

OIL PRICES AND PHASE II

HEARINGS

BEFORE THE

SUBCOMMITTEE ON PRIORITIES AND ECONOMY
IN GOVERNMENT

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

NINETY-SECOND CONGRESS

FIRST SESSION

JANUARY 10, 11, AND 12, 1972

Printed for the use of the Joint Economic Committee



U.S. GOVERNMENT PRINTING OFFICE

73-169

WASHINGTON : 1972

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price \$1.25 cents

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OIL PRICES AND PHASE II

MONDAY, JANUARY 10, 1972

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON PRIORITIES AND
ECONOMY IN GOVERNMENT OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 1202, New Senate Office Building, Hon. William Proxmire (chairman of the subcommittee) presiding.

Also present: John R. Stark, executive director; Courtenay M. Slater, economist; George D. Krumbhaar, Jr., minority counsel; and Walter B. Laessig and Leslie J. Bander, economists for the minority.

OPENING STATEMENT OF CHAIRMAN PROXMIRE

Chairman PROXMIRE. The subcommittee will come to order.

This morning the Subcommittee on Priorities and Economy in Government is beginning its hearings on oil prices and phase II. We had originally hoped to hold these hearings last November, when phase II was just beginning. In a sense, it is fortunate that the press of other business caused these hearings to be postponed for a few weeks, for now we have a much clearer idea of what phase II is—and of what it is not.

Phase II of the anti-inflationary program consists of mandatory, legally enforceable controls on price and wage changes in the private economy. While I have long been an advocate of price and wage guidelines, the sweeping, complex system of mandatory controls which has been adopted is not the type of guideline policy that conditions call for. Nonetheless, since it is the path that has been chosen, I can only hope that it meets with success in its immediate objective of reducing the rate of inflation.

Even if phase II exceeds the most optimistic hopes for its success, we will have won only one small battle in the fight against inflation. I do not know any informed observer who would not agree that if we are to combine reasonable price stability with truly full employment for any but the briefest period, we must make some drastic improvements in the structure of our economy.

The phase II price and pay controls will go down in history as a serious anti-inflationary effort only if they are accompanied by major new efforts to obtain a more efficiently structured economy. Such an effort should begin with sweeping reform of the many Federal policies which directly affect specific prices.

I know of no industry in which Federal policies have a bigger direct impact on prices than in the oil industry. Import controls alone cause oil prices to be more than \$1 per barrel higher than they would otherwise be and, as I calculate it, that means that an average American family pays about \$100 more in fuel prices than they would pay if we didn't have an oil import policy or program.

Weak Federal antitrust policy and Federal sanctioning of State prorationing systems further restrict the competitive forces which could help keep prices down.

The situation appears to be getting worse rather than better. As our energy demands have grown, the import quota system has become increasingly anachronistic. At the same time, permissiveness toward mergers and concentration has further diminished already far too limited competition. The demands for reform are growing.

This growing dissatisfaction with oil policy is anything but surprising if we look at the increased consumer costs in recent years. According to estimates prepared by my staff, the consumer cost of the oil import quota program alone was \$7.5 billion higher over the 6 years 1965 through 1970 than it was over the preceding 6-year period 1959-64. The increase in consumer cost exceeded the increase in total domestic production and exploration expenditures for both oil and gas.

In other words, if the objective is to promote increased domestic exploration and production, the Federal Government could have paid the entire cost of this directly out of the consumer's tax dollar and still have saved the consumer money.

Without objection, the staff analysis supporting this estimate, and a letter from G. A. Lincoln, Director, Office of Emergency Preparedness, relating to the value of import licenses will be included in the record at the end of my opening statement.

While the consumer costs of Federal oil policy have grown and grown, there is serious question whether Federal policies are at all effective in meeting their prime objective of providing secure and readily available domestic sources of energy for our future use. The importance of wise development and conservation of our energy resources as well as the necessity of fighting inflation make it urgent that we reexamine Federal oil policies. These hearings have been called with the hope of identifying those possibilities for policy change which would contribute most to an effective anti-inflation effort consistent with encouraging the development of our energy resources.

(The staff analysis and letter referred to in Chairman Proxmire's opening statement follow:)

MINIMUM CONSUMER COST OF OIL IMPORT QUOTA PROGRAM AS PERCENTAGES OF SELECTED OIL INDUSTRY DOMESTIC EXPENDITURES

Cost	1959-70	1959-64	1965-70
1. Oil well and associated dry holes.....	148.8	110.3	186.3
2. All wells (oil, gas, and dry holes).....	99.9	75.6	123.2
3. Production oil and gas (including directly attributable overhead).....	137.9	123.7	148.4
4. All exploration (oil and gas).....	108.1	91.3	121.1

By almost any standard the minimum consumer costs of the oil import quota program have increased far more rapidly than have oil industry expenditures for domestic exploration.

During 1965-70 minimum consumer costs of the oil import quota program were equal to all costs of oil wells, their associated dry holes and 68.8% of all oil and

gas production expenditures (including overhead costs directly attributable to production).

Comparing the 1959-64 period with the 1965-70 period:

1. The minimum consumer costs of the oil import quota program were \$7.4 billion higher in 1965-70 than in 1959-64.
2. Total expenditures on oil wells (including equipping) and their associated dry holes increased \$22 million. The minimum increased consumer costs of the oil import quota program were over 361 times as large.
3. Expenditures on ALL oil and gas wells (including dry holes) increased \$543 million. The minimum increased consumer costs of the oil import quota program were over 13.6 times as much.
4. Total production expenditures, including directly attributable overhead costs, increased \$3,513 million. The minimum increased consumer costs of the oil import quota program were over 2.1 times as much.
5. Total "exploration expenditures," including all dry holes, increased \$3,221 billion. The minimum increased consumer costs of the oil import quota program were nearly 2.3 times as much.

OIL IMPORT CONTROL MINIMUM COST TO CONSUMERS AND INDUSTRY EXPENDITURES¹ FOR WELL DRILLING, PRODUCTION, AND EXPLORATION, 1959-70

[In millions of dollars]

Year	Consumer cost	Oil wells ² and associated dry wells	Oil and gas wells ³ and all dry holes	Production, ⁴ oil and gas	Exploration, ⁵ oil and gas
1959 (9 months).....	825	1,436	1,988	1,088	1,509
1960.....	1,548	1,631	2,424	1,390	2,045
1961.....	1,832	1,605	2,398	1,455	1,851
1962.....	1,911	1,729	2,577	1,535	2,324
1963.....	2,250	1,630	2,303	1,581	1,845
1964.....	2,300	1,630	2,427	1,613	2,109
1965.....	2,546	1,650	2,401	1,685	1,971
1966.....	2,659	1,522	2,361	1,895	2,136
1967.....	2,060	1,528	2,299	1,933	2,396
1968.....	3,773	1,656	2,409	2,094	3,218
1959.....	4,441	1,692	2,611	2,189	2,896
1970.....	2,587	1,644	2,579	2,379	2,287
1959 to 1970.....	28,732	19,362	28,777	20,837	26,587
1959 to 1964.....	10,666	9,670	14,117	8,662	11,683
1965 to 1970.....	18,066	9,692	14,600	12,175	14,904

¹ Minimum cost based on values of import allocations.

² Joint association survey of the U.S. oil and gas producing industry, sponsored by the American Petroleum Institute, the Independent Petroleum Association of America and Mid-Continent Oil & Gas Association (drilling costs and sec. II).

³ Costs of drilling and equipping wells as reported in various issues of pt. I of JAS plus dry hole expenditures attributed to oil on the assumption that these costs are incurred by oil and gas in proportion to outlays on successful oil and gas wells.

⁴ Production expenditures including direct overhead.

⁵ Drilling and equipping all exploratory wells. Including dry holes, acquisition of undeveloped acreage, lease rentals cost of carrying leases, geological and geophysical outlays, contributions to test wells, land department (leasing and scouting) and "others," including direct overhead.

ESTIMATED MINIMUM CONSUMER COSTS OF OIL IMPORT CONTROLS, 1959-70

[In millions of dollars]

Year	Districts					
	Residual	Other	Total	II-IV all except residual	V all	I-V
1959 (9 months).....	34	465	499	226	100	825
1960.....	73	795	868	539	141	1,548
1961.....	61	945	1,006	683	143	1,832
1962.....	31	989	1,020	722	169	1,911
1963.....	30	1,099	1,129	945	176	2,250
1964.....	16	1,123	1,139	976	185	2,300
1965.....	0	1,237	1,127	1,090	219	2,546
1966.....	0	1,287	1,287	1,139	233	2,659
1967.....	0	1,073	1,073	775	212	2,060
1968.....	0	1,712	1,712	1,675	386	3,773
1969.....	0	1,878	1,878	2,028	535	4,441
1970.....	0	1,272	1,272	961	354	2,587
1959 to 1970.....	245	13,875	14,120	11,759	2,853	28,732
1959 to 1964.....	245	5,416	5,661	4,091	914	10,666
1965 to 1970.....	0	8,459	8,459	7,668	1,939	18,066

OIL SUBJECT TO EXTRA COSTS BECAUSE OF IMPORT CONTROLS¹

[In thousands of barrels]

Year	Districts			
	I		II-IV all but residual	V all
	Residual	Other		
1959 (9 months) ²	226,391	774,986	1,131,683	333,154
1960.....	293,532	1,059,570	1,539,030	468,846
1961.....	302,950	1,112,155	1,518,400	475,230
1962.....	309,520	1,153,620	1,604,175	483,990
1963.....	302,950	1,156,320	1,719,880	564,065
1964.....	324,642	1,182,180	1,774,734	527,772
1965.....	0	1,236,985	1,816,605	547,865
1966.....	0	1,287,720	1,898,000	582,905
1967.....	0	1,341,740	1,937,055	606,265
1968.....	0	1,426,302	2,094,252	644,160
1969.....	0	1,444,670	2,252,780	669,410
1970.....	0	1,541,395	2,261,905	673,790

¹ Domestic demand derived from U.S. Bureau of Mines tables.² Data for 1959 at 75 percent of years figures because program went into effect Apr. 1, 1959.

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF EMERGENCY PREPAREDNESS,
Washington, D.C., December 3, 1971.

Hon. WILLIAM PROXMIRE,
U.S. Senate,
Washington, D.C.

DEAR SENATOR PROXMIRE: This is in response to your letter of October 25, requesting an estimate of the annual value of import licenses for crude and unfinished oil in Districts I-IV and V for the years 1959 to 1970, and also for residual fuel oil for the same period.

While there are no ready or precise measures of the unit values of licenses, our staff, together with that of the Office of Oil and Gas of the Department of the Interior, has prepared tentative technical estimates of these values, as shown in the attached staff paper.

I hope this information will be helpful to you. It is sent in an effort to be responsive to your request, and in no sense represents an official endorsement of the data.

Sincerely,

G. A. LINCOLN, *Director.*

Enclosure.

ESTIMATED UNIT VALUES OF OIL IMPORT ALLOCATIONS

[Dollars per barrel]

Year	Districts		
	Overseas crude		Residual
	I-IV	V	
1959, 2d half.....	\$0.60	\$0.30	\$0.05
1960.....	.75	.30	.25
1961.....	.85	.35	.20
1962.....	.85	.35	.10
1963.....	.95	.35	.10
1964.....	.95	.35	.05
1965.....	1.00	.40	0
1966.....	1.00	.40	0
1967:			
1st half.....	1.10	.50	0
2d half.....	.50	.20	0
1968.....	1.20	.60	0
1969.....	1.30	.80	0
1970:			
1st half.....	1.40	.90	0
2d half.....	.25	.15	0

Note: Implicit unit market values realized by refiners without foreign overseas crude oil which "trade out" allocations.

Chairman PROXMIRE. Our first witness this morning is the distinguished senior senator from Alaska, Ted Stevens. Alaska, of course, is where the oil is these days. The policy questions surrounding the development and transportation of Alaskan oil are enormous, and they are of widespread public interest.

Senator Stevens, we are pleased that you could be here this morning to share with us your expert knowledge of recent developments in oil policy. Please go right ahead with your statement.

STATEMENT OF HON. TED STEVENS, A U.S. SENATOR FROM THE STATE OF ALASKA

Senator STEVENS. Mr. Chairman, I thank you very much for permitting me to be here.

I would like to follow the suggestion in your letter to me and file my prepared statement in toto and take a few minutes of your time to sort of roam through it, if that is all right.

Chairman PROXMIRE. Fine. We would appreciate that. It is a long detailed prepared statement which is very helpful, and the entire prepared statement will be printed in full in the record, so you can go ahead and summarize.

Senator STEVENS. Mr. Chairman, there are 15 geological basins in Alaska, and only two of them are in producing status. One is the North Slope and the other is the Cook Inlet.

My attention was called to your background study prepared for your committee November 3, by a series of calls that I received, which indicated that we had a new oilfield in the Alaska Gulf. This subject is the main reason for my appearance here today. I would like to address myself primarily to that point, and also I would like to comment on the oil import program which you yourself have just mentioned.

The only true major oil reserve that we have in Alaska is the North Slope. We have discoveries in the Cook Inlet but the production there has only recently passed the 100,000 barrel a day workmark.

On the other hand the North Slope reserves are enormous. The background study of November 3, which was prepared for your committee, resulted in widespread reports in the news media that there was a vast new oilfield in the Gulf of Alaska rivaling the North Slope in size. The word "larger" that appears in the report is in itself to me meaningless. I feel we must distinguish between the terms of potential and proven reserves.

These phrases have specified meanings in this context as far as the Alaskan reserves are concerned. They are used in different contexts by persons who apparently do not understand the difference between potential and proven reserves; but the difference is real.

On the one hand, oil industry spokesman say this country's oil reserves are declining, and that if things do not change, they are likely to continue to decline. From this point of view, one may conclude that we are running out of oil.

On the other hand, some experts have stated in effect that there is ample oil and gas in North America to supply our future needs for years to come.

In the first statement, the spokesmen see that the reserves as barrels of oil or cubic feet of gas known to be present and capable of being produced are declining. This is true. Our demand for energy in general and petroleum in particular is increasing and the recent fact of the matter is that known reserves are not keeping up with this demand.

The second statement is entirely different from the first and refers to the potentially producible but as yet undiscovered oil and gas underlying North America. As a basis for this statement, experts have studied the basinal areas of North America and using, among other things, the volume of stratigraphic sections present, have concluded that considerably more as yet undiscovered oil and gas exists in North America than the total amount of oil and gas which has already been produced here.

The critical fact is that the experts do not know where these undiscovered petroleum accumulations are located. They may know the general area, but because it is extremely risky to speculate as to the possibilities of oil in any geologic formation merely from looking at the surface without extensive drilling, it becomes necessary to wait until extensive exploration has been conducted. Until then all of these potential production areas are still mere possibilities.

Mr. Chairman, the Alaska Gulf is an extremely large body of water extending for over 600 miles east to west; it lies off south central Alaska rather than off the northern area as the background study indicates.

The oil industry has obtained some seismic data in part of this area. Large underwater geological structures are present beneath the Gulf of Alaska and could provide the necessary traps for possible oil or gas fields.

These structures occur in a portion of the Gulf of Alaska beneath deep waters, from 40 to 200 fathoms, and are found many miles from shore. On shore along the coast, a few holes have been drilled but no commercial production has been encountered in this area.

Shows of oil are known to be present and approximately 125 oil seeps have been noted. Porous rock has been indicated in some on-shore wells but there is no evidence as yet that this rock extends out under the water into the area of the large geologic structures.

Only one well has been drilled in the gulf, on Middleton Island, and this was a dry hole. While the gulf appears to have potential, presently it does not contain one single proven well and has not produced one barrel of oil.

To be of commercial significance, this area will have to contain oil in very large quantities. The area is remote and the environment severe. Winds of 100 to 125 miles per hour commonly occur. Waves in the area have been reported between 85 and 95 feet high. Thus, a small oilfield would not be able to support the high cost of development in this area any more than it would on the North Slope.

I have included a letter in my prepared statement from our Governor, Bill Egan, to the Under Secretary of the Interior, William Pecora. Governor Egan has taken the position that the exploration in the Gulf of Alaska should come after the development of the North Slope proven oil reserves.

There is a potential in the Gulf of Alaska and, Mr. Chairman, I would like to file with you a letter I just received on my return from

Alaska last night which is dated January 3, 1972, from Under Secretary Pecora, who signed it, as a matter of fact, as Acting Secretary. It concerns the Department of the Interior's plans for the Gulf of Alaska. I have provided the staff with additional copies.

Chairman PROXMIRE. Without objection, that letter will be printed in full in the record at this point.

Senator STEVENS. Thank you very much.

(The letter referred to follows:)

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., January 3, 1972.

HON. TED STEVENS,
U.S. Senate,
Washington, D.C.

DEAR SENATOR STEVENS: Your December 7, 1971, letter requested information concerning your forthcoming testimony before the Sub-committee on Priorities and Economy in Government of the U.S. Senate Joint Economic Committee. We realize there has been some confusion regarding the comparison of the petroleum possibilities of the Gulf of Alaska and the North Slope, and we welcome the opportunity to comment.

When a comparison of the petroleum potential of these two petroleum provinces is undertaken, it should be borne in mind that the existing conditions are not uniform. In the case of the North Slope, large petroleum reserves have been proved by the exploratory drilling completed to date, whereas the onshore exploratory drilling conducted along the Gulf of Alaska has failed to discover any reserves. An estimate of potential resources is the only basis for comparison.

The term "reserves" describes that portion of total resources that has been identified by drilling and is considered to be economically recoverable. The term "resources" is a gross approximation of the total amount of petroleum fluids geologically inferred to be originally in place in sedimentary rocks down to a depth of 20,000 feet. Resource estimates are not of proved reserves, and the actual amounts of oil and gas that will be found by drilling to be economically producible will be very much less.

The North Slope has proved reserves in Mesozoic and Paleozoic rocks, mostly at Prudhoe Bay variously estimated from 10 to 20 billion barrels. The Gulf of Alaska has not proved reserves at present, although the old Katalla field produced 154,000 barrels from Tertiary rocks before its abandonment in 1933. Rocks older than Tertiary rocks in the Gulf province are metamorphosed and not likely to contain petroleum.

