involvement, simply a statement that anyone passing the line will get shot at would make you take a very long look at sending a tanker with a crew in there.

If there is some guarantee of safety, then you will probably go.

Mr. MOFFETT. Is that happening now? Is your company making decisions and seeking to make decisions about going through the

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straits themselves on a regular basis? If so, what factors are going into that decision? You have not changed anything yet, have you?

Mr. CAMPBELL. We ended up with some ships in the gulf which we might not have sent in had they not been there. I think that——

Mr. MOFFETT. When was this? Was this last week?

Mr. CAMPBELL. Yes, when it started.

Mr. MOFFETT. Has that situation changed, so that now you will send ships in?

Mr. CAMPBELL. I am not sure what my operators will tell me when I go back. At the time I came, we were a little relaxed about it.

We have fairly decent contact with those ports in which we are still loading, so——

Mr. MOFFETT. What are they?

Mr. CAMPBELL. We have been in Kuwait and Abu Dhabi.

Again, I think one of the things you have to recognize is that these people are not going to get themselves into the position of having a tanker tied up at a jetty because it is a sitting duck.

I think these people have been fairly rational and have been telling us what we ought to be doing. We have basically been using that with any other bits of information we can pick up to make a judgment.

Mr. MOFFETT. At this point, is there any fear of tying up in Kuwait or Abu Dhabi? Has there been any reluctance to do that at this point?

Mr. CAMPBELL. There was tremendous reluctance, but we made that decision.

Mr. MOFFETT. At this point, as far as you know, without having the benefit of being able to pick up a phone here and consult with your people, would you continue to go into those places?

Mr. CAMPBELL. As of right now, yes. Again, I am saying that if you give me the phone they may say, "Hey, it is all off."

Mr. MOFFETT. What type of conditions would lead to you to change your view on that?

Mr. CAMPBELL. It could be that another ship is being attacked in an area outside the coastal waters, or a recommendation by State that things are getting dicey. We are trying everything that we can to make sure that our tankers stay safe, but we may be taking some risk because we really believe it is part of our duty to keep the oil flowing, if we can.

Mr. MOFFETT. Do you think that the President's move to try and prepare in some way for the possible escorting of tankers is a wise one—just to prepare? I am not saying, to actually carry it out, but to be prepared to do that.

Mr. CAMPBELL. I think that Defense ought to be preparing for just about anything all of the time.

I do not know why you would not be thinking about it.

Mr. MOFFETT. What about those three tiny islands that Iraq is demanding? I ask you this, again realizing that you are not a foreign policy expert, but you are in business in that area.

I would like to know this. They are at the entrance to the Persian Gulf, are they not?

Mr. CAMPBELL. They are around the straits.

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Mr. MOFFETT. What is the importance of those islands, as far as you can tell?

Mr. CAMPBELL. Could I call on another member here?

Mr. MOFFETT. Certainly.

Mr. CAMPBELL. He is Mr. Bob Hill, who is a little more knowledgeable on this than I am.

Mr. MOFFETT. Bob Hill, may I swear you in please?

Do you swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. HILL. I do.

Mr. MOFFETT. Thank you.

Do we have a chair for him?

Mr. HILL. I think I can just move up.

Mr. MOFFETT. You heard the question about those islands, did you not?

Mr. HILL. Yes. There are three islands. They are Greater and Lesser Tunb Islands and Abu Musa. They were taken over by Iran in 1971.

The Greater and Lesser Tunb Islands were taken away from a country in the UAE (United Arab Emirates) called Ras al-Khaimah. Abu Musa was taken away from Sharjah.

Sharjah produces oil, and in the process of Iran's taking away Abu Musa, they have taken over some of the oil production. They split the oil production that Sharjah would normally have. This has definitely alienated Sharjah as well as other Arab countries.

The three islands are definitely of strategic importance. In fact, in announcing Iran's 12-mile war zone, rather than instituting it from the southern coast of Iran, they have done it from the islands including Abu Musa.

As Mr. Sachs explained, they therefore forced ships down into the southwestern third or fourth of the gulf. For Iraq to be able to take over these islands to return them to Arab hands, not necessarily Iraqi hands, would be of some economic but mostly symbolic importance to all of the Arab countries of the gulf.

Mr. MOFFETT. How about to your business there and to traffic that goes through there? What would be the impact?

Mr. HILL. You mean to have those islands in Iraqi, or rather Arab, hands rather than Iranian hands?

Mr. MOFFETT. Yes.

Mr. HILL. I think, Mr. Chairman, this basically gets back again to what the policy of the Iraqis is going to be and what the policy of the U.S. Government is going to be. You have to have both of those to make an equation.

Mr. MOFFETT. I see. Can you tell us something for the record about your background and what you do for the company?

Mr. HILL. I work in the trading and transportation part of Gulf Oil. I have lived in the Middle East in a couple of different countries and have traveled extensively throughout the Middle East. One of my functions is to interpret political and economic events around the world, including the Middle East.

I do maintain contact with the various branches of the American Government to try to help answer these questions, but that is not on a formalized basis.

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Mr. MOFFETT. Are you satisfied that you are getting the amount of information from the Government and that the Goverment is generating information that is reasonably adequate, given the situation and conditions?

Mr. HILL. I would say generally so. The people that I deal with are generally cooperative and helpful. Yes.

Mr. MOFFETT. What is your view at this point of this situation as it relates to oil supply? We know all of the words that we have been using—unpredictable, volatile, and so forth. Can you shed any light on this that might be helpful in terms of building this record as well as a record of information on this subject?

Mr. HILL. I would say it is of extreme importance. What we are probably going to have in the near future is the unique situation of oil exporting countries importing product, specifically into Iran because of the damage to the main Abadan refinery which was 50 percent of capacity in Iran but 60 percent of actual operating runs.

The Iraqis are not dumb. They have gone after the refinery that supplies the product for the military machine. Now they are going after Dezful and Ahwaz to cut the pipelines north, so that even the refineries in the populated centers of the country farther north will not be able to get crude oil to supply the military machine.

Mr. MOFFETT. Do you have information on the extent of damage?

Mr. HILL. I think you can divide the issue of damage into three areas. One would be oilfields. A second would be oil export facilities, and a third would be refineries and chemical plants.

It is very difficult to damage an oilfield from the air. It is a very small target. I would say that the armies at present have not been deliberately going about damaging the fields.

The problem with the fields is getting them back on stream after you have shut them in—oil pressure over time, so that——

Mr. MOFFETT. How long does that take?

Mr. HILL. It depends upon the field. It depends upon the country. Iran has more problems on that score than Iraq does in terms of pressures.

On the export facilities side, as you probably all know, Iraq has been exporting via two pipelines to the Mediterranean and a pipeline down into the gulf. The pipeline through Turkey has been interdicted. This pipeline has a capacity of 700,000 barrels a day, and had been running at 600,000 barrels a day before the war. It will probably take from 2 to 4 weeks at least to repair that line.

The extent of damage to the line through Syria is not certain. There are varying reports as to whether or not the line has been shut down by the Iraqis themselves or whether it is still in operation. The Syrian line comes out in two places—Tripoli and Baniyas. Baniyas is in Syria, Tripoli in Lebanon.

They have not been using the Lebanese branch for some time because of the unrest in that country. The total from both the Turkish and Syrian lines together used to supply, before the battle, about 1 million barrels a day to the West via the Mediterranean.

Through the southern ports, there are two major crude oil export points, Khor-al-Amaya—This is illustrated on page 4 by the way, in your handout. 1.4 million barrels a day of crude go through Khor-al-Amaya, and another 1 million barrels a day go through Al-Bakr.

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These two ports have also been closed. We have reason to believe that Al-Bakr has been damaged. It will take some time to repair. Khor-al-Amaya is not damaged yet. We believe it has just been shut in.

There are some facilities left for when the hostilities cease. It should be reasonable to expect that Iraq could begin to resume exporting some crude oil to the West.