A categorization of these two provinces must avoid comparison of a known with an unknown. Therefore, we have developed the following potential resource estimates using the classification method developed by Hendricks in "Resources of Oil, Gas, and Natural-Gas Liquids in the United States and the World", U.S. Geological Survey Circular 522, 1965:

	North Slope	Gulf of Alaska Tertiary Province
Crude oil (millions of barrels).....	125, 000	40, 000
Natural gas (trillions of cubic feet).....	375	120
Natural gas liquids (millions of barrels).....	10, 000	3, 200

The Middleton Island—Icy Bay area in the Gulf of Alaska, where nominations of tracts to be offered for lease were obtained from the petroleum industry in December 1968, is only a fractional part of the overall Gulf petroleum province. This is the area under consideration for an offshore lease sale and contains approximately 10,000 square miles, of which approximately 1,000 square miles, of which approximately 1,000 square miles may be offered. The estimated potential resources for the lands to be offered are:

Crude oil—millions of barrels.....	1, 000
Natural gas—trillions of cubic feet.....	3
Natural gas liquids—millions of barrels.....	80

The Department's tentative OCS leasing schedule includes a proposed sale in the Gulf of Alaska (or one of comparable potential reserves) prior to 1976 in order to comply with the President's energy message of June 4, 1971. Public hearings will be scheduled and environmental impact statements will be prepared before a Department decision will be made whether the sale is to be held. At present, dates for these actions have not been set although the public hearing notice is indicated on the tentative schedule to be issued in January 1972.

Development on the North Slope has been slowed pending the decision on the trans-Alaska pipeline. Significant productive capacity exists that awaits only market transportation facilities. There has been only one exploratory test in the offshore portion of the Gulf of Alaska (Tenneco's Middleton Island well); it was unsuccessful, and productive capacity in the Gulf province has yet to be established. It is estimated that a lead time of 7 to 10 years following a sale will be required to market any significant production from this province if exploratory efforts are successful.

Please advise if we can provide any further information.

Sincerely yours,

(S) BILL PECORA,
Acting Secretary of the Interior.

Senator STEVENS. In reference to page 19 of your background study, you said "Nor has the Department of the Interior made available its preliminary assessment of offshore northern Alaska (Cordova)—an area which is understood by some to be larger than the North Slope, but which might interfere with the North Slope pricing expected by the oil industry." It is my belief that some people have interpreted this phrase incorrectly. In fact, I have seen some press reports where members of your staff have implied this is an available, proven reserve which could be used at any time and is, in fact, an alternative to the North Slope development.

As the chairman well knows, we have been waiting for almost 2 years for the issuance of a permit from the Department of the Interior so that the trans-Alaska pipeline can be built. We are quite hopeful that the permit will be issued soon, because there is a delay factor involving the litigation which is still pending. This enjoins the Secretary from finally issuing the permit until the District Court of the District of Columbia has concluded its review of the environmental impact statement under the National Environmental Protection Act.

In any event, I would like to make it very clear to the committee and to everyone concerned that the Gulf of Alaska is not an alternative to the development of the North Slope. We have great hopes over the years to come that the potential for oil development in the Gulf of Alaska will be proven to be very great. For that matter, we would also like to prove the potential in our other provinces which are felt to be capable of producing oil and gas. But to date, the potential of the Gulf of Alaska has not been proven. Attempts to prove it have all been negative. Thus I feel that the comment which is in your background study should be understood to be in reference to a potential for an oil and gas field rather than a proven oil and gas field.

Incidentally, there is a comment in the Oil and Gas Journal of November 15, which made headlines in the Washington Post, and I quote: "Oil Find Off Southern Alaska Said To Rival the North Slope."

I would like to put that in the record to demonstrate to you why I have taken your time this morning. There has been no oil find off southern Alaska.

Chairman PROXMIRE. Without objection, that will be printed in the record at this point.

Senator STEVENS. Thank you, Mr. Chairman.

(The information follows:)

[From the Oil and Gas Journal, Nov. 15, 1971]

FICTION AND FACT

THE FICTION

"Oil find off southern Alaska said to rival the North Slope."—Headline in Washington Post, page 1, November 8, 1971.

THE FACT

The source for this alleged discovery is a single sentence in a 102-page "Background Study" on oil prices compiled for the Joint Economic Committee of Congress. The sentence reads: "Nor has the Department of Interior made available its preliminary assessment of offshore northern (sic—he meant southern) Alaska—Cordova—an area which is understood by some to be larger than North Slope, but which might interfere with the North Slope pricing expected by the oil industry."

The background study was prepared by Martin Lobel, legislative aide to Sen. William Proxmire (D-Wis.), chairman of the joint economic committee. In an interview with a reporter for the Washington Post, Lobel elaborated on this supposed giant Cordova oil field in the Gulf of Alaska. He and the Post spin a tale of conspiracy in which the Department of Interior and the oil industry are pictured as sitting on these huge deposits to avoid upsetting plans to build the trans-Alaska pipeline and market oil from Prudhoe Bay.

This is an outrageous example of the complete fabrications, slanted analysis, and insidious innuendoes that too often are fed to Congress as so-called background material about oil industry operations. There are at least three basic untruths in this sensational story.

First, there is no Cordova field. Katalla field was located about 50 miles east of the town of Cordova on the southern coast of Alaska, but it was pennyante stuff.

The possibility of oil had long been indicated there by the presence of abundant seeps in the coastal Katalla-Yakataga areas. Following discovery of the shallow Katalla field in 1902, 40 wells were drilled in the area over the next 29 years, the deepest going to 2,350 ft. During 1902-1933, the field produced only 154,000 bbl of oil, averaging less than 14 b/d. This stripper production ended in 1933 when fire destroyed the topping plant which was processing Katalla oil. The field was shut in for lack of local market. It was not considered feasible to rebuild the plant.

The Katalla-Yakataga region enjoyed a short revival in the mid-1950's. Two groups, one with Phillips Petroleum as operator and another with Colorado Oil & Gas as operator, put down six expensive, deep wildcats on concessions along the coast. One drilled as deep as 12,054 ft. None was commercial and all were abandoned.

Oil and gas has been discovered considerably northwest of Cordova in Cook Inlet and the Kenai Peninsula. But proved reserves for the entire southern coastal area, including Cook Inlet and Kenai, have been estimated at only 600 million bbl, hardly a rival to proved reserves of 9.6 billion at Prudhoe Bay on the North Slope.

Second. There has been no discovery in the Gulf of Alaska where the huge unreported deposits are supposed to be located.

The only deep well ever drilled on the Outer Continental Shelf off southern Alaska was in state waters, 3 miles off Middleton Island. That was a dry hole.

Third. There have been no deep wells drilled in the federal portion of the OCS off southern Alaska. Many core holes have been drilled by the industry under permits issued by USGS anticipating a federal lease sale within 5 years. But core holes are limited to 300 ft., hardly deep enough to discover another Slope.

The actual situation is this: The gulf waters are prime virgin hunting ground for which geologists have great hope. But no matter how high the hopes generated by promising geological structures, by seismic work, or by core holes, until a well is drilled and production tested, it's simply a falsehood to claim a huge oil field exists.

Senator STEVENS. There are no indications at the time that the Gulf of Alaska does, in fact, rival the North Slope. I hope, after we have developed the North Slope for the interest of the Nation as a whole.

that the Gulf of Alaska will prove to be as great a resource if not larger than the North Slope.

Incidentally, for your information, it may be helpful to place in the record or in the committee files the American Association of Petroleum Geologists Memoir of 1971 concerning the possible future petroleum resources of the Pacific margin.

Chairman PROXMIRE. How long a document is that, Senator?

Senator STEVENS. This is 15 pages.

Chairman PROXMIRE. We will keep it in the record.

(The information follows:)

[EDITOR'S NOTE.—The figures (charts) alluded to in the text of this article may be found in the committee room files]

POSSIBLE FUTURE PETROLEUM RESOURCES OF PACIFIC-MARGIN TERTIARY BASIN, ALASKA¹

(By George Plafker²)

Abstract.—The Alaskan Pacific-margin Tertiary basin includes an onshore and offshore area of approximately 40,000 sq. mi. (103,600) sq. km.) underlain by a thick sequence of continental and marine strata ranging in age from Paleocene through Pliocene. The Tertiary sequence is broadly divisible into (1) a thick lower unit of well-indurated, intensely deformed rocks, mainly of Paleocene and Eocene age, and (2) an upper unit, largely of Oligocene through Pliocene age, that is notably less deformed and indurated. Most of the known indications of petroleum in the basin are in rocks of the younger sequence, which has a composite thickness on the order of 20,000–25,000 ft (6,096–7,620 m). The petroleum possibilities of the younger sequence appear to be good if adequate reservoir sandstone can be found in favorable structural positions. The early Tertiary sequence is too indurated and too intensely deformed to have more than modest potential for accumulation of petroleum in commercial quantities, and pre-Tertiary rocks are considered to be an effective basement for petroleum.

INTRODUCTION

A thick sequence of Tertiary marine and nonmarine bedded rocks fringes the Gulf of Alaska from the vicinity of Cross Sound on the east to Chirikof Island on the west (Fig. 1). Tertiary and Quaternary strata probably also extend offshore over much of the contiguous continental shelf. Geographically, the Tertiary basin can be subdivided into two parts. The eastern part is characterized by an essentially continuous belt of Tertiary outcrops up to 60 mi (96 km) wide along the southern margin of the Kenai-Chugach-St. Elias Mountains (Gulf of Alaska Tertiary province). In the western part, Tertiary rocks are discontinuously exposed as a narrow fringe several miles wide along the Pacific side of the Kodiak group of islands, in the Trinity Islands, and on Chirikof Island (Kodiak Tertiary province). In this paper, the Gulf of Alaska Tertiary province is extended westward to include Tertiary rocks in the Prince William Sound region and the adjacent continental shelf (Prince William Sound district). The boundary between the Gulf of Alaska and Kodiak provinces is taken arbitrarily as the east-west line that extends between the Kenai Peninsula and the Kodiak Island group (roughly 59° N lat.).

Geologically, the Tertiary sequence is broadly divisible, as shown in Figure 1, into (1) a lower unit of well-indurated, intensely deformed rocks of early Tertiary (mainly Paleocene and Eocene) age, and (2) an upper unit of mainly middle and late Tertiary age that is notably less deformed and indurated. Most of the known indications of petroleum in the basin, including many oil and gas seeps and one small oil field, are in rocks of the younger sequence, and it is this sequence that is judged to hold the best possibility for future petroleum discoveries in the Alaskan Pacific-margin Tertiary basin.

The basin is 900 mi (1,448 km) long and from 2 to 60 mi (3 to 96 km) wide onshore. Its land area is about 6,000 sq mi (15,540 sq km), and the total area of

¹ Manuscript received, June 10, 1970. Publication authorized by the Director, U.S. Geological Survey.

² U.S. Geological Survey.

land and continental shelf inferred to be underlain by Tertiary rocks is approximately 40,000 sq mi (103,600 sq km). Of this total, roughly 25,000 sq mi (64,750 sq km) is believed to be underlain mainly by rocks of middle and late Tertiary age. If an average thickness of 10,000-15,000 ft (3,048-4,572 m) is assumed for these younger rocks, their volume is on the order of 50,000-75,000 cu mi (208,350-312,525 cu km). The maximum thickness of the early Tertiary sequence is on the order of several tens of thousands of feet, but its prevailing structural complexity and lack of key beds preclude reliable thickness measurements.

The Tertiary rocks are known from outcrops in the foothills and from geophysical investigations and 70 wells drilled along the coastal lowland of the Gulf of Alaska Tertiary province. Systematic surface mapping of the Tertiary basin has been carried out intermittently since 1944 as part of the U.S. Geological Survey's program of petroleum investigations in southern Alaska. Recent geologic publications on the Gulf of Alaska Tertiary province include a summary report and a series of detailed maps by D. J. Miller (Miller *et al.*, Miller, 1961a-e); the results of a reconnaissance of the Prince William Sound district (Plafker and MacNeil, 1966); a compilation geologic map of the province by Plafker (1967), based mainly on Miller's maps but incorporating some unpublished data by Plafker and petroleum-company geologists; and an interpretation of the structural development of the province by Stoneley (1967).

The principal recent sources of information on the geology of the Kodiak Tertiary province are a brief report on the Trinity Islands by Kirchner (1957) and a reconnaissance geologic map and a stratigraphic summary of the Kodiak group of islands by Moore (1967, 1968). Evaluations of the petroleum potential of the region were given by D. J. Miller (*in* Miller *et al.*, 1959) and Grantz (*in* Gates *et al.*, 1968). A brief synthesis of the tectonic history of the basin and contiguous areas was made by Plafker (1969). The sources cited, which contain extensive bibliographies on earlier investigations in the region, form the basis for this discussion of the petroleum potential of the Alaskan Pacific-margin Tertiary basin. The results of marine geophysical investigations in the region are presented in the paper by von Huene, Lathram, and Reimnitz. (this volume).

STRATIGRAPHIC SUMMARY

The Tertiary bedded rocks of the basin are entirely clastic sedimentary and volcanic rocks that represent each epoch from Paleocene through Pliocene. Rocks of Pleistocene age are exposed on Middleton Island and also may be present locally on the mainland within the Gulf of Alaska Tertiary province. Rocks of definite Paleocene age have been identified only in the Malaspina district (Addicott and Plafker, unpub. data). They probably are present elsewhere in the basin, but have not been dated because of the prevailing complex structure and scarcity of diagnostic fossils. The bedded sequence, with a maximum thickness of tens of thousands of feet, includes both marine and nonmarine units. Three major subdivisions of Tertiary rocks, which are recognized on the basis of fossils and gross lithologic characteristics that are believed to correspond to major changes in the depositional environment of the basin, are: (1) the Paleocene through lower Oligocene, (2) the middle Oligocene through lower Miocene, and (3) the middle Miocene through Pliocene (and locally Pleistocene). The changes in depositional environment are characteristically gradational and appear to be time-transgressive in different parts of the basin. Figure 2 shows a tentative correlation chart of stratigraphic units in the basin; the approximate thickness and inferred correlations of selected surface and well sections are shown in Figure 3.

LOWER TERTIARY SEQUENCE

The oldest Tertiary rocks consist of complexly intertonguing, deep-water marine pillow lava, tuff, and tuffaceous sandstone and siltstone that comprise (1) the Ghost Rocks Formation and Sitkalidak Formation in the Kodiak Tertiary province, (2) at least the lower part of the Orca Group and its equivalents in the Prince William Sound and Katalla districts (Plafker, 1967), and (3) the "unnamed siltstone" unit of the Yakataga and Malaspina districts. These rocks were inferred to be of Paleocene and Eocene age on the basis of their stratigraphic position and the few diagnostic fossils collected from them.

In the Gulf of Alaska Tertiary province, the lower units appear to grade upward into rocks characterized by abundant intertonguing arkosic, pebbly, and coal-bearing sandstone that is commonly calcareous; the sandstone also is zeolitized in

many places. These coal-bearing rocks are of shallow-marine and nonmarine origin. Their fauna and flora suggest that they were deposited during late Paleocene to late Eocene and possibly early Oligocene time in a subtropical to temperate environment. Rocks of this age include (1) the Kushtaka Formation and perhaps the lower Tokun Formation of the Katalla district and (2) the Kulthieth Formation in the Yakataga and Malaspina districts. The upper part of the Orca Group in Prince William Sound and the marine sandstone and siltstone of the Sitkalidak Formation in the Kodiak Tertiary province may be correlative with these units, but they have not yielded age-diagnostic fossils.

All the early Tertiary sedimentary rocks are characteristically hard, dense, and intensely deformed. Although many of the cleaner sandstones appear porous and friable in outcrop, surface samples that have been examined microscopically have negligible porosity. In places these rocks are mildly metamorphosed and are cut by potash-rich granitic plutons in the Prince William Sound district and by small hypabyssal mafic intrusives in the Katalla, Yakataga, and Malaspina districts.

A general scarcity of age-diagnostic fossils or lithologically distinctive beds and the prevailing structural complexity in all the lower Tertiary units preclude accurate determination of their relative stratigraphic positions and thickness. In outcrop the sequence is estimated to be roughly 25,000 ft. (7,620 m) thick in the Kodiak Tertiary province, several tens of thousands of feet in the Prince William Sound district, and probably at least 20,000 ft. (6,096 m) thick in the Katalla district. The sequence appears to thin east of the Katalla district and is not known to be exposed in the Lituya district.

MIDDLE TERTIARY SEQUENCE

The lower Tertiary rocks in the Gulf of Alaska Tertiary province are overlain by a marine sequence consisting predominantly of interbedded concretionary mudstone and siltstone with subordinate sandstone. This sequence is characterized locally by the presence of interbedded tuff, agglomerate, glauconitic sandstone, and pillow lavas. The contact between these units generally is not well exposed, but the prevailing abrupt changes in lithology and structural deformation across it indicate that it is most probably an unconformity in parts of the region. Small porphyritic alkaline plugs and dikes cut the middle Tertiary sequence in the Katalla district. The sequence, which includes the Katalla, upper Tokun (?), Poul Creek, Cenotaph, and Topsy (?) Formations, was deposited during Oligocene and early Miocene time in temperate water that was moderately deep to deep in the southern Katalla district and somewhat shallower toward the east. The mudstone and siltstone are richly organic in the central part of the Gulf of Alaska Tertiary province, and the sequence there contains many petrolierous beds and oil and gas seeps. The sandstone-"shale" (actually mainly siltstone and mudstone) ratio of these units is 20 percent or less; most of the thicker sandstone beds are concentrated near the base. In the Kodiak Tertiary province, fossil-plant- and coal-bearing sandstone, siltstone, and conglomerate of the Sitkinak Formation and fossiliferous sandy marine siltstone of the Narrow Cape Formation were deposited in a nearshore environment during Oligocene through middle Miocene time (Moore, 1969). Sandstone and conglomerate make up an estimated 30 percent of the Sitkinak Formation and 50 percent of the Narrow Cape Formation.

The thickness of the middle Tertiary sequence is extremely varied, and there are abrupt changes in short distances. Measured maximum outcrop thickness is only a few hundred feet in the Malaspina district, 6,100 ft (1,859 m) in the Yakataga district, and nearly 9,000 ft (2,740 m) in the Katalla district; in the Kodiak Tertiary province, its greatest exposed thickness is about 4,000 ft (1,220 m) on Sitkinak Island and 2,300 ft (700 m) at Narrow Cape. Rocks of undetermined age which are lithologically similar to the Sitkinak Formation, but which contain less coaly material and are partly of marine origin, crop out on Chirikof Island, where they have an estimated thickness of approximately 20,000 ft (6,096 m; G. W. Moore, unpub. data).