On the Iranian side there has been damage to Kharg Island. Basically, it looks like damage to tank farms rather than to jetties, although the press is reporting damage to one jetty.

As this graph shows you——

Mr. MOFFETT. What is the significance of that for the laypersons here?

Mr. HILL. Kharg Island represents about 90 percent of the exporting capacity of Iran.

Mr. MOFFETT. I meant your comment about the tank farm versus the jetty damage.

Mr. HILL. I see. The tank farm is largely the storage facility. Basically what has been happening in this war is that the military forces have been attacking things that make big splashes. Tanks burn nicely with lots of smoke. It gives the appearance of having won a success by having attacked a tank farm.

Refineries are a big target, as are chemical plants. Oilfields are harder to hit.

I would say that on the Iranian side, Lavan Island has just been shut in. We do not believe there has been any damage. There could be some export out of that port, which services three fields on the Iranian production side.

The port facilities at Bandar Mah Shahr and at Abadan have been damaged, especially at Abadan, so I think there will be some problem there too.

In terms of refining capacity, this is where the real problem is going to occur. Saudi Arabia or somebody is going to have to supply products to these two countries until they get the refineries back on stream. Construction of refineries can last up to 4 years.

Mr. MOFFETT. That could come out of some of what we would be using as product, would it not?

Mr. HILL. I would hesitate to make too much of a generalization on that score, because I think that there is a fair amount of refining capacity being added in the Middle East. As Chuck Campbell was expressing earlier in other discussions, it is very conceivable that the countries of the gulf will try to solve this problem for Iran and Iraq in terms of product refining.

Mr. MOFFETT. We have touched on this, but what are the implications for your access to crude if in fact Iraq, for lack of a better word, wins and gets what they seem to want? Does it effect you in any significant way, or is that too difficult to answer?

Mr. CAMPBELL. We really have not had anything from Iran——

Mr. MOFFETT. I am asking about Iraq.

Mr. CAMPBELL. From Iraq, our Canadian affiliate had a contract and we supply the transportation. We have been told to stay up, so if Iraq comes back on, Gulf Canada will probably get some crude.

Mr. MOFFETT. I am also interested in the effect of a radical Arab state becoming more of a major power in that area. Let me ask the

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foreign policy expert. Does that have any implications that you can see, any kind of significant implications for Gulf?

Mr. HILL. Do you mean a change of government in either one of these two countries?

Mr. MOFFETT. Not really, no, but having Iraq get the concessions they want and therefore become a more dominant power in the Persian Gulf region?

Mr. HILL. I do not think that will have any effect at all, and we would hope it would not have any effect at all, on Gulf's present contract in Iraq. Depending upon what happens in Iran of course, could lead to somewhat of a better situation for all Western oil companies.

Mr. MOFFETT. How, in your view—and you have been very patient so I do not want to go on much longer with the questioning—have these events impacted upon Saudi Arabia and its large Moslem population, which might be loyal to Khomeini?

Mr. HILL. Saudi Arabia has some Arab Shiites in the oil producing area of the country, but generally I would say that the feeling in Saudi Arabia is similar to what one would find within Iran and Iraq themselves. That is that the minorities—in terms of linguistic, ethnic, and religious groups—have been standing aside in this battle and have basically been just watching to see what is going to happen.

The Kurds have not been taking part, or so we believe. It is difficult to determine whether the Arab Shiites in Khuzestan have or have not been rallying to the aid of Iran. The Shiites in Iraq, who are not in the ruling class, are fighting in the army in Iraq.

It seems as though nationalism is of equal or greater importance than ethnic or religious diversities are right now.

Mr. MOFFETT. That is very interesting.

Gentlemen, thank you very much for your testimony. We are most appreciative of your cooperation with the subcommittee.

Mr. CAMPBELL. Thank you for allowing us to come.

Mr. MOFFETT. That concludes our questioning of the Gulf witnesses.

At this time, the Chair calls our third and final witness, Mr. William Edwards, president of Edwards Energy Consultants in Houston.

On behalf of the subcommittee, we appreciate your being here. Will you raise your right hand.

Do you swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. EDWARDS. I do.

Mr. MOFFETT. We are most appreciative of your coming all the way up here from Houston on such short notice. We were obviously very pleased with your testimony last time, the professional nature of it and the way in which you articulated it.

I realize, because of the short notice, that you do not have a prepared statement, so I would like to begin with some questions.

Mr. EDWARDS. All right.

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STATEMENT OF WILLIAM EDWARDS, PRESIDENT, EDWARDS ENERGY CONSULTANTS, HOUSTON, TEX.

Mr. MOFFETT. What effect, in your view, did the U.S. policy toward spot market purchases have on the price and supply of petroleum in the recent past?

Mr. EDWARDS. May I give a little background before I answer that question? It is pertinent.

Mr. MOFFETT. Certainly.

Mr. EDWARDS. I think the general public, the oil companies, the Government, everyone is under the impression that we had an oil shortage in 1979 and that shortage caused prices to skyrocket. If you paid close attention to the view graphs that were presented by the gentleman from Gulf, it is interesting to note that worldwide crude oil production in 1979, the year in which we supposedly had the shortage, was the highest crude oil production of any year other than 1973, and was just slightly below that.

In other words, there was talk of a shortage; there was the psychology of a shortage; but there was panic as if there were a shortage; but there was in fact no shortage. Crude production actually exceeded demand by something on the order of 5 percent, yet we did have runaway pricing just the same as if there had been a shortage.

My own assessment of the reason for that runaway pricing was, in fact, the activity in the spot market. No petroleum markets wants to feel as though he is, to use the words in the trade, "leaving money on the table." If I can get $20 a barrel from you in selling you oil, I feel I have done a poor job if I sell you oil for $19.

If I see spot market prices up to $25, $30, $35, $40, or $45 a barrel and I know for a fact that there are people paying those prices, that gives me the signal that that is what oil is worth.

Mr. MOFFETT. That is really, you are saying, an indication of what happened with OPEC which was looking at spot market prices.

Mr. EDWARDS. That is exactly what happened. The point is well taken that the spot market transactions represent only a small percentage of the oil that is sold, but that is the visible part of what is sold. My experience and observation says that the spot market price is going to provide the pressure for the direction in which the contract market, or the base volume sales, are made.

Therefore, if the spot market leaps up to high levels, the other prices, the base load, will not necessarily leap but they will move in that direction.

Mr. MOFFETT. Now, let us look at the current situation—Iran, Iraq, and the impact on the spot market.

Mr. EDWARDS. Alright. As has been expressed very well, the world's oil situation right now is in good shape. We not only have enough, but frankly we have too much.

The oil is not being used as fast as it is being produced. It has not been used as fast as it has been produced for approaching 2 years now. That is why the inventories are up, according to Gulf's chart, above maximum levels.

There has been more oil produced than the world needs at this point in time. That gives us—I was going to say that that gives us a cushion. It does but even more than that, we are in a situation

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wherein the ability to contain the oil is so limited that production is going to have to be cut.

Whether that production cut occurs by each country cutting 10 percent or whether it comes by one country cutting 100 percent, the effect will be the same on the balance of oil available. Someone is going to have to cut.

The amount of production cut that is needed, based on the current supply-demand relationship assuming you just hold inventories at these high levels, is probably between 2 and 3 million barrels a day.

With the shutback of about 4 million barrels a day that we have right at the moment, that says that inventories would be depleted at a rate of something like between 1 and 2 million barrels a day. To use up the 500 million barrels that Exxon says is in existence above normal levels at 1 to 2 million barrels a day, would take something like between two-thirds of a year to a year and a half.

Mr. MOFFETT. When you say production will have to be cut, are you speaking of the OPEC desire to cut back production, or are you saying that somewhere in the world market it has to be cut?

Mr. EDWARDS. I am saying that the market is not buying oil as rapidly as OPEC is producing it.