UPPER TERTIARY AND PLEISTOCENE SEQUENCE

Marine clastic rocks of Miocene to early Pleistocene age that locally are characterized by abundant glacial detritus lies on the temperate-water sequence with local unconformity. They were deposited in shallow to moderately deep water during a time interval when shelf ice or tidal glaciers were intermittently present along the landward margin of the basin. An abundant megafauna suggests cold-

water conditions throughout most of the interval, except for a transitional lower part in which progressive cooling is indicated by alternation of cold- and temperate-water forms. On the basis of the megafauna, the base of the sequence is probably of early middle Miocene age; studies of planktonic foraminifers, however, indicate that it would be as young as late Miocene (Bandy *et al.*, 1969).

The sequence consists mainly of fossiliferous thick-bedded mudstone, muddy sandstone, conglomeratic sandy mudstone (marine "tillite"), and minor conglomerate of the Yakataga and Tugidak Formations.

The composite outcrop thickness of the Yakataga Formation is about 16,500 ft (5,030 m). The sandstone content of the formation ranges from as much as 55 percent in sections on the mainland near the northern margin of the basin to as little as 9 percent at Middleton Island near the edge of the continental shelf. Middleton Island is underlain by the uppermost part of the Yakataga Formation, which has a measured thickness of 3,875 ft (1,181 m) and contains a shallow-water molluscan fauna indicative of a late Pliocene and early to middle Pleistocene age. Most of this sandstone has a muddy matrix to the extent that porosity generally is less than 15 percent in outcrop samples.

The Tugidak Formation at its type section on Tugidak Island consists of about 5,000 ft (1,524 m) of interbedded sandstone, siltstone, and conglomeratic sandy mudstone of Pliocene age. Glacial detritus appears to be absent from the coeval middle Miocene part of the Narrow Cape Formation on Kodiak Island; this part of the formation contains a temperate-water megafauna of the same age as that in the basal part of the Yakataga Formation (Addicott, 1969). The Narrow Cape Formation, which is 3,700 ft (1,128 m) thick, consists mainly of sandstone and minor conglomerate in the lower two thirds and predominantly of siltstone in the upper third of the section.

STRUCTURE

The Tertiary rocks of the Alaskan Pacific-margin Tertiary basin are bordered on the north and are in part underlain by highly deformed, metamorphosed, and intruded Cretaceous and older bedded sedimentary and volcanic rocks that are considered to have no potential for petroleum. In most places where the contact between the Tertiary and pre-Tertiary sequences has been studied in detail, it consists of a system of major steep faults or north-dipping thrust faults along which there has been relative uplift of the older rocks. This relation is seen in the Kodiak Tertiary province and much of the Gulf of Alaska Tertiary province. At the few localities where the margin of the Tertiary basin is exposed in the Prince William Sound district, it also is marked by north-dipping thrusts. In the eastern part of the Malaspina district, in the subsurface of the Yakutat district, and in the western part of the Lituya district, Tertiary rocks ranging in age from probable Paleocene to Pliocene unconformably overlie the pre-Tertiary rocks. The resulting structural style along selected sections across the onshore parts of the Alaskan Pacific-margin Tertiary basin is illustrated in Figure 4.

Deformation in varying degrees of intensity seems to have affected the basin throughout much of Cenozoic time. The fold-fault pattern and stratigraphy suggest, however, that the deformation in onshore areas occurred primarily during two orogenic episodes that culminated in early and late Cenozoic time. Early Tertiary rocks that have been involved in both major orogenies are markedly more deformed than, and locally differ in trend from, the younger sequence. Supposed late Cenozoic "intersecting" structural systems in the region result at least in part from multiple deformation, including gravitational tectonics which followed orogenic folding, rather than from marked changes in late Cenozoic regional stress patterns within the basin as inferred by von Huene *et al.* (1967b, p. 365S).

The older orogenic episode, which may have begun as early as Cretaceous time and probably culminated in the Prince William Sound area in early Oligocene time, resulted in complex folding and faulting of the early Tertiary sequence and local emplacement of granitic stocks and thermal metamorphism of the surrounding sedimentary sequences. Folds commonly are of short wavelength and are tightly appressed, having flank dips greater than 50°; locally folds are overturned toward both the north and south (Fig. 4, A-A'). The strike of bedding planes and fold axes tends to parallel the structural trend of the bounding faults, but there are numerous exceptions. The trends are most notably divergent in the northeastern part of the Prince William Sound district and in the western Katalla district. The Prince William Sound-Katalla area is near the axis of oroclinal bending postulated by Carey (1958), where there must have been a significant local east-west component of compressive stress during this early Tertiary orogeny.

The later orogenic episode, beginning perhaps in middle Miocene time in the Yakataga district and continuing to the present, resulted in pronounced differential uplift and faulting throughout southern Alaska. During this orogeny, the Pacific Border Ranges were markedly uplifted, and in places they were thrust relatively seaward along a system of major faults. Local multiple angular unconformities within the Yakataga Formation record active deformation in the depositional basin during Yakataga deposition. Abundant glacial-marine detritus in strata containing an early middle Miocene megafauna attests to a mountainous area along the northern margin of the basin high enough to nourish glaciers that reached tidewater. Continuing active deformation is indicated by tilting, faulting, and uplift of marine rocks as young as early or middle Pleistocene on Middleton Island, by active seismicity and earthquake-related deformation, and by the extreme topographic relief along the northern margin of the basin. The fold-fault pattern on land and on the offshore islands extending out to the edge of the continental shelf, as well as the pattern of deformation associated with the 1964 Alaska earthquake (Plafker, 1969), suggests predominant regional NW-SE-oriented horizontal compressive deformation across the continental margin during the late Cenozoic. The regional fold-fault pattern may have been modified significantly in the foothills belt by gravitational sliding off the markedly uplifted coastal mountains. There is no onshore evidence for the predominantly vertical or extensional tectonic style that was inferred from marine geophysical studies by von Huene and Shor (1969, p. 1899-1900).

Faults and folds in the late Cenozoic sequence tend to parallel the trends of the older structures, and there is an apparent increase in the intensity of folding and magnitude of fault displacement from south to north across the basin. Transverse trends are present in the structurally complex Katalla district, where folds involving Oligocene and Miocene strata are typically of small amplitude, tightly compressed, and asymmetric or overturned, having axial planes inclined toward the west or north (Fig. 4, B-B'). The origin of the notably discordant trends in the western part of the Katalla district is uncertain. They may reflect rejuvenated early Tertiary structures or, perhaps, local deformation of the younger rocks against more competent highs of older Tertiary rocks.

East of the Katalla district the structure of the late Cenozoic strata is dominated by broad synclines and tightly appressed asymmetric anticlines cut by north-dipping overthrust faults that strike roughly parallel with the coast (Fig. 4, C-C', D-D', E-E'). The structural style of some of these longitudinally faulted anticlines, particularly in the Yakataga, Malaspina, and Lituya districts, suggests that they represent the leading edges of imbricate *décollement* sheets that slid southward off the uplifted northern margin of the basin. However, the degree to which gravitational sliding contributed to the development of these structures cannot be ascertained without additional subsurface control. Rooted compressional folds are more likely to be found seaward from the belt of *décollement* sheets in the Gulf of Alaska Tertiary province. In the Kodiak Tertiary province, bedded rocks of Oligocene through middle Miocene age are characteristically moderately to tightly folded about northeast-trending axes and are locally overturned (Moore, 1967). Relatively undeformed Tertiary rocks are present only on Tugidak Island (in the Trinity Islands group) and on Chirikof Island, where late Pliocene strata are exposed in homoclines with dips of less than 10°.

PETROLEUM CONSIDERATIONS

Potential sources

On the basis of the stratigraphic units in which most of the oil seeps and other indications of petroleum are found, a probable source in the middle part of the Tertiary sequence is indicated. Bedded rocks of early Tertiary age are believed to have only modest petroleum potential because of their characteristically high degree of induration. Pre-Tertiary rocks in this region are an effective basement for petroleum.

In the Katalla and Yakataga districts, most of the known oil seeps, as well as indications of oil in wells, are in areas with fractured outcrops of the middle part of the Katalla Formation, the Poul Creek Formation, and the lower part of the Yakataga Formation. Oil resembling that found elsewhere in the province seeps from hard siltstone and sandstone of probably early Tertiary age in structurally complex settings on the west side of Ragged Mountain in the western Katalla district and along the southern margin of the Samovar Hills in the Malaspina district. It has been postulated that early Tertiary rocks are the source of the oil at Ragged Mountain and the Samovar Hills (D. Miller *et al.*, 1959, p. 43; Plafker and Miller, 1957). However, the composition of the oil and the structural setting of the seeps suggest the alternative possibility that the oil is derived

from middle Tertiary rocks that have been overthrust by the older rock units. For the lower Tertiary sequence to be a source of petroleum, its lithologic character would have to differ markedly from that seen in outcrops. Although such changes conceivably could occur within the vast parts of the basin that are covered by alluvial deposits, ice, or water, there is no geologic basis for believing that source-rock characteristics should be substantially improved in such areas.

Potential reservoirs

Outcrop samples of most sandstones in the lower Tertiary sequence are compositionally and texturally immature. Even the best-sorted sandstone appears to have poor reservoir characteristics because it is greatly compacted and tightly cemented with authigenic silica, zeolites, and carbonates. Analyses show that one of the cleanest upper Eocene sandstones sampled in the Yakataga district has about 8 percent porosity and less than 0.01 md permeability. Some massive, well-sorted, shallow-water sandstone units that appear to be porous and friable in the outcrop were found to have less than 5 percent interstitial porosity when examined microscopically.

Better sorted and less indurated sandstone is present locally in the middle and upper Tertiary sequences, but most of the outcrop samples also have fairly low porosity and permeability, mainly because of a fine-grained matrix of rock flour and primary and authigenic phyllosilicates. Five sandstone samples analyzed from the Poul Creek Formation have porosity ranging from 6.83 to 18.34 percent, averaging 13.95 percent; permeability ranges from less than 0.01 to 2.3 md and averages about 11 md. The highest porosity and permeability measured are from thin sandstone beds near the middle part of the formation. Porosity and permeability of four of the cleanest sandstones from the lower, middle, and upper parts of the Yakataga Formation in the Yakataga district range from 11 to 20 percent and from less than 0.01 to 12.4 md, respectively. Most of the outcropping Yakataga sandstone that has been examined microscopically shows intergranular space effectively plugged with rock flour, and the porosity is less than 5 percent.

The only sample tested for reservoir characteristics from the Kodiak Tertiary province, a fine-grained Oligocene (?) sandstone from Chirikof Island, has a porosity of 13.2 percent and a permeability of 2.6 md.

The source of the clastic sediments in the basin was primarily on the north and northeast. Consequently, it is to be expected that average grain size and sorting of the sandstones normally would decrease offshore. It is conceivable, however, that sorted sands in large quantity could have been transported well out into the basin by some mechanism such as turbidity currents, or that unsorted sands may have been reworked sometime after deposition within the basin.

Exploration history

Abundant oil and gas seeps in the Katalla, Yakataga, and Malaspina districts, discovered in about 1896, first directed attention to the petroleum possibilities of the Gulf of Alaska Tertiary province and have been a major factor in encouraging exploration. In 1902, the second of two wells drilled near the Katalla discovery seeps found oil at a depth of 366 ft (116 m). Between 1902 and 1931, 28 wells were drilled in the Katalla field and 16 wells were drilled at nearby locations in the district. A well also was drilled near oil seeps on the Sullivan anticline in the Yakataga district. The deepest of these wells was 2,350 ft (716 m). In the period 1902-1933, the Katalla field produced about 154,000 bbl of paraffin-base oil with a gravity of 41-45° Baumé at depths ranging from 360 to 1,750 ft (110 to 533 m). The oil accumulation was probably largely in fracture porosity in a fault zone cutting steeply dipping, well-indurated sandstone and silt-stone of the Katalla Formation. Production ended in 1933 when a fire destroyed the small refinery at the field.

Between 1954 and 1963, 25 wells and coreholes were drilled and abandoned on the mainland in the Gulf of Alaska Tertiary province. Data relevant to these wells and to one well drilled in the Yakataga district in the period 1926-1927 are listed in Table 1; information on the 44 shallow holes in the Katalla district was summarized by Miller *et al.* (1959, Table 3). The total drilled footage for the wells listed in Table 1 is 225,088 ft (78,331 m), and the greatest depth reached is 14,699 ft (4,480 m). Renewed active geological and geophysical work has been carried out in the onshore and offshore parts of the entire basin since 1963 in anticipation of state and federal lease sales on the continental shelf. In the sale held July 19, 1966, bonuses paid to the State of Alaska for leases in the Gulf of Alaska averaged \$164 per acre; the highest bid was \$761 per acre. During the summer of 1969, Tenneco drilled the first well to test the offshore potential of the basin near Middleton Island (Fig. 1, no. 71). Information from that well, however, is not yet available to the public.

TABLE 1.—WELLS DRILLED FOR PETROLEUM IN GULF OF ALASKA TERTIARY PROVINCE, ALASKA, THROUGH 1969¹

Location number on map	Company and well name	Location	Year	Total depth (feet)	Unit penetrated ²	Results
45	Richfield Oil Corp., Bering River 1	Bering Lake, Katalla district	1961	6,175	Tokun and Kulthieth(?) Formations	Abandoned.
46	Richfield Oil Corp., Bering River 2	do	1961-62	6,019	Katalla and Tokun(?) Formations	Do.
47	Richfield Oil Corp., Kaliakh River Unit 1	Near Tsvat River, Yakataga district	1959-60	14,699	Yakataga and Poul Creek(?) Formations	Abandoned; shows of gas.
48	Richfield Oil Corp., Kaliakh River Unit 2	do	1960	9,575	do	Abandoned.
49	Richfield Oil Corp., Kaliakh River Unit 2, redrill	do	1960-61	12,135	do	Do.
50	Richfield Oil Corp., Duktoth River 1	do	1961	10,390	Yakataga, Poul Creek, and Kulthieth(?) Formations	Abandoned; shows of gas.
51	Richfield Oil Corp., White River 1	Near Cape Yakataga, Yakataga district	1961	7,982	Yakataga and Poul Creek Formations	Abandoned; shows of gas and strong flow of saline water.
52	BP Exploration Co. (Alaska), Inc., White River 2	White River, Yakataga district	1962	12,417	Yakataga, Poul Creek, and Kulthieth Formations	Abandoned.
53	BP Exploration Co. (Alaska), Inc., White River 3	do	1963	6,984	do	Abandoned; shows of gas.
54	General Petroleum Corp., Sullivan 1	Johnston Creek, Yakataga district	1926-27	2,005	Poul Creek Formation	Abandoned; shows of oil and gas.
55	Phillips Petroleum Corp., Sullivan Unit 1	Little River, Yakataga district	1954-55	10,013	Yakataga, Poul Creek, and Kulthieth (?) Formations	Do.
56	Phillips Petroleum Corp., Sullivan Unit 2	do	1956-57	12,052	do	Do.
57	Phillips Petroleum Corp., Sullivan Strat. 1	Big River, Yakataga district	1954	4,837	Yakataga and Poul Creek(?) Formations	Abandoned, strong flow of slightly saline water.
58	Standard Oil Co. of California, Riou Bay 1	Riou Bay, Malaspina district	1962	14,107	do	Abandoned.
59	Standard Oil Co. of California, Chaix Hills 1	Chaix Hills, Malaspina district	1961	10,015	Yakataga Formation	Do.
60	Standard Oil Co. of California, Chaix Hills 1A redrill	do	1961-62	10,121	Yakataga and Poul Creek Formations	Do.
61	Colorado Oil & Gas Co., Malaspina 1	West shore of Yakutat Bay, Malaspina district	1962	1,802	Yakataga Formation	Do.
62	Colorado Oil & Gas Co., Malaspina 1A, redrill	do	1962	13,823	Yakataga and Kulthieth Formations, and Pre-Tertiary(?) rocks.	Do.
63	Colorado Oil & Gas Co., Yukutat 1	Near Yakutat, Yakutat district	1957	9,314	Yakataga, Poul Creek(?) and Kulthieth Formations	Do.
64	Colorado Oil & Gas Co., Yukutat 3	do	1958-59	10,494	Yakataga, Poul Creek(?), and Kulthieth Formations, and pre-Tertiary rocks.	Do.
65	Colorado Oil & Gas Co., Yukutat A-1(2)	do	1957-58	11,765	Yakataga, Poul Creek(?), and Tokun Formations, and pre-Tertiary rocks.	Abandoned; shows of oil and gas.
66	Colorado Oil & Gas Co., Corehole 1	do	1961	3,230	Yakataga, Poul Creek(?), and Kulthieth Formations	Abandoned.
67	Colorado Oil & Gas Co., Corehole 2	Near Dangerous River, Yakutat district	1961	5,690	do	Do.
68	Colorado Oil & Gas Co., Dangerous River 1	do	1960	8,634	Yakataga, Poul Creek(?), and Kulthieth(?) Formations, and pre-Tertiary Rocks.	Do.
69	Colorado Oil & Gas Co., Corehole 3	Akwe River, Yakutat district	1961	5,484	Yakataga Formation	Do.
70	Colorado Oil & Gas Co., Corehole 4	Dry Bay, Yakutat district	1961	5,326	do	Do.
71	Tenneco, Inc., Middleton Island State 1	Middleton Island	1969	7	do	Do.

¹ Does not include 44 shallow wells (depths less than 2,350 feet) drilled in and near the Katalla oilfield between 1901 and 1932.² Inferred from lithology and microfauna.

CONCLUSIONS

The 25 deep test wells and five coreholes drilled onshore since 1954 in the central part of the Gulf of Alaska Tertiary province have been unsuccessful because structure is complex and suitable reservoir rocks have not been found in favorable structural positions. Also, rugged terrain in these areas has limited severely the number of locations that could be drilled. The most favorable accessible structures exposed along the coast have been tested adequately by the exploration carried out to date. Structures that are exposed onshore elsewhere in the Gulf of Alaska and Kodiak Tertiary provinces have proved either inaccessible or too small and complex to justify exploratory drilling. Nevertheless, the abundant surface evidence for petroleum and for structural traps justifies further exploration in the Tertiary sequence on the continental shelf and, perhaps, beneath the unconsolidated deposits along the Gulf of Alaska coast. Late Cenozoic deformation obviously has affected even the youngest outcropping strata as far seaward as Middleton Island, and marine geophysical studies indicate that structural traps are present over much of the intervening continental shelf.