Mr. MOFFETT. What about the argument that we hear all of the time and have heard—we do not hear it as much anymore but we used to hear it before decontrol was a reality—that we need decontrol to increase production?

Mr. EDWARDS. Decontrol is the way we are doing it in the United States. Decontrol applies to oil that has already been found and on which production has been developed. Decontrolling that, I would think, would have a minimal impact on the incentive to go out and find oil.

It would effect the amount of money that is available for someone to spend to go out and find oil, so directionally it would help.

Let me just touch upon——

Mr. MOFFETT. I will just say rhetorically, that I question whether the inflationary impact from decontrol is really worth the amount of conservation you would get, and the increased production which is minimal.

We heard the earlier witness—I believe it was an Exxon witness—and you probably did too, say that drilling is going on at a very high level. It just makes one wonder what we are getting for this inflationary whack that we have been taking and that we will take particularly after October 1981, but we need not get into that. That is not the subject of this hearing.

Back to the spot market. Is there anything—obviously, we do not want to encourage Government to get in there and try and do something if it is counterproductive, but is the President wise in preparing to try to get some agreement from our allies with regard to spot market purchases? Is that doable? Is it advisable?

Mr. EDWARDS. I think it is. It think it is doable and I think it is advisable. In fact, I think it is essential or we are going to continue to do what has happened in the last year or so. We are going to continue to increase the price we pay out of this country, not for increased volumes of oil, but for the amount of oil that we would get anyway.

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Mr. MOFFETT. How does the President actually do that? Does he utilize the international energy agency or some other apparatus and have an agreement among consuming nations not to buy oil above a particular price? Is that how you get to that?

Mr. EDWARDS. That seems to me to be the most effective short term way to do that. If the major consuming countries let it be known that we will not pay for oil above a certain price, then I do not believe that there are enough speculators and maverick consumers to get the price up to a high level.

Mr. MOFFETT. Does the President really have the control with regard to domestic purchases to do that? We know other countries have oil purchase units of some kind or another, but does our President really have the control or authority, as you know it, to do that?

Mr. EDWARDS. I do not know what his authority is. There is not in existence right at the moment——

Mr. MOFFETT. For example, when our President takes action and says that he is prohibiting any Iranian oil from coming into this country, are you confident that there is not a drop of Iranian oil coming into this country?

Mr. EDWARDS. I am confident of that.

Mr. MOFFETT. How does that happen? Is it not possible for Iranian oil to get mixed up in the world market and come in here in some other way?

Mr. EDWARDS. I guess if you worked at it hard enough, you could probably do it, but the other thing is this. It is not really necessary.

The system of oil flow worldwide has a great degree of flexibility to it, such that in fact it is to me really a little bit absurd to say that "the United States gets 1 percent of its oil from this country. Therefore, if this country shuts down the effect is 1 percent."

There is the ability to exchange, to swap, to buy-sell, to change destinations at essentially no cost and to rearrange where the oil is going, so I say that the impact really needs to be looked at on an overall basis.

Mr. MOFFETT. Therefore, we might be able to conclude that France, Brazil, and Japan, which import far more crude oil from Iraq, for example, than the United States does might bear a bit more of a burden, but it is foolish to assume, as some have that the United States only imports a very, very small amount from these countries so there is virtually no impact. Is that correct?

Mr. EDWARDS. That is right. I think, again, you have to look at the percentage of total oil that is being affected and then your initial assumption that everyone is being affected by essentially that percentage is the best approximation at the start.

Mr. MOFFETT. Perhaps you heard my questioning about kerosene in Iran. It is my understanding that Iran heats and cooks almost entirely with kerosene. Is that your understanding?

Mr. EDWARDS. That is right.

Mr. MOFFETT. If the Abadan refinery is seriously damaged, they would have to go out on the world market for product. This could conceivably, we learned, impact upon the distillate product market in the United States. Does that sound correct to you?