The critical factor for accumulation of commercial petroleum deposits probably was the availability of adequate reservoir sandstone in close association with middle Tertiary petroliferous mudstone and siltstone. The necessary conditions are most likely to be fulfilled along the flanks and over the crests of structural highs that were growing synchronously with middle Tertiary sedimentation. Stratigraphic relations onshore suggest that some anticlines in the Yakataga and Malaspina districts were growing intermittently throughout much of Miocene and probably all of Pliocene time. If comparable or older synchronous highs are present on the continental shelf, and were at or near sea level for sufficient periods of time, they could have been the loci for accumulation of winnowed sandstone wedges with better sorting than that of coeval sands laid down in the deeper water of the intervening areas. Furthermore, early accumulation of hydrocarbons in such winnowed sandstone bodies could have inhibited the type of secondary cementation that in the outcrop has made the sandstone generally unsuitable for commercial reservoirs.

Senator STEVENS. All right. I would like to get a copy of it back as it is my copy. I feel it is particularly relevant as it pertains to this particular area; namely, the Gulf of Alaska off of southeastern Alaska.

I might point out to you, Mr. Chairman, that the area off the shore of Washington and Oregon looked equally promising a number of years back. It is quite similar to the Gulf of Alaska as there were oil shows in wells along the shore, as well as outcroppings which could have indicated there were potential reservoir rocks in the area. Leases were issued in that area and they were drilled. A large number of wells, as a matter of fact, were drilled and no production at all was found; so, while I have hopes for the Gulf of Alaska. I want to make it perfectly clear on the basis of what has happened just south of us, that there are no great hopes for the gulf's development in the near future.

I do believe, however, that continuing demands for petroleum in the United States will require exploration in the area.

There are some other comments that I would like to make concerning your background study's estimates and the oil importing program.

I don't know if you are aware of it but I was with the Department of the Interior as their legislative counsel when the oil import program was formulated. I can't say that I made the decision; I was a staff member of the group that worked on it. It has been a program with a tremendous impact and I believe that had it not been for the oil import program, the oil industry could not have afforded the exploration in Alaska that led to the development of the North Slope.

The background study estimates 9.6 billion barrels as the level of proven reserves for the North Slope.

We have estimates up to 50 billion or on the other side of that around 5. Regardless of the estimate you might prefer, the magnitude of the reserve span cannot be considered as permanently reversing the downward trend of new discoveries of oilfields in this country.

Table I of the committee's background study shows that net annual additions to reserves have decreased from a positive 1 billion barrels in 1953, to a negative 1 billion barrels in 1969, with the exception in 1959 of a 1 billion-barrel addition.

Just as the irregularity of 1959 could not be interpreted as a trend reversal at the time it occurred, the North Slope reserve addition does not make 1970 a trend reversing year; neither can the fact that in 1970 net reserve additions, excluding the North Slope, decreased only 231 million barrels.

Discoveries of new fields, also presented in table I of the background study, show a range, excluding the North Slope, of about 90 to 240 million barrels per year during the past 10 years. It is evident from this series of data that even the 9.6-billion-barrel discovery cannot be considered as signaling a permanent turnaround in our finding efforts. Further, it should be remembered that the 9.6 billion barrels would satisfy current demands for domestic crude oil for only 3 years and would fulfill total demands, which include imports, natural gas liquids and domestic crude oil for 2 years at a maximum.

We can also put the 9.6 billion barrel discovery into perspective by comparing it to a forecast of demand for petroleum. Since 1968, demand has increased at a rate of over 4.5 percent annually. Recognizing this increase, but using a more conservative growth factor of 4 percent, demand for 1980 is estimated at 21.2 million barrels per day. The contribution of North Slope production to this demand requirement has been estimated at 1 million to well over 2 million barrels per day.

If we assume the more expansive figure, the 2 million barrels, and also that lower 48 production will continue at the indicated 1971 level, and that imports will be held at 25 percent, it will be necessary to discover about five North Slopes before 1980, just to maintain our present level of reserves.

Another way to place the North Slope reserve estimate in perspective is to measure those reserves against the expected growth in demand. If we assume that today's total demand for all oil will grow at a rate of 4 percent, and that the North Slope reserves are produced at a rate of 2 million barrels per day, then presently proven North Slope reserves can satisfy the expected demand growth for about 3 years.

Along with the Department of the Interior, Bureau of Mines, and the Federal Power Commission, I am convinced we are heading into a period of serious energy shortage. I do not believe it would be of any service to the public to indicate that the North Slope will yield permanent security.

Alaskans hope to hear that the delays in approving the right-of-way permit will end soon. It is not possible to indicate now, of course, when that will happen.

The mandatory oil import program was instituted in the interest of national security to maintain a vigorous and healthy domestic petroleum industry. Its mechanism is the restriction of imports from

areas where exploration and development costs have been abnormally low in order to maintain the incentive of a price that will provide a fair return on investment in the United States, where exploration and development costs are relatively high.

I would like to explain, Mr. Chairman, that we are interested in the oil and gas in Alaska because Alaska is a partner with the oil industry. Under the Alaska constitution, all subsurface rights are owned by the State and the State will benefit in terms of income through not only royalties but also from bonus bids and leasing revenues. We are an area that is going to depend quite heavily on this income for many years to come.

The oil importing program has been criticized for not having improved exploration and development rates and reserve levels. This criticism is not completely fair, however, as additional deterrents have been unfavorable economic and political climates oftentimes prevailing. Certainly with no protection whatsoever from imports, the domestic industry would not be able to explore adequately the remaining areas of promise in the United States; and, as I pointed out when I started, Alaska has 15 geologic basins, only two of them are producing and only three of them have been explored.

The criticism of the oil import program is its alleged high cost to consumers. The background study presents a figure of \$5 billion per year. This I assume is the same figure developed by the Cabinet Task Force study. For several reasons this estimate may be inaccurate. The \$5 billion figure was arrived at by projecting a high delivered cost advantage for foreign oil actually prevailing only for a few months in the 12-year history of the import program.

I might point out, Mr. Chairman, that in 1970 a quota ticket declined to where it was worth almost nothing per barrel. After the pipeline was split and the Syrian pipeline was repaired, the price went up to about 50 cents a barrel. With reduced tanker rates, it is now worth about 80 to 90 cents per barrel. But the fluctuations in the price of that import ticket are, I think, indicative that the cost advantage for foreign oil is not something that can be calculated and predicted in terms of costs to the consumer.

The fact of the matter is that I would turn it around the other way; I would think the advantage has been to the consumer because we are discovering reserves such as the North Slope, we will continue to explore, and within a reasonable rate of time we will be producing from some of these other basins in Alaska, which will hopefully include the Gulf of Alaska.

At times during the year, as I pointed out, this advantage in the oil import ticket has disappeared completely.

In addition there should be some other credits to the import program record which should be recognized. They include the availability of low-cost natural gas resulting from old exploration, taxpayments, and lease bonuses, and payrolls from a reliable domestic industry.

Consequently, the net social cost of the import program would be but a fraction of the \$5 billion if these credits were taken into account.

Such an amount surely is a reasonable price to pay for our national security through the maintenance of a healthy and viable domestic oil industry.

As far as the cost of energy in general is concerned, I want to make the statement, though I feel the handwriting on the wall is clear. Whether we are going to get our energy such as oil or gas from conventional domestic sources or turn to imports and synthetics, the price curve is pointed upward.

We can press the oil hunt into still more remote and deeper areas. We can expand the use of secondary and tertiary recovery methods in older fields; we can import oil and oil products from halfway around the globe. We can gasify coal. We can attempt to develop oil shales and tar sands. But whatever we do energy is going to cost more in all probability.

This is not to say that current prices are not a matter of legitimate concern. We are engaged in a national effort to halt inflation and no price increases which cannot be justified can be tolerated.

But as the search moves out into frontier areas, both geographically and technologically, the domestic oil industry must drill deeper, explore areas farther offshore in increasingly deeper waters, improve recovery techniques and probe extremely remote and difficult areas such as the Alaskan North Slope.

For example, I am informed that the costs for drilling four wells in the Prudhoe area have ranged from \$3.5 to \$7.5 million each and have averaged \$5.7 million. Such costs are approximately 20 times as much as the U.S. average onshore oil well drilled to comparable depths. I am told that the cost of supporting a seismic crew on the North Slope is nearly three times the cost of maintaining a crew in the lower 48. One company has spent \$7.5 million to build a North Slope campsite, including \$2 million just to handle sewage. The proposed pipeline across Alaska is now estimated to cost over \$2 billion at a cost per mile more than five times that for a similar sized line in the south 48. In addition, and of extreme importance to me and the people of my State, the delay has had a severe impact on the Alaskan economy and Alaskan employment.

And, I might say, the price of the pipeline continues to climb, the longer it is delayed, the more costly it will be.

Mr. Chairman, throughout the balance of my statement, I have somewhat roamed around. But I do want to emphasize that we have great hope for the oil and gas future of Alaska. Yet we do not want any more assertions that we have finds that exceed the proven reserves of the North Slope, which imply that we could just turn on a spigot and start pumping oil from the Gulf of Alaska and desert the construction of the Alaska pipeline. That is the way that statement was interpreted unfortunately.

I appreciate your courtesy in letting me come here today to explain my feelings on that statement and on the reserves and the oil import program. I would be pleased to answer any questions you might have concerning my statement.

(The prepared statement of Senator Stevens follows:)

PREPARED STATEMENT OF HON. TED STEVENS

Thank you Mr. Chairman, I appreciate very much the opportunity to appear today before your Committee because some of the subjects under consideration are of great concern to Alaska and my constituents.

The discovery of the huge oil and gas reserves on the North Slope three years ago was the most dramatic event in the history of the State of Alaska. The

economic future of Alaska to a very great extent is contingent upon the development of those reserves. The North Slope discoveries also came at a very fortunate time for the entire nation. Since 1965, this country has been witnessing a steady decline in its proven oil and gas reserves. Demand for oil products and for natural gas continues to rise. Yearly, this country has been consuming oil and gas at a faster rate than we have been adding to our reserves.

In regard to natural gas, we are already approaching a crisis point. In city after city, new gas customers are being turned away. In many areas gas distributors have notified their industrial customers to expect curtailments and have announced priority lists for cutoffs in an emergency, starting with industrial concerns operating under "interruptable" contracts, then commercial customers with "firm" contracts and, finally, as a last resort, schools, hospitals and homes. One situation of particularly great concern involves New York City and Chicago. These two great metropolises are reported to be fighting each other tooth and nail to get an additional 81 million cubic feet of natural gas per day from the La Gloria field in Texas. While this is only a drop in the bucket in terms of their present daily gas consumption, the seriousness of the situation is indicated by the fact that this nation's two largest cities are involved in a colossal struggle for this vital product.

Nor is there a possibility of importing natural gas from overseas in the necessary quantities. This country must find more domestically and in Canada. We are also going to have to draw on reserves from as far away as Alaska's North Slope. Thus, in desperation, in the interim, gas utilities must contract for emergency quantities of liquified natural gas from locations as far away as Africa. They will pay prices up to four times domestic rates for such imported liquified natural gas.

The oil situation is not quite as bad but steadily it is becoming more serious. Domestic reserves are falling; this country is being forced more and more toward reliance on imported crude oil. At the rate we are presently consuming oil, this country is not many years away from the point at which we will be dependent upon imports for as much as half of all of our oil.

This causes a serious problem of national security. Not all of the governments with large oil reserves are friendly. Those that are friendly at one point in time may not be so at another. Nearly 80 per cent of all the presently known oil reserves in the entire Free World are in the Middle East and North Africa. This is the area of the world to which we will be forced to turn unless we can find more domestic reserves.

It is unfortunate but true that the oil-rich nations of the Middle East and North Africa are not exactly the United States' best friends abroad. Many of them are openly hostile, both to us and to our Western European allies. However, they need markets for their oil. In many cases this is their only real asset. Thus, the oil has continued to flow. Nevertheless, one demonstration after another has indicated that this nation simply cannot count on oil from this area either in a constant supply or at a reasonable price. The Western European experience has born this out.

First the Syrians cut the trans-Arabian pipeline carrying oil to the Mediterranean. Then in May of 1970, Libya took advantage of the combined effect of a closed Tapline and a closed Suez Canal to reduce exports until large increases in taxes and prices resulted. With the Suez Canal closed, Europe had to import the oil from the Persian Gulf all the way around Africa in Tankers. A shortage of tanker capacity dramatically increased transportation rates. At one point, the delivered cost of imported crude oil at U.S. ports was higher than domestic crude.

Fortunately, unlike Europe, the United States currently relies on imports for less than a quarter of its needs, with most of that coming from the Western Hemisphere. We also had some spare domestic production capacities to draw on to fill the gap.

The greatest pinch, however, in the United States was felt in residual oil on the East Coast. Over 90 percent of the residual oil consumed on the East Coast is imported; there are no quota limitations on the amounts brought in. The combination effect of the tanker shortage and a short foreign supply situation made it quite difficult to avert a serious shortage until the spring of 1971 when conditions returned to normal.

Early in 1971, the Persian Gulf and North African oil states demanded an additional major increase in oil revenues and threatened to shut down exports. They formed a common front to demand higher prices from the consuming countries, under the threat of cutting off supplies. The result was a five-year

agreement calling for sharp escalation in prices, with a total price tag calculated at over ten billion dollars for crude oil from the Persian Gulf alone. As a result, the oil importing countries now face ten billion dollars or more in price hikes for oil from these areas. In other words, this unilateral oil price increase on the part of oil exporting countries is going to cost the industrialized importers more than 20 billion dollars over five years. This is about what the United States spent in ten years on the space program.

The discovery of large new oil and gas reserves on the Alaskan North Slope should be of great assistance in light of this serious international situation. However, there is a good deal of confusion surrounding the real significance of these North Slope discoveries. I would like to clarify the record regarding the North Slope's importance.

First, however, let me state categorically that the only truly major oil reserves *discovered* in Alaska since the oil industry came to Alaska are those on the North Slope. Prior to the discoveries in Cook Inlet in the 1960s, Alaska never produced enough oil to be of any significance. It was not until three years ago that Alaska's total production passed the 100,000 barrel per day mark.

The Background Study of November 3rd prepared for this Committee resulted in wide-spread reports in the news media that there was a vast new oil field in the Gulf of Alaska rivaling the North Slope in size. The word "larger" is in itself meaningless. We must distinguish between "size" in terms of *potential* and in terms of *proven* reserves. These phrases have specific meanings in this context. Yet they are often used in different contexts by persons who do not understand the difference between *potential* and *proven* reserves. The difference is real. On the one hand, oil industry spokesmen say that this country's oil reserves are declining and that if things do not change, they are likely to continue to decline. From this point of view, one may decide that we are running out of oil. On the other hand, some experts have stated in effect that there is ample oil and gas in North America to supply our future needs for years to come. In the first statement, the spokesmen see that the reserves as barrels of oil or cubic feet of gas, *known to be present and capable of being produced*, are declining. This is true. Our demand for energy in general and petroleum in particular is increasing and the recent fact of the matter is that known reserves are not keeping up with this demand.

The second statement is entirely different from the first and refers to the *potentially produceable, but as yet undiscovered* oil and gas underlying *North America*. As a basis for this statement, knowledgeable experts have studied the basinal areas of North America and using among other things, the volume of stratigraphic section present have concluded that considerably more as yet undiscovered oil and gas exists in North America than the total amount of oil and gas that has been produced here as yet. The critical fact is that the experts do not know where these undiscovered petroleum accumulations are located. They may know the general areas, but because it is extremely risky to speculate as to the possibilities of oil in any geologic formation merely from looking at the surface without extensive drilling, must wait until extensive exploration has been conducted. Until then, all of these potential production areas are still just possibilities.

What are the elements necessary for oil and gas accumulations? Simply stated, there are three. One requirement is that of a trap such as a structural anticline. A second requirement is that of a satisfactory stratigraphy. That is, porous rocks in which the trapped oil can reside, over-laid by impervious rock. The third requirement is that there must be oil or gas in the area which is available to be trapped within the porous rock structures.

My attention was first drawn to this Committee's Background Study when I was obliged to respond to inquiries about the mythical vast new oil fields in the Alaska Gulf. The Alaska Gulf lies off Southcentral Alaska, rather than off shore Northern Alaska as the Background Study indicates.

The Alaska Gulf is an extremely large body of water extending for over 600 miles, east and west. The oil industry has obtained some seismic data in part of this area. Large underwater geological structures are present beneath the Gulf of Alaska and could provide the necessary traps for possible oil or gas fields.

These structures occur in a portion of the Gulf of Alaska beneath deep waters—from 40 to 200 fathoms and are found many miles from shore. On shore along the coast, there have been drilled a few holes, but no commercial production has been encountered. Shows of oil are known to be present and approximately

125 oil seeps have been noted. Porous rock has been indicated in some onshore wells, but there is no evidence as yet that this rock extends out under the water into the area of the large geologic structures.

Only one well has been drilled in the Gulf, on Middleton Island, and this was a dry hole. *While the Gulf appears to have potential, presently it does not contain one single proven well and has not produced one barrel of oil.* To be of commercial significance this area will have to indicate oil in very large quantities. The area is remote and the environment severe. Winds of 100 to 125 miles per hour commonly occur. Waves in the area have been reported between 85 and 95 feet high. A small oil field would not be able to support the high cost of development in this area, any more than it could on the North Slope.

As Governor William A. Egan of Alaska stated in a letter to the Honorable William T. Pecora, Under Secretary of the Interior, dated December 16 1971:

"(T)he State of Alaska has grave concern with respect to industry's technological ability to adequately cope with safety problems involved in the beyond Territorial water limit of the Gulf of Alaska. As you know, all outer areas of the Gulf of Alaska are "wild waters" so to speak. Vicious storms with attendant hurricane-like winds and extremely harsh seas are regular occurrences throughout the entire perimeter of the North Pacific ocean. Let us take Cook Inlet, for example. Comparing the hazards and ferocity of storms offshore in the Gulf of Alaska with problems that may have been encountered from the standpoint of industrial operation safety in Cook Inlet would be akin to comparing storms along the Potomac River to storm hazards that regularly occur in the North Atlantic Ocean.

"I am convinced that Gulf of Alaska petroleum industry exploration and development is fraught with far too many dangers with respect to the rich marine life environment that exists there together with the safety risks involved with regard to the manpower that would be necessary to man the projects to take a chance on leasing such submerged lands in the foreseeable future. It might very well be that in another decade, science and industry together may have devised safe methods of development that will overcome what I firmly believe to be lack of positive capability to cope with the risky violence of offshore storms.

"Another highly important consideration that I believe should be a matter for immediate evaluation by our Nation's National Security Council deals with the overall question of the wisdom of petroleum development on Federal offshore lands at the present time. Given the projection of further petroleum product needs by the United States, I am convinced that the petroleum resources of Federal offshore submerged lands throughout the Gulf of Alaska area as well as off all other coast lines in the United States should be held in reserve as energy and money in the bank, until all other petroleum resource reserves of the states and Federal Government have been fully developed."

Nevertheless, the *potential* for oil development does appear to be there in the Gulf of Alaska. And, rather than wishing to hold back on exploration, I am informed that the oil industry has attempted to persuade the Interior Department to release acreage for bidding so that they can explore the area to determine the actual presence of oil. To my personal knowledge, various oil companies have been requesting a lease sale in the Gulf for at least four years—and a number of these are companies with substantial acreage on the North Slope.

Offshore Washington and Oregon looked equally promising a number of years back. At that time it was thought that these offshore areas might become a petroleum province. Like the Gulf of Alaska area, there were oil shows in wells on shore and examination of rock outcroppings indicated potential reservoir rocks. Seismic mapping out to 600 feet of water delineated large structures that might have had significant potential as traps. Numerous leases were issued and a large number of wells were drilled. After no production was found, all the wells were abandoned and the leases were dropped. The presence of large structural traps only was not sufficient to make this area a success. Although I hope this does not result from explorations of the Gulf of Alaska, the same might also be true of the Gulf of Alaska. We just will not know until numerous wells have been drilled.

As for the alleged preliminary assessment of the area by the Interior Department, the Under Secretary of the Department and former Director of the U.S. Geological Survey has flatly denied that the Department has any assessment of the potential of this area whatsoever. This is true even though plans

for eventual leasing have been proceeding for some time and a draft of the necessary environmental impact analysis is being undertaken.

The continuing demand for petroleum requires our best efforts to provide secure sources of supply for the people of the United States. The recent huge discovery on the North Slope at Prudhoe Bay, while being the largest field in North America, is not the complete answer to our problem. Additional or large reserves must be found even to approach our total needs. We cannot now count on the Gulf of Alaska or any particular one of the several offshore areas with possible potential as being a proven province since they could all turn out to be like the area offshore of Washington and Oregon and prove to be non-productive.

It will probably take many years of work to determine whether or not a province is productive and if petroleum reserves are available to meet our future needs. The evaluation will only come after drilling numerous wells in these extremely large provinces. Because of the long time required to evaluate and to bring new areas into production, a well-planned program of exploration encompassing all of these potential provinces is needed to determine whether the potential reserves are in fact available to meet our needs in the next ten to fifteen years.

Believe me, we are far from being in a position in which we are able to "salt away" or preserve our proven reserves in the ground for future needs. It is going to take a good bit of exploration and engineering skill in addition to capital to find the reserves needed to keep this Nation going. There is evidence that it can be done, given a reasonable economic climate for our petroleum industry to find and develop these naturally occurring, vitally needed petroleum reserves.

There are, however, several additional points in the Background Study which deserve comment.

The Background Study API estimates 9.6 billion barrels as the level of proven reserves for the North Slope. Other estimates have ranged on either side of this figure. Regardless of which estimate we may prefer, the magnitude of the reserve span cannot be considered as reversing permanently the downward trend of new discoveries.

As Table One of the Committee's Background Study shows, net annual additions to reserves have decreased fairly consistently from a positive 1 billion barrels in 1953 to a negative 1 billion barrels in 1969, with the exception of a 1 billion barrel addition in 1959. Just as the irregularity of 1959 could not be interpreted as a trend-reversal at the time it occurred, the North Slope reserve addition does not make 1970 a trend reversing year; neither can the fact that in 1970 net reserve additions, excluding the North Slope, decreased only 231 million barrels.

Discoveries of new fields, also presented in Table One of the Background Study, show a range, excluding the North Slope, of about 90 to 240 million barrels per year during the past ten years. It is evident from this series of data that even the 9.6 billion barrel discovery cannot be considered as signaling a permanent turnaround in our finding efforts. Further, it should be remembered that the 9.6 billion barrels would satisfy current demands for domestic crude oil for only three years and would fulfill total demands, which include imports, natural gas liquids, and domestic crude oil, for two years at a maximum.

We can also put the 9.6 billion barrel discovery into perspective by comparing it to a forecast of demand for petroleum. Since 1968, demand has increased at a rate of over 4½ percent annually. Recognizing this increase, but using a more conservative growth factor of four percent, demand for 1980 is estimated at 21.2 million barrels per day. The contribution of North Slope production to this demand requirement has been estimated at 1 million to well over 2 million barrels per day. If we assume two million barrels, and also that "Lower 48" production will continue at the indicated 1971 level, and that imports will be held at 25% of demand, about five more "North Slopes" must be found by 1980 just to maintain our present level of reserves.

Another way to place the North Slope reserve estimate in perspective is to measure those reserves against the expected growth in demand. If we assume that today's total demand for all oil will grow at a rate of 4 percent, and that the North Slope reserves are produced at a rate of 2 million barrels per day, then presently proven North Slope reserves can satisfy the expected demand growth for about three years.

Along with the Department of the Interior, Bureau of Mines, and the Federal Power Commission, I am convinced we are heading into a period of serious energy shortage. I do not believe it is any service to the public to indicate that the North Slope will yield permanent security.

As I am sure you are aware, Alaskans hope to soon hear that the delays in approving the right away permit will end. However, it is not possible to indicate when the first barrel of North Slope crude oil is going to reach the market—much less the first cubic foot of natural gas from that area.

While I wanted to comment in particular about the aspects of the oil and gas situation in Alaska, I would, with your permission, add a word or two about petroleum prices—the central subject of this hearing.

To assure a healthy domestic oil industry that will locate adequate reserves to protect our national security, we must provide an economic environment that will draw from private investment the billions of dollars required for exploration and development of new areas. In our free enterprise system, this economic environment must assure a fair return on investment.

According to the Chase Manhattan Bank's "Financial Analysis of a Group of Petroleum Companies; 1970", the return on average invested capital in the United States for the group of 28 oil companies studied declined from 12.6 percent in 1967 to 9.9 percent in 1970. Despite a four percent growth in the demand for oil, net income in 1970 was at its lowest level in the past four years, reflecting the combined impact of higher costs, higher taxes, and weak prices. In recent years, the oil industry has become increasingly dependent on the money market for funds needed to meet the expanding requirements for new capital investments. This increasing demand for borrowed capital cannot continue without limit. It is an extremely serious situation which may have far-reaching effects on our international posture as well as our domestic situation.

The Mandatory Oil Import Program was instituted in the interest of national security to maintain a vigorous and healthy domestic petroleum industry. Its mechanism is the restriction of imports and areas where exploration and development costs have been abnormally low in order to maintain the incentive of a price that will provide a fair return on investment in the United States, where exploration and development costs are relatively high. Despite this effort, the Import Program has been criticized for not having improved exploration and development rates and reserve levels. This criticism is not completely fair, however, as additional deterrents have been unfavorable; economic and political climates—oftentimes prevailing. Certainly with no protection whatsoever from imports, the domestic industry would not be able to explore adequately the remaining areas of promise in the United States.

Another criticism of the Oil Import Program is its alleged high cost to consumers. The Background Study presents a figure of 5 billion dollars per year. This I assume to be the same figure developed by the Cabinet Task Force study. For several reasons this estimate may be inaccurate. The 5 billion dollar figure was arrived at by projecting a high delivered cost advantage for foreign oil actually prevailing only for a few months in the twelve year history of the Import Program. At times during the past year the advantage has disappeared completely. This is but one example.

In addition to this major inaccuracy, off-setting credits of the import program must also be recognized. These include the availability of low-cost natural gas resulting from oil exploration, tax payments and lease bonuses, and payrolls of reliable domestic industry. Consequently, the net social cost of the Import Program would be but a fraction of the 5 billion dollar estimate. Such an amount surely is a reasonable price to pay for our national security through the maintenance of a healthy and viable domestic oil industry.

So far as the cost of energy in general is concerned, I believe the handwriting on the wall is clear. Whether we are going to get our energy from conventional domestic sources like oil and gas or turn to imports and synthetics, the price curve is pointed upward.

We can press the oil hunt into still more remote and deeper areas. We can expand the use of secondary and tertiary recovery methods in older fields; we can import oil and oil products from half way around the globe. We can gasify coal. We can attempt to develop oil shales and tar sands. But, whatever we do, energy is going to cost more in all probability.

This is not to say that current prices are not a matter of legitimate concern. We are engaged in a national effort to halt inflation, and no price increases which cannot be justified can be tolerated.

As the search moves out into frontier areas, both geographically and technologically, the domestic oil industry must drill deeper, explore areas farther off shore in increasingly deeper waters, improve recovery techniques, and probe extremely remote and difficult areas such as the Alaskan North Slope. For example, I am informed that the costs for drilling four wells in the Prudhoe area have ranged

from 3.5 million dollars to 7.5 million dollars each and have averaged 5.7 million dollars. Such costs are approximately twenty times as much as the U.S. average onshore oil well drilled to comparable depths. I am told that the costs of supporting a seismic crew on the North Slope are nearly three times the cost of maintaining a crew in the Lower 48. One company has spent 7.5 million to build a North Slope campsite, including 2 million dollars just to handle sewage. The proposed pipeline across Alaska is now estimated to cost over 2 billion dollars at a cost per mile more than five times that for a similar sized line in the Lower 48 states. In addition, and of extreme importance to me and the people of my State, the delay has had a severe impact on the Alaskan economy and Alaskan employment.

I believe that a secure supply of petroleum is essential to the well-being of our nation, and that our efforts to develop new sources of oil should be increased. Because of the risks involved, the huge capital investment required and the time lag inherent, even under normal circumstances, between initial exploration investments and the realization of a return there must be an assurance of a stable and encouraging economic environment for this to occur.

This Nation must continue to look to its own oil industry for the major portion of its supply, if we are to avoid becoming overly dependent upon unreliable foreign sources.

Congress should exercise control and closely watch our domestic oil industry. This responsibility carries with it the concurrent responsibility to insure that the energy needs of the people of the United States are met. Only by a firm commitment to a fair policy for all concerned parties can our government insure that we will not tie our foreign policy and our domestic energy needs to the whims of volatile foreign governments.

In closing, I would just like to thank you, Mr. Chairman and the other members of the Committee for graciously permitting me to add my thoughts to your proceedings here this morning. I very much appreciate your courtesy.

Chairman PROXMIRE. Thank you very much, Senator Stevens. I think you put this into a proper and useful perspective.

There isn't any question but what the Gulf of Alaska does not represent a proven field but a strong potential and some of the outstanding geologists in the country have indicated that they feel very strongly there is a likelihood there is a great deal of oil there. It is not proven but there are difficulties there, as you say so well. It does represent a potential. We hope it is a near term potential and we hope that work can go on in exploring and perhaps even producing before we finish with the North Slope.

Let me ask you about the oil import program.

You say it was essential to the development of the North Slope?

Senator STEVENS. That's right.

Chairman PROXMIRE. Well, that is your judgment. I think you may be completely correct if they had nothing in its place; but most of the critics of the oil import program said that it is not doing its job; the situation is worse now than it was when the oil import program began; the proven reserves in relationship to the needs are less; they are not better. There are also a number of other alternative ways of providing exploration incentive that would be cheaper and there is every indication they might be more effective.

What is your response to that?

Senator STEVENS. Mr. Chairman, I would say this: The oil import program represented a governmental attitude that domestic exploration and development was a high priority in relationship to national security and the stability of our energy industries as far as the Nation is concerned; and I view that security not in terms necessarily of military security as much as the security of our relations with foreign countries. Certainly if it had not been for that attitude, which was expressed so well by President Eisenhower, the oil industry could well have in-

terpreted the Nation's mood to be to use the foreign oil supplies first and leave our oil reserves for some future exploration and development. That could well have been the attitude at the time.

At the time the oil import program said that the oil industry of this country demands and needs a stable oil reserve and by that I mean proven reserves; and at the time when oil imports were coming in at absolute dump prices from the Middle East, this was the only thing that could have preserved the domestic healthy exploration and development program.

As you say, it is my opinion, but I feel categorically that the oil industry would not have gone into Alaska to develop the reserves had it not been for the limitations involved in the oil import program.

You were looking at the oil import program from an economic point of view, and you are justified in doing that. I, however, disagree with some of your staff comments concerning the economic advantage of it. There is no question that the oil import program, through the use of oil import tickets, stabilized the production of marginal fields and the operation of marginal refineries in the Midwest and other portions of the country and did, in fact, offer the stimulus to explore to the North Slope.

Chairman PROXMIRE. You see what bothers me, there is a great deal of documentation—I have been studying some of it over the weekend—indicating that in spite of the great advantages that we give the petroleum industry, not only in terms of the oil import program, which is lesser, I suppose, than the—some of the other advantages—tax advantages and proration advantages in this country—that in spite of all that they are devoting a lesser proportion of their income to exploration within this country, within the United States, than they were before. It just isn't providing an effective incentive. It is not doing the job.

Not only do you not have an increase in reserves but it is failing to encourage the companies to invest as high a proportion in exploration as they were before. They are investing more in marketing; they are investing more in refineries; they are investing more in many other areas, even including investments in chemicals and so forth; and they are investing more abroad. And I am not talking about abroad in Canada; I am talking about abroad in the Near East; I am talking about abroad in other parts of the world than they are in this country.

Senator STEVENS. Recognizing some of the attitudes expressed in the Congress, if I were in the oil industry I would invest some abroad and some here, too. It is hard to tell what is going to happen, and if the oil import program is in fact destroyed, certainly a company that didn't have any reserves abroad would be without production.

Chairman PROXMIRE. Let me just say this: The whole purpose of this program, as I understand, the reason we give these enormous tax advantages and this oil import program, and so forth, is so there will be a development of proven reserves that will be militarily secure, that will be in accordance with the need that you have expressed very well this morning, for secure energy resources.

But it is not doing the job. It is not working. It is ineffective.

Senator STEVENS. I would hope that you would look at some of the other costs that are involved in the total trends. I am not being critical of these trends; please understand that. You say money has been put

into marketing, more money into refineries, and more money into the total delivery of the oil and gas; that is true.

Look at the price of the Alaska pipeline, estimated at less than \$900, million when we started in 1969; it is well over \$2 billion and I am informed it will probably reach \$3 billion. Those costs are directly attributable to the environmental concern of the public, and this the public is going to have to pay for that concern in the cost of refineries. When a refinery takes water out of the Alaska Cook Inlet, the water that goes back into the Cook Inlet is purer than when it came out and that is a cost of refineries.

As far as the total marketing methods, look at some of the social costs that are involved. We are involved in this in Alaska, and I thank God we are. All of the new service stations in the suburban areas must now be built so that they blend with the community; they're no longer just set up by putting up a pump on the corner; the new service stations that have fencing and protective walls cost millions of dollars.

As I pointed out in my prepared statement, the return on the average invested capital for the group of these oil companies, 28 of them declined from 12.6 percent in 1967 to 9.9 in 1970 despite a 4-percent growth in demand for oil.

I am certain we are going to see that 1971 was even lower.

These are some of the costs that we are facing as we go into the social concern area, but those costs are going to have to be borne partially by the consumer. They are already being borne partially by the industry.

Chairman PROXMIRE. All right. Let me just ask you one final question.

I have heard it argued instead of building a trans-Alaskan pipeline, it would make more sense to build a pipeline across Canada. The advantages would be the following: (1) less environmental threat; avoid the earthquake zone; (2) would use common right-of-way which, with gas pipeline which must be built anyway; (3) would come more directly to the Midwest where the oil is needed; (4) it could carry Canadian as well as Alaskan oil; would encourage development of Canadian oil for U.S. use.

How do you feel about that alternative, Senator Stevens?

Senator STEVENS. Well, let me take them as I see these arguments.

In the first place, regarding the threat to the environment—people say that they are concerned about this earth and I fail to see how a 2,400-mile pipeline that is 4 feet wide and extends laterally across all the drainages of Canada, would produce less environmental harm than 800 miles which extend north and south.

Chairman PROXMIRE. It depends on where it is. I am talking about the earthquake zone.

Senator STEVENS. The earthquake zone exists in Canada as well as Alaska. But the real environmental harm is the total problem of the earth. It is cheaper and safer to move oil by water than it is to move it across those 2,400 land miles. The cost of that oil by the time it got to Midwest markets would exceed the costs of transportation under present means.

Let me talk about the common right-of-way. The gas pipeline will, in fact, go through Canada. The Midwest is probably the most insatiable area in the world as far as demand for natural gas is con-

cerned. The west coast has the most insatiable demand for oil. We know this because the oil import program in fact made a difference between district V and all the other districts, I through IV of the United States, and they had proven to be right—the original concept of the demand on the west coast.

But in order to get the gas to the Midwest you have to produce the oil and you have to produce it at a rate that can pay for itself and make some profit, because as I pointed out, Alaskans are the royalty owners and we are not going to see that oil transmitted into the Midwest and have it end up at the other end of the pipeline with a value of zero. So the people of the Midwest had better get hold of their hole card and examine the notion that if you are going to get the gas into the Midwest, the oil has to go to the west coast because that is where the return is greatest and that is where the demand is greatest.

As far as the total of the Alaskan oil potential is concerned, let me point out that it is just as speculative, the concept that there is vast Canadian—

Chairman PROXMIRE. Let me just interrupt. Are you saying it is cheaper to send it through two pipelines and a tanker than one pipeline? You see, the Canadian—across-Canada pipeline would go to the big market you talked about in the Middle West through one pipeline. If you are going to send it through California you are going to have to use the pipeline anyway and also tankers.

Senator STEVENS. I don't know where your staff had connection with the oil industry but I hope they learn the difference soon between sending natural gas through a pipeline when it is 60 below and sending hot oil through a pipeline when it is 60 below. That oil on the North Slope is hot; it comes out of the ground almost boiling and you are certainly not going to put gas and oil in the same pipeline.

The criteria for building the pipeline in Alaska are the toughest in the world. This is an 800-mile oil pipeline we are talking about; it is a 2,400-mile gas pipeline and the costs are definitely different, you couldn't use the same pipeline. But the real point is that people are trying to say that somehow or other the environmental concerns are leading to this. I have great respect for your integrity in terms of economic aspects of this country, and I hope you don't mislead the country concerning that because it is not environmental concerns that are leading to the consideration of the Canadian pipeline; it is strictly economics. Because the demand there is great, the Midwest wants that oil directly instead of having it first travel through the Alaskan pipeline and coming down by tanker with only part of it reaching the Midwest. That is not environmental concern; that is economic concern and I don't think people should talk about environmental concerns in order to accomplish an economic goal.