Mr. EDWARDS. There are two factors that influence prices. One is the real supply-demand situation. Brice Sachs has emphasized that

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in the real supply-demand situation there really should be no, or very little, impact from what has occurred so far.

The second is the psychology. The psychology, we have seen, can play a much larger role than can the really fundamental factors.

In the case of Iran and its kerosene consumption, the total kerosene consumption of Iran on a worldwide basis is a pretty small figure. The world has an overabundance of refining capacity, a substantial overabundance of refining capacity, both in the United States and in foreign countries, so there really should be—You say it this way. "If Iran cannot refine it in their refineries, there are plenty of refineries that are not refining that would be glad to refine the crude."

Therefore, on that basis it should really have no impact.

Psychology is another situation. Let me make this point. You know that the oil industry has basically been preaching for a number of years that we have become too dependent on foreign supplies. We have a problem and it is a significant problem. They are right.

Any time that a disruption occurs, we then feel the effects of that overdependence. There is a danger, however, in taking the point in time of a disruption to make the point again of "I told you so."

They are right. There is no question about it. However, if they come in and say, "OK, we are right. Here is how bad things can be." And if that encourages a panic reaction, as happened with the Iranian thing a year ago, it can cause the prices that we pay foreigners to skyrocket without really doing us a whole lot of good at home.

Therefore, I think that there is a responsibility to accurately assess the situation but also to assess it on both a short term and a long term basis.

On an overall basis we are overdependent. If we lost Saudi Arabia and if the world lost Saudi Arabian production, we would have to go to gasoline or some sort of rationing. We would have no alternative. My guess is that some time in the future we will have a crisis of that nature. It does not appear to me that it is this one, but it can happen.

However, I do not think that it is wise to get into the attitude of saying "We have lost all of the oil, so get the prices up," whenever something happens.

Mr. MOFFETT. The question has been asked before that if a letter grade were to be assigned for preparedness in this crisis, what would that letter grade be. If you were to rate the companies we have heard today, what letter grades would you give them?

Mr. EDWARDS. I would give Exxon an A and I would give Gulf closer to a C.

Mr. MOFFETT. I see.

Mr. EDWARDS. I will grade the Department of Energy if anyone wants to ask that question. [Laughter.]

Mr. MOFFETT. I see.

Mr. EDWARDS. I do not give oblique answers.

Mr. MOFFETT. That brings up this question. How do you think the administration has been handling the current crisis, and if you have criticisms what would you do differently? You agree that the

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President is wise to plan for some sort of mechanism to attempt to control spot market prices.

Mr. EDWARDS. That is right.

Mr. MOFFETT. Is there anything that the administration has done or any tone that it has set that you disagree with at this point?

Mr. EDWARDS. I am more upset with their lack of action than with what they have done.

Mr. MOFFETT. Please elaborate on that, if you would.

Mr. EDWARDS. All right. Again, if we go back historically a little bit, Iran shut down production in November or December 1978. European prices responded somewhat to that and moved up moderately.

It was also going into the winter, which always causes prices to do that anyway. They then started declining as the winter neared a close.

Three, four, or five months later, after the production had been shut off, our Department of Energy came out with a panic statement and said, "We are not going to have enough oil to keep people warm in the winter, so you oil companies get out there and make sure that you have a billion barrels of oil." At that point in time, prices which had been coming down then started back up.

I say, we can thank our Department of Energy, and I assume that is from the administration——

Mr. MOFFETT. I understand that. We have heard that before. I think that there is a lot of validity to what you say, but I am talking about this current situation, this crisis. Have they learned from past experience?

Mr. EDWARDS. I do not see that they have. At that point in time, what they should have said, I believe, is—First, I think they should have seen a little more accurately what the magnitude of the potential shortage was, but even assuming that they could miss that, I think they should have said that this was a situation that has some limits, that there is a limit to what we will pay, and have set in effect a ceiling.

Mr. MOFFETT. Are you talking about the present crisis?

Mr. EDWARDS. I am talking about roughly a year ago.

Mr. MOFFETT. What about right now?