Chairman PROXMIRE. Senator Stevens, I want to thank you very, very much. You have been an excellent witness. You are obviously well informed in this area and you have given us a fine beginning in these hearings and a solid record.

Senator STEVENS. Thank you very much.

Chairman PROXMIRE. I would like our next three witnesses to come up together. We will hear from them in alphabetical order. Our three witnesses represent a vast body of experience with Federal oil policy.

Thomas F. Field was for 6 years a trial attorney in the tax division

of the Justice Department. Following that he was an attorney-adviser for the Treasury Department's Tax Legislative Counsel from 1966 to 1970. In both these positions he specialized in matters relating to the tax treatment of oil. Mr. Field holds an economics degree from Oxford University as well as law degrees from Harvard and Georgetown. Since he has been executive director of Taxation With Representation.

I want to take this opportunity to tell you, Mr. Field, what a wonderful job that organization is doing. Your organization represents one of the most hopeful developments in years for the cause of tax reform.

David Freeman, who is now a professor at the University of Pennsylvania, was until just a few months ago head of the Energy Policy Staff of the President's Office of Science and Technology. He held this position in both the Johnson and Nixon administrations. If this country ever does succeed in developing a rational energy policy, David Freeman will deserve a great deal of the credit for it.

Richard Mancke teaches at the law school of the University of Michigan. However, he is an economist with a degree from the Massachusetts Institute of Technology. I gather, Mr. Mancke, that you are now charged with trying to teach economics to law students, a most worthwhile if impossible task.

Mr. Mancke was on the staff of President Nixon's Cabinet Task Force on Oil Import Control. The report of that task force is one of the most frustrating documents of recent history. A marvelous analysis; excellent recommendations; no action. One thing we certainly want to ask in these hearings is what happened to that report and why.

Mr. Field, please go right ahead.

**STATEMENT OF THOMAS F. FIELD, EXECUTIVE DIRECTOR,
TAXATION WITH REPRESENTATION**

Mr. FIELD. Thank you, Mr. Chairman.

I want to thank the subcommittee for this opportunity to talk this morning about the effect of our current tax policies on oil prices. I am going to speak extemporaneously now, but, as you know, I have a prepared statement which I would respectfully ask to have made a part of the record.

Chairman PROXMIRE. Yes; without objection. It is a detailed prepared statement. Without objection each of these prepared statements will be printed in full in the record and you can all abbreviate your prepared statements to fit the time necessary and have some time to answer questions.

Mr. FIELD. Thank you, Mr. Chairman.

I would like to take the liberty of making just a comment or two about the oil import quota program before I begin my remarks on the tax policies that are currently in operation with respect to oil. I don't pretend to be a great expert on the oil import quota program, but I have done a bit of scholarly research on oil quota matters for the Center for Political Research here in Washington. On that basis, I would like to make these two brief comments:

First of all, it is important to remember when we consider the discovery of the North Slope crude oil reserves, that the key to the discovery of those reserves does not appear to have been the oil import quota program but rather the drilling of exploratory wells on the U.S. Naval Petroleum Reserve on the North Slope. As you know, the U.S. Navy has several petroleum reserves, one of which is on the North Slope of Alaska.

Exploratory drilling on that U.S. naval reserve provided geological data which, when made public, led experienced geologists in oil companies to suspect that there might be substantial oil reserves elsewhere on the North Slope. Now, I don't say that the Government-sponsored drilling was the only factor leading to the discovery of oil on the North Slope. I do say, however, that it was an important factor. This suggests that we might look seriously, if we are concerned about national security, at an expansion of our program of geological mapping and at an expansion of our program of Government-sponsored exploratory drilling, because our experience indicates that the North Slope reserves were attributable in important part to exploratory drilling by the U.S. Navy.

Second, and this is the only other point that I want to make this morning about the oil import quota program, it seems obvious to me, as a layman reading the report of the Cabinet Task Force on Oil Import Control, that there are cheaper and better ways of promoting national security than the existing oil import quota system. The industry is simply "wrapping itself in the flag" when it talks about national security in connection with oil import quotas. The quota system is a way of keeping prices up, not a way of effectively promoting the national security of this Nation.

Now let me turn to our tax policies and the main thrust of my comments this morning. The basic point I want to make is that our current Federal tax policies result in two seemingly contradictory tendencies so far as petroleum prices are concerned. On the one hand, our tax policies provide an incentive for keeping the prices of crude petroleum up; on the other hand we must recognize and admit that our current tax policies also have some effect in keeping down the prices of petroleum products such as gasoline, home-heating fuel, and the like. I will have more to say about the second point in a few moments.

But I would like to concentrate, first of all, on the point that our current tax policies keep our crude petroleum prices up. What we have in the tax area, so far as an integrated petroleum company is concerned, are really two separate tax jurisdictions: We have a low-tax jurisdiction, which is the production jurisdiction, and we have a high-tax jurisdiction, which is the refining and marketing end of the business.

The principal way in which taxes are kept down on the production side is through percentage depletion. The intangibles drilling and development deduction is also a very important factor in keeping Federal taxes low on the producing side of an integrated petroleum firm's business.

Naturally an integrated firm will want to siphon as much as possible of its taxable profit into the producing side of the business. There

the profits will be taxed less heavily than they would be on the refining side.

This is a little bit like the situation that we find in connection with what attorneys call tax-haven jurisdiction. A tax haven, such as the Bahamas, Panama, or Liberia, is, generally speaking, a country where there are no income taxes or low income taxes. Companies that have a choice prefer to incorporate there in order to enjoy the low-tax climate. Furthermore, they do their best to siphon as much of their profit from worldwide operations into those tax havens as they possibly can. We have tools in the Internal Revenue Code—section 482 and subpart F of the Internal Revenue Code—to deal with the movement of profits from one country to another, from a high-tax country to a tax-haven country.

In the petroleum industry we have very much the same situation. We have a "tax-haven" situation in which production profits are taxed lightly while refining and marketing profits are taxed at normal rates if they stay on the refining and marketing side of the business.

The problem facing the petroleum firm's tax manager is how to get his profits into a "tax haven" area where they will be subject to the low taxes that percentage depletion and the intangible deductions guarantee. This is done by simply raising the prices which are charged to the refining division of the business for the crude petroleum which it needs. This increase in prices has two effects: The first is to increase the percentage depletion deduction because, as I am sure virtually everyone here knows, percentage depletion is computed as a percentage of the selling price of crude petroleum. The higher that price for crude, the larger the percentage depletion deduction. Thus there is an incentive to raise crude oil prices in the very existence of the percentage depletion deduction.

Indeed, at this point I might remark parenthetically that it was to protect the crude oil price structure in the mid-1950's, including the depletion deductions which were a part of that price structure, that we introduced the oil import quota program. The quota program has certainly been successful in keeping prices up and providing a protective umbrella for price increases and depletion claims since that time.

In any event, the first advantage of high crude prices is the depletion advantage, the increase in the depletion deduction that results from each increase in the price for crude oil. Every additional dollar of profit that is moved to the production side of the business as a result of higher crude oil prices is one less dollar of profit subject to high normal tax rates on the refining or marketing side of the business.

I have had responsible industry executives tell me that the refining and marketing sides of their business are virtually break-even operations. If that were so, I think that we would find some disinvestment going on. Major oil companies would be selling off refineries, but instead what we find is that the major oil companies continue to refine a very large percentage of their total production.

There is another and, I think for the purpose of this hearing with respect to the topic of competition, a very important effect of high crude prices. That is that the independent refiner and marketer finds his position more difficult. The independent petroleum refiner and marketer has to buy all of his crude requirements at open-market prices. He actually has to pay the higher prices for crude that are posted in the open market.

In contrast, the integrated producer has to pay the higher posted crude oil prices for only that portion of his total needs which he purchases from the outsiders. So far as the bulk of his production is concerned, the crude oil prices we are talking about are simply transfer prices, you see, prices which result in bookkeeping notations on the company's books, but which do not result in cash payments to outside parties.

So, in short, there is in the tax system today an incentive to push crude prices up (a) to maximize depletion and profits after taxes, and (b) to drive out competition in the form of the independent refiner and marketer. These incentives result from our current tax rules which shelter crude oil profits by means of the intangibles deduction and the other tax advantages that are available only on the production side of the business.

This gimmick of pushing up posted prices for crude oil so as to establish high prices for "self-produced crude" has been challenged in only one instance by the Internal Revenue Service. That case involved the so-called Persian Gulf oil audits which were developed in the middle of the 1960's as a result of a study which lasted for more than a year and a half. I won't go into those audits in detail; I discuss them in some detail in my prepared statement. But I think we can summarize them by saying that the result of the audits was to drive down the posted prices for Persian Gulf crude from \$1.80 to approximately \$1.30 a barrel. That may not sound like a very large shift, but the change in those posted prices for tax purposes, as a result of IRS audits, resulted in the largest tax deficiency assessments ever made in the history of the Internal Revenue Service.

When we turn to the domestic situation, I think it is fairly clear that the time has come for similar IRS scrutiny of domestic posted prices. It is obvious that there are tax incentives to push the posted price for crude upward, because percentage depletion increases as crude prices go up. It is also obvious that major companies such as Standard of Jersey, Texaco, and Gulf, which obtain most of their crude oil from their own reserves, can increase after tax profits by paying high prices to outsiders for the small portion of their total crude oil needs that they must purchase. This is so provided that they are then allowed to use those high prices as internal transfer prices for the much larger amount of crude which they produce for themselves. That alternation in internal transfer prices results in higher after tax profits, even after the higher prices paid to outsiders are taken into account.

I don't want to mislead the subcommittee about the difficulty of analyzing crude oil prices. This is not a matter of just taking a figure, crossing it out, and writing in another. It is a matter, first of all, of getting the SEC to push for better divisional reporting of petroleum industry results, so that we know how much money is being made on the refining side of the business and how much is being made on the production side. At present, all we can do is opine or suspicion that the refining side of an integrated firm will seem much less profitable than the production side of the same business. So the first step is better divisional accounting by the petroleum companies in their SEC reports.

Another very important step is the collection of better economic data with regard to the petroleum industry. The petroleum industry

is one of the very few industries that still collects, without much governmental supervision, most of the statistics that relate to the industry. I think it is time for the Internal Revenue Service, in particular, to push hard for better reporting of petroleum data. Quite frankly, the IRS has some of this data now, because the service required form O and form M to be filed by all companies claiming percentage depletion with respect to the year 1967. Those data have been compiled by the IRS with respect to a limited number of companies—the 25 largest—but the data have not been published. Petroleum economists and attorneys studying the petroleum industry certainly can't do anything constructive with unpublished data.

Furthermore, as I understand it, the IRS has failed to compile the form O and form M depletion data with respect to smaller firms. But those firms area very important so far as data publication is concerned, because they may very well furnish the yardstick by which we can measure the performance of the larger integrated firms.

If the IRS decides to study crude petroleum prices, I do have one recommendation to make, and that is that the existing IRS offices in the petroleum area not conduct this study. Although I have good friends who are solid people in some of these offices, the fact is that I regard many of the people who staff the IRS petroleum and minerals groups as superannuated and as people about whose loyalty to the service and to the public interest I sometimes have had questions.

So, as a consequence, I would suggest that, if IRS decides to look at posted domestic prices for crude, some new group—such as the Office of Industrial Economics, which the IRS is just setting up in connection with the asset depreciation range system—be called upon to look at this subject.

I might remark, in closing, that in suggesting the possibility of an IRS study of posted prices to your subcommittee, I am encouraged to note that the current Commissioner of Internal Revenue, Johnnie Walters, has, as I understand it, indicated in correspondence with your office that domestic posted prices may very well be noncompetitive and, therefore, improper for use in depletion computations. It appears that Mr. Walter's views are a result of the factors that I just outlined and also a result of State prorationing, which obviously distorts the crude oil price structure. So it seems to me that the time may be favorable precisely because there is in office a man who is concerned about the property of using domestic crude oil posted prices in depletion computations.

Well, that concludes my oral remarks. I am open to questions either now or later, either on what I have just said or on anything in my prepared statement.

(The prepared statement of Mr. Field follows:)

PREPARED STATEMENT OF THOMAS F. FIELD¹

THE TAX TREATMENT OF OIL

Mr. Chairman and Members of the Subcommittee on Priorities and Economy in Government:

Thank you for this opportunity to present a statement regarding the tax treatment of the American petroleum industry. In this discussion, I will first review the most important of the tax privileges enjoyed by U.S. petroleum producers

¹ Taxation With Representation does not take organizational stands. Accordingly, the views expressed are Mr. Field's, rather than those of his group.

and then suggest ways in which Federal tax policies can be redirected to encourage increased competition and lower consumer prices.

TAX PRIVILEGES ENJOYED BY OIL PRODUCERS—THE INTANGIBLES DEDUCTION

As you know, petroleum producers enjoy a variety of tax favors. Percentage depletion and the intangible drilling deduction are the best known of these. Both these provisions affect the way in which petroleum producers recover the capital that they invest in oil properties and producing facilities.

In an ordinary business, invested capital is recovered, tax free, through depreciation deductions that are taken throughout the useful life of the capital assets used in the business. This results in an accurate matching of revenues and expense and a correct reflection of income. Thus, for example, if a taxpayer invests \$100,000 in a machine that is expected to last for 10 years, he can take a depreciation deduction of \$10,000 per year for tax purposes.² At the end of 10 years, he will have recovered his \$100,000 investment, tax free.

In the oil industry, in contrast, if a petroleum producer invests \$100,000 in drilling a producing oil well, he is permitted to claim an immediate \$100,000 "intangible drilling and development deduction", even though his well is likely to produce oil for many years to come. This results in a serious mismatching of revenues and expenses and a distortion of the firm's income statement. In the typical case, the petroleum producer will show a paper loss in the first year—solely as a result of having written off his entire capital investment in that year—and exaggerated profits in all subsequent years.

This mismatching of revenues and expenses has important tax consequences. Because deductions are inflated by the accelerated "intangible drilling deduction", income and income taxes go down. That means the government will collect less revenue and will have to borrow an amount equal to the taxes not paid—with consequent interest costs.

It might appear that tax receipts would go up in the following years, but this does not happen in the typical case. The petroleum producer simply drills enough additional wells in subsequent years to "shelter" the income from his existing wells. Moreover, percentage depletion deductions also help to shelter his subsequent income from tax. In this way, tax liability can be postponed from one year to the next. In the meantime, the government must borrow (and incur interest charges) to replace the tax revenues that would otherwise have been paid by oil producers.

The long term cost to the government of the intangible drilling and development deduction is at least \$300 million per year.³ This amount represents a tax subsidy to the petroleum industry. The effect of this tax subsidy on the federal budget is the same as a direct subsidy in the same amount.

THE PERCENTAGE DEPLETION DEDUCTION

The percentage depletion deduction relates not to the capital invested by a petroleum producer in drilling a well, but rather to the capital invested in the oil in place in the ground—i.e., the money spent to acquire oil land. Like the intangible drilling deduction, percentage depletion generally accelerates the time when capital can be recovered tax free. In addition, it permits tax free recoveries that can—and usually do—exceed the actual amount invested, often by many times. Thus percentage depletion represents a twofold departure from accurate accounting: deductions are taken too early (as in the case of the intangibles deduction), and greater deductions are permitted than are justified by the facts.

This twofold distortion arises because percentage depletion—although ostensibly a means of recovering the capital invested in minerals—is computed as a percentage of the selling price of the minerals produced from a property, rather than by reference to the capital actually invested in those minerals.⁴ For ex-

² For simplicity, the example assumes straight line depreciation, and gives no effect to the recently introduced ADR system, extra first year depreciation for small business, and similar refinements.

³ The first year revenue effect of eliminating the intangibles deduction would be about \$800 million in additional revenue. The difference between short and long term revenue effects is due to lack of tax basis for existing properties because intangible drilling deductions have been taken in prior years. As tax basis increases due to capitalization of the cost of drilling new wells, depreciation deductions will also rise, thus cutting down the revenue gain from eliminating the intangibles deduction.

⁴ Another type of depletion ("cost depletion") is computed by reference to an oil producer's actual investment in minerals in place. But cost depletion is infrequently claimed, because percentage depletion is usually much more advantageous.

ample, suppose that an oil producer invests \$10,000 in acquiring drilling rights in oil lands, strikes oil, and sells the oil for \$100,000 per year for 10 years, at which time the well runs dry. He would compute percentage depletion as 22 percent of the selling price of his oil. His depletion deduction would therefore be \$22,000 per year for 10 years, or a total of \$220,000. Yet his original investment in the oil land was only \$10,000!

In the example just set forth, percentage depletion returns the oil producer's entire capital investment in the first year—far too early considering the 10 year useful life of the well. Moreover, in the typical case the producer "recovers his capital" over and over again. In the example just cited, the producer claimed depletion deductions that were 22 times as large as his original \$10,000 investment. This is not untypical. Because percentage depletion is computed by reference to sales income rather than amounts actually invested, it is entirely possible for petroleum producers to enjoy tax free "recoveries of capital" that are hundreds or even thousands of times larger than the amounts originally invested.

Oil producers are not the only ones who benefit from these special privileges. Percentage depletion can also be claimed by the owners of oil royalties—even though they are completely passive renters who do no drilling and take no risks. For example, if Farmer Jones grants an oil company the right to drill for oil on his land in return for a $\frac{1}{8}$ th royalty, Farmer Jones is entitled under present law to claim a percentage depletion deduction amounting to 22 percent of his royalty income. Yet he does no drilling or other work, and bears none of the risks of the drilling venture.

Another important point is that an oil producer can increase his percentage depletion deduction by raising his prices. This occurs because depletion is calculated as 22 percent of the selling price for crude oil. Consequently, if a producer raises the selling price for oil from \$2.70 to \$3.30 per barrel, he automatically raises his percentage depletion deduction from 59.4¢ to 72.6¢. Thus, the percentage depletion mechanism rewards petroleum producers who boost prices.

The long term cost to the government of the percentage depletion deduction is approximately \$1.3 billion per year.⁵ Thus the total long run cost of percentage depletion and intangibles, taken together, is approximately \$1.6 billion—\$300 million attributable to the intangibles deduction and \$1.3 billion resulting from percentage depletion allowances.