Mr. EDWARDS. Right now I think we need to do the same thing. I think we need to give the same message to the world, namely, that there is a limit to what this country can afford to pay, and since there is a limit to what we can afford to pay, we are going to insure that we do not pay more than that.

Mr. MOFFETT. All right. That is clear now.

Have you looked at spot market prices in the last day or two?

Mr. EDWARDS. Yes.

Mr. MOFFETT. What do you see there?

Mr. EDWARDS. What we see there——

Mr. MOFFETT. Are they asking more and getting it, or asking more and not getting it?

Mr. EDWARDS. They have asked more and got it. It is interesting that heating oil, which I know you are particularly interested in, in the first couple of days of this thing went up about 8 cents a gallon in the United States. They have since moderated some. They have lost about half of that, but they are in a very volatile situation.

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Mr. MOFFETT. There is a vote on that the Chair must make. Has the gentleman from Oklahoma already made that vote?

Mr. SYNAR. Yes.

Mr. MOFFETT. The Chair will ask you to take the Chair.

Let me thank you very much for your testimony. It was, as usual, very professional and very thorough. We appreciate your coming up here for this hearing.

Mr. EDWARDS. Thank you.

Mr. SYNAR [presiding]. You are not through yet. I have some questions.

Mr. EDWARDS. Alright.

Mr. SYNAR. Let me ask just a couple of brief questions. If Iraq is successful in winning important territory from Iran, to what extent do you think this will shift the balance of power within OPEC and what impact do you think it will have long range?

Mr. EDWARDS. That is outside of my area. I could not give you any meaningful answer.

Mr. SYNAR. In other words, you could not judge any immediate impact from the petroleum end, resulting from this shift of power.

Mr. EDWARDS. I really think there should not be an immediate impact, but how it spills over into the other countries makes the assessment pretty difficult.

Mr. SYNAR. Again, let me ask you a question which you may not be able to answer. Do you think that this conflict is putting the rest of the OPEC nations on notice concerning a reassessment of their own security measures necessary to protect their oil interests?

Mr. EDWARDS. I think it is another reminder.

Mr. SYNAR. How long do you think it will be before we know the extent of the damage to the refineries and the oilfields in both countries?

Mr. EDWARDS. I would expect that once hostilities have ceased, we will probably be getting information on that reasonably promptly, I would think in a matter of days or weeks.

Mr. SYNAR. What is the worst case situation in terms of damage, and what do you think the long term impact would be if the damage were extensive?

Mr. EDWARDS. Again, I am not an expert in oilfields. Let me just give you what I view as a basis from which to get a feel for this.

You will remember that Iran was producing about 6 million barrels a day. They shut down completely. They started back up in a period of a few to several weeks and they were able to get production back up to better than half—I guess it was two-thirds—of their previous level after a shutdown that amounted to almost a complete shutdown for 2 months, so I guess I would feel comfortable in saying that if the current hostilities terminate within a month or so, that we would probably see Iraq back to two-thirds of its level pretty promptly.

May I just add that if that scenario is really what happens, that bobble in reduced production I think would be insignificant in the world's oil supply balance.

Mr. SYNAR. Are there any questions from the staff?

Mr. ENGELMYER. Let me ask one.

Mr. SYNAR. Yes.

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Mr. ENGELMYER. Mr. Edwards, Mr. Moffett asked me to ask you just one more question. Since heating oil inventories are at such a high level, what is your projection for heating oil prices this winter absent a blockade of the straits of Hormuz?

Mr. EDWARDS. I would not expect them to increase. In fact, with the competition that we are seeing from an overabundance of supply, I think some terminal operators who are hurting from the impact of carrying inventories long term, I think we might see heating oil prices through the winter actually be lower than they were this past summer.

Mr. ENGELMYER. Thank you.

Mr. SYNAR. I would like to thank all of the witnesses who testified today. I think this has been one of the more informative meetings of the subcommittee.

If there are no other questions, the subcommittee is adjourned.

[Whereupon, at 12:35 p.m., the subcommittee adjourned, to reconvene subject to the call of the Chair.]

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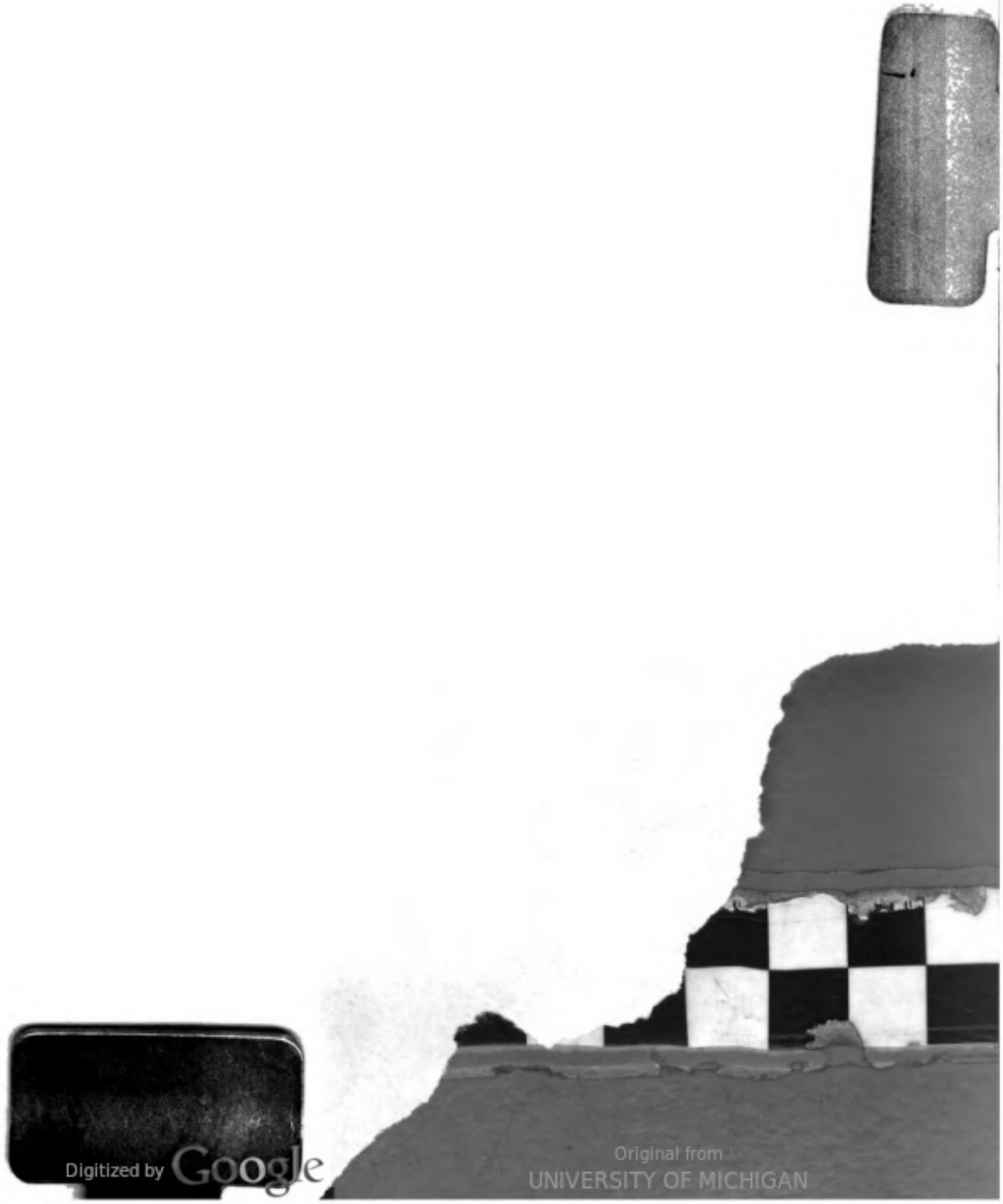
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