FOREIGN TAX CREDITS AND "ROYALTY TYPE" TAXES

The two provisions just discussed benefit all U.S. oil producers, whether they produce oily domestically or overseas. But the third major tax benefit enjoyed by oil producers goes almost entirely to those companies large enough to have substantial foreign operations. This is the ability to convert what are really royalty payments into artificial "taxes" that are creditable against U.S. tax.

In the United States, most land is in private hands, and it has long been customary for oil producers to promise landowners a royalty—that is, a share in the proceeds from the sale of minerals—in return for permitting oil wells to be drilled on their property. The traditional royalty has been $\frac{1}{8}$ th of the amount for which oil is sold. This royalty is treated as income to the royalty holder (subject, of course, to percentage depletion) and is excluded from income by the oil producer. The net result is that $\frac{7}{8}$ th of the oil income is taxed to the producer of a successful well, and the remainder to the royalty holder.

When the larger U.S. oil producers began to venture overseas shortly prior to World War II, they operate under royalty arrangements similar to those just described. However, in civil law jurisdictions (such as Venezuela) and in feudal monarchies (such as Saudi Arabia), the state rather than private individuals owned the mineral rights. Hence, royalties were paid to state authorities rather than to private persons.

After World War II, the oil producing countries began to press for higher royalty payments. It did not take the U.S. owned oil companies long to figure out that there were tax advantages to making these increased payments in the form of "taxes" instead of additional royalties. Royalty payments were excludable from income—in effect, they constituted a deduction from income which—assuming a 50% U.S. tax rate—reduced income taxes by 50¢ for each dollar of additional royalty. In contrast, if these additional payments could be turned into "taxes," they would be creditable against U.S. tax. That meant that each dollar of "tax" paid

⁵ In the short run, the revenue gain from eliminating percentage depletion would be about \$1.5 billion. The difference between the long and short run revenue effects is attributable to the gradual increase in cost depletion deductions, as oil producers begin to recover their investment in oil lands through cost depletion.

to a foreign government would reduce a firm's U.S. tax bill by \$1.00. In effect, the additional royalty payments to foreign governments would come out of the U.S. Treasury.

Of course, foreign governments would have to cooperate in this charade, and the U.S. Government would have to disregard the realities and pay attention only to the external form of the transaction. Both these tasks proved quite easy. The Saudi Arabian government adopted an income tax statute—which, I am told, was drafted by oil company lawyers in a New York City law office. The statute effectively excused everyone except oil producers from paying the tax.

Armed with this "income tax statute", oil company representatives descended on Washington to induce the Internal Revenue Service to allow U.S. companies operating in Saudi Arabia to credit this "tax" against their U.S. income tax liabilities. The result was an Internal Revenue Service ruling, I.T. 4038, holding that the Saudi Arabian "tax" was creditable, dollar for dollar, against U.S. tax. This left both the Saudi Arabians and the U.S. oil companies better off; the U.S. Treasury was left holding the bag. With the next few years, virtually every foreign country in which U.S. minerals producers operate had adopted "royalty type taxes" so as to take advantage of this I.R.S. ruling.

The net effect has been to relieve U.S. firms that produce oil in foreign countries of one of their major costs of doing business in the U.S. U.S. producers, such as the independent domestic wildcatter, must continue to pay royalties to land owners in return for drilling rights. U.S. firms operating overseas must also make substantial payments to landowners—i.e., foreign governments—in return for drilling rights, but they are able to pass these costs along, dollar for dollar, to the U.S. Treasury.

I know of no reliable estimates indicating the dollar amount of the tax losses resulting from allowance of tax credits for "royalty type taxes". However, one can make some educated guesses. There "taxes" now constitute better than 50% of the selling price of foreign oil. Since U.S. companies realize about \$4 to \$5 billion per year from the sale of oil, a conservative estimate would place the cost of these "royalty tax credits" at from \$2 to \$2.5 billion per year.

In making estimates of this sort, one difficulty is separating genuine tax levies from ersatz "royalty type taxes". In some countries, such as Saudi Arabia, it appears that virtually the entire "tax" is really a royalty, because the Saudi Arabian government provides virtually nothing in the way of government services to U.S. petroleum companies or their employees. Hence, there is nothing to which one can attribute the "tax" except the desire of the feudal landholder for more revenue. In other countries, where the government provides infrastructure (such as roads and port facilities) and social services for company employees, at least some of an oil company's payments to the sovereign constitute genuine taxes. One is safe in concluding, however, that the bulk of the "taxes" paid by U.S. mineral producers to foreign governments are, in fact, royalties in disguise.

TAX ADVANTAGES ENJOYED BY ALL FIRMS

The major tax advantages outlined above are enjoyed by minerals producers only. However, when considering Federal tax policies that would encourage increased competition, it is also important to take into account several tax benefits that are enjoyed by all U.S. firms—not just those in the minerals industries—and that tend to encourage the growth of giant corporations at the expense of smaller competitors. Among these tax advantages are the following:

a. Liberal merger rules.—Subchapter C of the Internal Revenue Code contains an elaborate set of rules that are designed to facilitate corporate mergers by indefinitely postponing the taxes that would normally be due if a firm wishing to dispose of its assets simply sold them to a purchaser. These tax rules have made it much easier and cheaper for large firms to buy out their smaller competitors. The existence of these statutory rules, combined with the availability of I.R.S. tax rulings interpreting those rules in specific cases, has provided the tax underpinning for the merger movement that has swept the United States in the last two decades.⁶

b. Dividends received deduction.—Prior to 1964, a parent company was required to pay a small tax (amounting in most cases to about 7.5%) on dividends

⁶ In the minerals industries, the merger movement was further aided during the 1960's by the availability of Internal Revenue Service rulings with respect to so-called "ABC Transactions". In effect, these Internal Revenue Service rulings permitted the purchasers of mineral properties to avoid paying taxes on the dollars they used to make their purchases. As a direct consequence, major segments of the coal and uranium industries were acquired by petroleum producers in ABC transactions. Inter-fuel competition will decrease as a result.

received from subsidiaries. Since 1964, most dividend payments by subsidiaries can be received tax free by the parent company, under the provisions of Section 243 (a) (3) of the Internal Revenue Code. This facilitates the growth of large corporate groups which find it necessary, for one reason or another, to conduct their operations through subsidiaries. For example, petroleum producers are sometimes required by foreign law to operate through subsidiaries incorporated in the foreign jurisdiction in question. The 1964 amendments to Section 243 removed the tax penalty that this mode of operation once entailed.

c. Consolidated return privilege.—Under Section 1501 of the Internal Revenue Code, an affiliated group of corporations is permitted to file a “consolidated return”. When a consolidated return is filed, the losses incurred by one corporate member of the affiliated group can be offset against income earned by other members. For example, drilling losses incurred by a petroleum subsidiary can be offset against income of a refining affiliate. This procedure has obvious advantages for large corporate groups that wish to enter experimental ventures or high risk enterprises that smaller firms find too hazardous.

d. The “overall” foreign tax credit limitation.—The amount of the foreign tax credit is, in general, limited to the amount of U.S. tax on the foreign income subject to tax. But there are two alternative ways of computing this limitation. Under the so-called “per country” limitation, foreign taxes and income are considered on a country by country basis. Income earned in a low tax country cannot be sheltered from U.S. tax by tax credits generated in another high tax nation. Under the “overall limitation”, on the other hand, all foreign taxes and foreign income are aggregated, when computing the limitation on the foreign tax credit. Under the overall limitation, high foreign taxes in one country can be averaged with lower taxes in another foreign country. In this way, some petroleum producers shelter from U.S. tax the income generated in low tax countries where petroleum products are sold. They do this by applying tax credits—including “royalty type tax credits”—generated in high “tax” oil producing countries.

Taken together, the four tax rules just outlined—the Subchapter C merger rules, the 100% dividends received deduction, the consolidated return privilege, and the overall foreign tax credit limitation—have given enormous impetus to the merger movement in the United States and the the growth of multi-national corporations. To the extent that “bigness” stifles competition, these tax rules therefore have an adverse effect on the degree of competition within U.S. industry, including the petroleum industry.

EFFECT OF TAX ADVANTAGES ON BIDDING, DRILLING, AND PRICES

The ostensible purpose of the percentage depletion deduction and the intangible drilling expense deduction is to provide petroleum producers with the cash they need to drill more oil wells—especially exploratory wells. This additional drilling activity, in turn, is supposed to contribute to “National security”.

In fact, there is little hard evidence that the large tax losses attributed to percentage depletion and the expensing of intangibles actually produce any substantial increase in the number of wells drilled by petroleum producers. The most thorough analysis of the relationship between these tax privileges and drilling activity concluded that we obtain no more than \$200 million annually in new petroleum reserves in return for tax losses exceeding \$1.5 billion.⁷ Put another way, the revenue cost of our petroleum tax subsidies far exceeds the best available estimate of the benefits produced by those subsidies.

But if the tax benefits for the petroleum industry don't produce much additional drilling, what do they produce? Most people probably assume that industry profits are bloated, but the industry's rate of return on investment is approximately the same as that of other U.S. industries that pay much higher taxes.⁸

⁷ *The Economic Factors Affecting the Level of Domestic Petroleum Reserves* (commonly known as “The CONSAD Report”), prepared by the CONSAD Research Corporation for the Office of Tax Analysis, United States Treasury Department, 1968. This report was reprinted as Part 4 of *Tax Reform Studies and Proposals*, published jointly in March 1969 by the House Ways and Means Committee and the Senate Finance Committee. Although the CONSAD Report has been legitimately criticized in a number of minor respects by petroleum industry representatives, the industry has failed to produce any comparable study challenging the basic soundness of the CONSAD Report's conclusions.

⁸ Rate of return figures based on data provided by New York banks indicate that the industry rate of return is somewhat below that of U.S. industry as a whole. In contrast, Federal Trade Commission estimates show that the rate of return in the petroleum industry is somewhat above that in other industries. But in neither case is there a large deviation from average rates of return for U.S. industry as a whole.

It appears that the tax benefits conferred on the petroleum industry are being frittered away in two directions. First, the amounts paid to landowners for oil leases have been pushed upwards by firms that can "stay in the bidding" longer than would be the case if their cash flow were reduced by normal federal tax payments. As used in this context, "landowners" includes the U.S. Government (with respect to offshore lands), the states (particularly Louisiana, Texas, and Alaska), and foreign governments. Much of the benefit conferred on petroleum producers by existing U.S. tax provisions ends up in Federal, state, and foreign treasuries.

The tax benefits conferred on the petroleum industry are also frittered away in the form of "price effects". Petroleum product prices are lower than they would be in the absence of these special tax provisions. For example, Dr. Gerard M. Brannon, then Director of the Treasury's Office of Tax Analysis, estimated in 1968 that if percentage depletion and the intangible drilling deduction were completely abolished, the price of gasoline might rise by about 2½ cents per gallon.⁹

This is not, of course, an argument for retaining either percentage depletion or the intangibles deduction. These special tax privileges have been justified to Congress on the ground that they result in additional drilling activity and thus contribute to National security. We fail to attain this goal to the extent that tax benefits are frittered away in price effects and in higher payments for oil leases.

When describing the effects of percentage depletion and intangibles, the petroleum industry has sometimes tried to carry water on both shoulders. For example, in 1969, it sponsored a series of advertisements that sought to frighten the public with the spectre of higher gasoline prices if percentage depletion were cut. At the same time, industry representatives were justifying percentage depletion before the Ways and Means and Finance Committees on the ground that the deduction contributed to National security.

The industry can't have it both ways. The same dollar of tax benefit can't *both* reduce product prices and pay for additional well drilling. To date, the evidence indicates that the effects of the percentage depletion and intangibles deductions are, first and most important, an increase in the prices paid by petroleum firms for oil lands; second, a small reduction of product prices; and, least important of all minor encouragement to the drilling of additional oil wells.

Because the major effects of the percentage depletion and intangibles deductions are other than those intended, the program of tax subsidies to encourage well drilling is a failure. If it turns out that we cannot depend on the free market economy to produce the number of oil wells we need—a proposition that I am not willing to accept—then a program of direct drilling subsidies should be developed.

The direct drilling subsidy program presented by the Chairman of this Committee, Senator Proxmire, to the Senate Finance Committee on September 30, 1969 is a fine example of what I have in mind.¹⁰ That proposal deserves more serious consideration than it has yet received. In contrast to our existing tax subsidies, it has the great advantage of insuring that the subsidy program rewards drilling, and nothing else. Furthermore, the costs of the program would be open to public scrutiny, and the program could be limited to domestic wells, if that were felt desirable.

THE DEPLETION INCENTIVE FOR HIGHER CRUDE OIL PRICES

As outlined earlier, percentage depletion for oil is calculated as 22 percent of the selling price of crude oil at the wellhead. As wellhead prices rise, percentage depletion also rises. This means the use of percentage depletion to subsidize the oil industry gives producers a vested interest in pushing petroleum prices upward.

The tax incentive to raise prices is particularly strong in the case of those vertically integrated petroleum producers who extract from their own properties most of the crude oil they need for their refineries, and who buy only a small proportion of their needs from unrelated producers. For many years, the Internal Revenue Service has been pricing the oil that these firms produce for themselves

⁹ See *Tax Reform Studies and Proposals*, Part 3, p. 418, published in February 1969 by the House Ways and Means Committee and the Senate Finance Committee.

¹⁰ See Hearings before the Committee on Finance, United States Senate, on the Tax Reform Act of 1969, Part 5, page 4212.

in terms of the prices paid to outsiders for similar crude. This I.R.S. practice seems plausible at first, but it fails to take note of one very important fact: When an integrated oil company produces the bulk of the oil needed for its refineries, and purchases only a small amount of crude from outsiders, *it is better off, after tax, if it pushes crude oil prices upward*. These firms would actually prefer to pay higher prices for crude, provided that the prices they paid to outsiders were also used to price their own crude production when computing percentage depletion. The tax savings resulting from the increase in percentage depletion on the firm's own production more than offset the additional amounts paid to outsiders for a small portion of the firm's crude oil needs.

The effect of using an unrealistically high transfer price for "self-produced crude oil" is to move profits from the refining to the producing side of an integrated petroleum firm. Every extra dollar "paid" by the refinery for crude oil means one less dollar of refinery profit and one additional dollar of product profit. Every dollar transferred in this way also means a 22¢ increase in the firm's percentage depletion deduction. In effect, profits are being transferred from a "high tax jurisdiction" (refining) to a "low tax jurisdiction" (production).

This tax incentive to raise crude prices has another desirable effect from the point of view of large, vertically integrated firms; it makes it more difficult for independent refiners to survive, because these refiners must pay higher prices for *all* their crude needs, not just a portion, and these higher prices bring no corresponding increase in percentage depletion.

Thus at least some major petroleum producers are in the happy position of being able to drive their competition to the wall and at the same time increasing their after-tax profits—by simply paying more for a small portion of their crude oil needs.

This is a situation that the Internal Revenue Service should long since have scrutinized. The pertinent Internal Revenue Service regulations state that the prices used in depletion computations must be "representative", and the courts have held that "representative" prices mean competitive prices fixed in open markets.¹¹ But there is obviously little competition involved when *both* buyer and sellers have every incentive to drive prices upward.

Unfortunately, with one exception, the Internal Revenue Service has failed to scrutinize the prices used by integrated oil firms to compute percentage depletion. The exception relates to the posted prices established by U.S. oil firms operating in the Persian Gulf.

For many years U.S. firms that produce oil in the Persian Gulf used "posted prices" as the basis for their depletion computations. However, by the late 1950's, these prices no longer bore any relation to actual market prices. As world oil prices dropped, so-called "posted prices" for Persian Gulf oil amounts paid to the Gulf sheikdoms (whose profit cut was computed as a percentage of the "posted price" for crude). The increases were not a reflection of competitive market forces, nor did they reflect actual market prices for crude.

Use of unrealistically high Persian Gulf posted prices for U.S. tax computations had two "advantages": First, increased percentage depletion deductions. Second, increased profits for the producing subsidiary (which had ample tax credits to protect its profits) and *decreased* profits for the U.S. parent company's refineries (which had to purchase crude from the producing subsidiary at posted prices). The decreased U.S. refinery profits were desirable because those profits would otherwise have been taxable at normal U.S. tax rates. In fact, these profits were transferred to the producing subsidiary's books and were sheltered from tax by the tax credit mechanism.

The Internal Revenue Service was very slow to act. However, in the mid-1960's, it finally brought matters to a head by proposing the largest deficiency assessments in the history of the Internal Revenue Service. After protracted negotiations with the affected oil companies, the posted price of Persian Gulf crude, for U.S. tax purposes, was reduced from \$1.80 to approximately \$1.30.

It is time for the Internal Revenue Service to undertake a similar investigation with respect to domestic U.S. "posted prices" for crude oil. As I understand it, such an investigation has long been urged by the Antitrust Division of the Department of Justice, but the Internal Revenue Service has been reluctant to act.

¹¹ Treasury Regulations on Income Tax, Section 1.613-3(a); See *Alabama By-Products Co. v. Patterson*, 258 F.2d 92 (C.A. 5) (1958), cert. den. 358 U.S. 930; and *Woodville Lime Products Co. v. United States*, 263 F. Supp. 311 (D.C. N.D. Ohio) (1967).

Part of the problem facing the Internal Revenue Service is lack of data with respect to crude oil prices. The Service has it within its power to remedy this difficulty. Starting in 1968, the Service began requiring U.S. oil producers to submit statistical data relating to percentage depletion on their income tax returns. This data has been tabulated in the case of approximately 30 major oil companies, but the tabulations have not been published. The Service should release this data promptly. In addition, it should also tabulate the data relating to smaller, independent oil companies, since their operations frequently provide a helpful yardstick by which to evaluate the operations of larger firms.

CONCLUSION

The tax privilege currently enjoyed by the petroleum industry are not an effective way of increasing drilling activity and promoting National security. A program of direct subsidies would be less costly and more effective—if it is determined that there is a real need to subsidize petroleum industry drilling.

In general, existing tax rules promote economic concentration in the petroleum industry. The percentage depletion deduction, in particular, provides vertically integrated firms with an incentive to raise the posted prices for crude oil. It is time for the Internal Revenue Service to scrutinize the "representative" character of domestic posted prices, to ascertain whether vertically integrated companies should be permitted to base depletion computations on those prices in the case of petroleum that they both produce and refine.

Chairman PROXMIRE. Thank you, Mr. Field.

Mr. Freeman, please proceed.

STATEMENT OF S. DAVID FREEMAN, PROFESSOR, UNIVERSITY OF PITTSBURGH, AND FORMER HEAD, ENERGY POLICY STAFF, PRESIDENT'S OFFICE OF SCIENCE AND TECHNOLOGY

Mr. FREEMAN. Thank you, Mr. Chairman.

As you indicated my prepared statement would go in the record, I will provide just a brief summary.

Chairman PROXMIRE. Yes, indeed.

Mr. FREEMAN. I will speak orally only about the oil import program but I wish to call attention to the problem of Federal leasing which is discussed in my prepared statement and merely say the royalty bidding option especially for wildcat acreages deserves at least to be tried.

Mr. Chairman, for many years the critics of our energy policies appeared to be whistling in the dark; no one seemed to be listening. Energy supplies were fairly abundant; prices were stable and were even being reduced and the Nation was still largely blind to pollution.

But in the last 2 years we have entered what hopefully, and realistically is a new era. Our domestic capability to produce oil, natural gas, and coal has suddenly shifted from too much to not enough and the price of energy is beginning to skyrocket; people have opened their eyes to the problems of pollution caused by the consumption and production of energy.

Perhaps it wasn't all that important that we didn't have an energy policy in the past, but we have now reached the point in our Nation's history where it is imperative that we develop a coherent national energy policy. On this point everyone seems to agree even if there is sharp disagreement as to its ingredients. Existing policies of subsidy and promotion, fashioned in an era of resource abundance, are an unmitigated disaster as we try to meet essential needs more efficiently in a period of shortages and intense concern for resource conservation and preserving the environment.

I stress the overall energy perspective because there is a domino effect among the sources of energy. As we all know, we are now faced with a shortage of natural gas and the most immediate way of relieving the gas shortage is to use more oil either directly or to convert oil into synthetic gas. But here we are confronted by an oil policy that has erected a maginot line around this Nation to protect us against invasion by foreign oil. The oil import program supposedly is designed to protect us against shortages of energy because imports may be interrupted. But energy shortages already exist on our side of the maginot line and our policies now seem to be perpetuating the shortages, not averting them. And higher prices for domestic oil seem to hold little promise of alleviating the shortages.

Mr. Chairman, the oil import program was the subject of a most comprehensive study and report about 2 years ago by the Cabinet Task Force on Oil Import Control on which I was privileged to participate.

National security is the only legal reason for the existence of the oil import program and the task force conclusion on that score was devastating. There were 13 Cabinet officers and other responsible Government officials who participated as members and official observers on the task force. Ten of the thirteen, including myself, agreed to the following key finding as to national security, and I think it is worth repeating the words of the task force report and I quote:

The present import control program is not adequately responsive to present and future security considerations. The fixed quota limitations that have been in effect for the past ten years, and the system of implementation that has grown up around them, bear no reasonable relation to current requirements for protection either of the national economy or of essential oil consumption. The level of restriction is arbitrary and the treatment of secure foreign sources internally inconsistent. The present system has spawned a host of special arrangements and exceptions for purposes essentially unrelated to the national security, has imposed high costs and inefficiencies on consumers and the economy, and has led to undue government intervention in the market and consequent competitive distortions.

The finding went on in that vein, to conclude: "that the present import control system, as it has developed in practice, is no longer acceptable."

Well, Mr. Chairman, if the program was no longer acceptable in February 1970, I think it is pertinent to ask what has happened since then because the program has certainly survived intact with perhaps another exception or two grafted on.

Has the judgment of the Cabinet Committee been eroded by subsequent events or has the President failed to implement a necessary reform? One new development is that crude oil prices have increased throughout the world. Another is that the projections of future demand for oil have also increased, thus suggesting a larger gap between projected U.S. oil production in the years ahead and projection of demand. As a result, a major oil company is suggesting that without really large additional increases in the domestic price we may be importing half of the Nation's crude oil requirements by 1985 primarily from the Arab nations.

The developments that have occurred—increases in the world price of crude and the prospect of greater U.S. reliance on Arabian oil in the future—are the very dire consequences which industry representatives suggested would take place if the quotas were abolished.

The significant point is that these new events have occurred even though the task force recommendations were rejected and the quota system has remained intact.

There is a strong upward push on oil prices throughout the world and I do not minimize the impact of this new development. However, it is relevant to point out that prices have increased on domestic oil as well. During the past 2 years the price of crude oil produced in the United States has increased 25 cents a barrel while the price actually paid, not the posted prices but the prices actually paid for crude oil in the Persian Gulf has increased but little more, about 35 cents a barrel. Tanker rates which shot up temporarily have now gone back down to their former levels where most observers expect them to remain.

Thus, after all is said and done, the \$1.25 per barrel saving to American consumers referred to in the task force report has been reduced somewhat but the saving is still in the neighborhood of \$1 a barrel. Additional price increases are no doubt forthcoming in the world oil market but if domestic oil is to be an alternative there is reason to believe that its price will be increased as well. Thus with the increased volumes now contemplated the potential saving to consumers from replacing the quota system is not very much different from the \$5 billion per year set forth in the task force report.

The quota system over the past decade has certainly encouraged U.S. production by keeping out lower priced foreign oil.

Our policy appears to be "drain American first." And we have been successful, in fact so successful that we probably can't increase U.S. productive capacity very much even if our present oil policies are continued. Industry spokesmen claim a large additional increase in oil prices is needed if U.S. production is to be increased and even price increases would have a doubtful impact.

We have already "skimmed the cream" of our oil resources. A continuation of rigid quotas on oil imports, if at all feasible, now requires large price increases or else we will surely have a major shortage of energy. But the President has just invoked price control on the whole economy which appears to rule out the kind of price increase the oil industry feels is necessary.

Phase II would thus seem to me to require an end of the rigid quota system on imports unless the President plans to include a hole in the price ceiling for oil.

There is, of course, a legitimate concern about security of supply for oil and other sources of energy as well, but the fatal flaw of the present program is that we fail to confine it to insecure sources and fail to connect the imposition of quotas to the development of adequate supplies to meet the needs of the U.S. consumer. The quotas keep Arab oil out but they don't assure that the energy gap will be filled; in fact they prevent it from being filled.

Under the present program, the prospect is for somewhat enlarged quotas fixed by the Government in precise amounts and carefully controlled so as to have no competitive effect on prices. We will be spoon fed just enough oil to be sure no one has a cold home but not enough to cool off the inflation in fuel prices.

A continuation of the existing program with gradual increases in the quotas will place us in a steadily more vulnerable position if there ever were emergency interruptions of supplies from the Middle

East. This is true because our reserve productive capacity is now only a few percent of capacity and may be gone altogether in 2 years.

The Federal Government's import program, Mr. Chairman, is in reality an insurance policy for each American consumer, which costs him 2 to 3 cents a gallon on his gasoline and fuel oil bills. It is designed to protect him against shortages, but if the time ever comes when the consumer needs to cash in his policy, I am afraid he will find that the oil bank is broke.

Chairman PROXMIRE. Could I just interrupt to ask you if you could put that in perspective by telling, saying, whether or not my estimate of \$100 per family is about right or not? I estimated that on the basis of 50 million American families and \$5 billion cost.

Mr. FREEMAN. It seems to be a good estimate.

Mr. Chairman, the central failure of this oil import program is we are restricting the imports from secure, friendly neighbors, treating them much the same as distant Arab nations that could present a real problem. The oil import task force report found that Canada is a secure source of oil. Nevertheless, since that report, the administration has imposed quotas on the imports of oil from Canada, which are contrary to the interests of the American consumer and contrary to the long-term security of oil supply for this Nation.

There are large oil resources in Canada surplus to the needs of the Canadian people, but these resources, and I stress the word "resources," not "reserves," will not be discovered, developed, and brought to market as long as the United States maintains quotas which limit the volumes that can be imported.

We are imposing quotas which are discouraging the development of oil resources in Canada probably as large as our own because a tiny amount of imports may be cut off. It just doesn't make sense. There is really no creditable basis for quotas against Canadian oil.

The self-defeating nature of our oil policies with Canada are highlighted by the discovery of oil and gas in Alaska. The oil companies are seeking to market the Alaskan oil via a pipeline through Alaska and tankers to the west coast. But the natural gas must come in a pipeline across Canada if it is to be economical at all. The Interior Department is considering the oil pipeline across Alaska without any assurances of early delivery of the associated natural gas which is a much more urgent need for the U.S. consumer. The oil, of course, could be transported in a pipeline on the same right-of-way across Canada as the natural gas pipeline.

In my view, the Canadian pipeline alternative for marketing the oil is environmentally superior to the Alaskan route because it skirts the earthquake zone which is much more intense in Alaska than in Canada; it avoids the oil spill problem in transshipping the oil by tanker altogether and by using a common right-of-way with the natural gas pipeline, it would minimize land-use problems.

But of perhaps equal significance is the energy factor. The trans-Canada route would enlarge the supply of oil and natural gas that could be made economically available to the U.S. market. By traveling through Canada, the pipeline would encourage development of the vast oil resources in northern Canada and would provide economical transportation to U.S. markets.

The large quantities of additional Canadian oil the trans-Canada route would deliver would mean that much less to be imported from

the Middle East where dependence on Arab oil would pose a security threat. There is thus a substantial national security advantage to the United States and to Canada as well as in the trans-Canada alternative.

To my knowledge there has not been the kind of collaboration between the United States and Canada at the highest levels of government, which the importance of this decision dictates. But it is by no means too late. And I take this occasion, Mr. Chairman, to urge that President Nixon invite the Canadian Government to collaborate with us and to instruct the Secretary of Interior to explore the Canadian alternative on the merits before he makes a decision, as indeed it would seem to me that the Environmental Policy Act requires. It seems to me that in this particular instance that the long way is the short way, and that the Government will find by exploring the alternatives and developing the environmentally and energy superior alternative, the interests of this Nation will be best served.

Now, elsewhere in the Western Hemisphere, Venezuela is also a relatively secure source of oil whose resources are not being developed as rapidly as they could because of the restrictions on entry into the U.S. market. There is a shortage of petroleum within our border and vast economical resources available for exploration and development just across our border in North America and throughout the Western Hemisphere.

Now that the energy shortage is so acute that we are seriously considering importing natural gas from the Soviet Union, surely the time has come for the U.S. Government to eliminate the oil import quotas with respect to our Western Hemisphere neighbors. Large new volumes will not flow at once, but such an action would provide the encouragement and incentives necessary for opening up the areas that remain to be discovered which can make a large contribution in the years ahead.

The oil import quota system should be abolished, and no alternative program is needed for imports from Western Hemisphere sources. But I do feel that we need some program with respect to imports from Arab nations. Western Europe and Japan are already heavily dependent on Arabian oil, and I would not lightly suggest that the United States add to the Arabs' potential for leverage on our foreign policy.

The problem we face is the prospect of greater imports of Arabian oil, whatever import policy we pursue. There is a fundamental answer to this problem, and the answer, Mr. Chairman, is to adopt a program of conservation in the use of oil, which means doing something about asserting our priorities in this country. It means putting money into mass transit; it means using smaller horsepower cars and other such measures.

Any import program should link the volumes imported from these insecure sources to reserve productive capacity available in the United States. The objectives should be to protect consumers against the threat or reality of interruptions of oil supply by providing producing capacity that could replace these supplies if they were cut off. Such a program would protect our long-term security by utilizing Middle Eastern sources and thus stretching out the time before our own resources are exhausted.

This could be implemented in a variety of ways. One possibility would be the imposition of the tariff idea as suggested by the Cabinet Committee but earmarking the funds to developing standby reserve producing capacity.

An alternative might be to require that the importers from insecure sources maintain a stockpile to cover any interruptions just as the electric power industry maintains reserve capacity in an effort to avoid interruptions of power supply.

These measures will cost money and that should be understood, but the important point is that these alternatives would provide the American consumer with oil supplies at prices set by competition. The groundwork for the reform has been laid in the Cabinet Committee's report. The need for reform is now urgent.

I would like to close with just one thought, Mr. Chairman, and that is we need a fundamental change in energy policy in this country. We need a much more conservation-oriented policy, imported or domestic, and such a policy would serve the aims of our environmental protection program. They would serve the aims of our dwindling energy resources and it is the only program that will really prevent us from becoming heavily dependent upon Arabian oil in the 1980's.

Thank you very much.

(The prepared statement of Mr. Freeman follows:)

PREPARED STATEMENT OF S. DAVID FREEMAN

Mr. Chairman and members of the committee, I was pleased to accept your invitation to testify as part of this Committee's hearings on "Oil Prices and Phase II." At a time when the President is asking labor and industry to keep prices down it is certainly timely and relevant to inquire about government policies and programs that may actually be pushing prices up. And oil policies are an outstanding example of federal programs that prevent competition and promote inflation.

Before discussing the specific policies with respect to oil, it might be useful to say a few words about this nation's energy policies generally, especially since my own responsibilities in government dealt with the broad spectrum of energy policies. Anyone who has studied this area has found that our energy policies are a bundle of contradictions working at cross purposes and poorly adapted to serving the interests of the public. The government keeps a lid on natural gas prices and a floor under oil prices. It supports atomic research and neglects coal and new sources of energy. It subsidizes tankers to move oil but neglects rapid transit that might move people to work without consuming so much oil. It subsidizes exploration of oil but limits its production. And we could go on.

For many years the critics of our energy policies appeared to be whistling in the dark because almost no one was listening. For example, in 1968 we could not even interest the Congress in funds to study these energy policies which cried out for reform. Energy supplies were abundant, prices were stable, and even being reduced, and the nation was still largely blind to the pollution which energy production and consumption were causing.

But in the last two years we have a whole new ball game. Our domestic capability to produce oil, natural gas and coal rather suddenly shifted from too much to not enough. The price of energy is beginning to skyrocket, and the people have opened their eyes to oil spills, strip mining and air pollution, three of the more prominent environmental problems for which energy production and consumption are responsible.

We have now reached the point in our nation's history where it is imperative that we develop a coherent national energy policy. On this point everyone seems to agree even if there is sharp disagreement as to its ingredients. Existing policies of subsidy and promotion, fashioned in an era of resource abundance, are an unmitigated disaster as we try to meet essential needs more efficiently in a period of shortages and intense concern for resource conservation and preserving the environment.

I believe that a milestone of sorts in this area was reached with the President's energy message of June 4, 1971. The most important point about the message is that for the first time a President recognized that energy problems were of sufficient concern to warrant a special message to the Congress. The President's energy message of course did not purport to set forth an energy policy for the nation. But it made some commitments to important research efforts and other items which I believe are in the right direction.

The President's energy message should be considered as the beginning of a searching reexamination of all of our energy policies, and the hearings before this Committee deal with perhaps the area that is in most immediate need of reform. I do believe, however, that it is important to relate the criticisms and revisions in our oil policy with reforms that may be necessary with respect to natural gas and the other forms of energy so that we do indeed develop a coherent policy. In that respect, as you know, the Senate has undertaken an energy policy study under the direction of the Senate Interior Committee with the Chairmen of other interested committees participating as well.

I stress the overall energy nature of our problems because there is a domino effect among the sources of energy. As you know, we are now faced with a shortage of natural gas. Many blame the shortage on FPC price controls. I'm inclined to think that air pollution controls which have greatly enlarged the market, the environmental problems in drilling offshore and the limited nature of the resource are closer to the main reasons. In any event the shortage is a reality.

The most immediate way of relieving the gas shortage is to use more oil either directly or to convert oil into synthetic gas. But here we are confronted by an oil policy that has erected a Maginot Line around this nation to protect us against invasion by foreign oil. The oil import program supposedly is designed to protect us against shortages of energy because imports may be interrupted. But energy shortages already exist on our side of the Maginot Line and our policies now seem to be perpetuating the shortages, not averting them. And higher prices for domestic oil hold little promise of alleviating the shortages.

It is therefore important to reexamine these oil policies, recognizing that they are but a part of the need for developing a coherent energy policy. Oil is our largest source of energy and the government policies in this area cry out for reform.

It is of course beyond question that the oil import control program is resulting in substantially higher oil prices for the U.S. consumer than would be the case in its absence. The program is justified solely on the grounds of national security. It is important to understand that in this context national security does not mean the needs of the military. The military requirements for oil are so small as compared to civilian demands that no one doubts our ability to meet military needs.

The oil import control program is to assure continuity of supply to the civilian economy. Upon analysis, the controlling contingency would be a prolonged political boycott by the Arab nations. These nations control most of the world's low cost oil supplies which proponents of the program claim we would be importing in large quantities in the absence of the quotas.

This oil import program was the subject of comprehensive study and report about two years ago by the Cabinet Task Force on Oil Import Control on which I was privileged to participate. The Task Force was chaired by then Secretary of Labor George Shultz. The study was by far the most thorough analysis of the issue that has been published by government during the long and checkered history of the oil import program.

National security is the only legal reason for the existence of the oil import program and the Task Force conclusion on that score was devastating. There were thirteen Cabinet officers and other responsible government officials who participated as members and official observers on the Task Force. Ten of the thirteen agreed to the following key finding as to national security :

"C. NATIONAL SECURITY FINDINGS

"421. The present import control program is not adequately responsive to present and future security considerations. The fixed quota limitations that have been in effect for the past ten years, and the system of implementation that has grown up around them, bear no reasonable relation to current requirements for protection either of the national economy or of essential oil consumption. The level of restriction is arbitrary and the treatment of secure for-

eign sources internally inconsistent. The present system has spawned a host of special arrangements and exceptions for purposes essentially unrelated to the national security, has imposed high costs and inefficiencies on consumers and the economy, and has led to undue government intervention in the market and consequent competitive distortions. In addition, the existing quota system has left a significant degree of control over this national program to state regulatory authorities. If import controls are to serve the distinctive needs of national security, they should be subject to a system of federal control that interferes as little as possible with the operation of competitive market forces while remaining subject to adjustment as needed to respond to changes in the overall security environment. A majority of the Task Force finds that the present import control system, as it has developed in practice, is no longer acceptable. The basic question, then, concerns the character and degree of import restriction judged necessary to safeguard the nation against severe economic weakening or supply deprivation."

The crucial sentence is that a majority of the Task Force found "that the present import control system as it has developed in practice is no longer acceptable."

If the program was no longer acceptable in February of 1970, it is quite pertinent to ask what has happened since that date, because the program certainly remains intact. Has the judgment of the Cabinet Committee been eroded by subsequent events or has the President failed to implement a necessary reform? Let's examine the facts.

One new development is that crude oil prices have increased throughout the world. Another is that the projections of future demand for oil have also increased, thus suggesting a larger gap between projected U.S. oil production in the years ahead and projection of demand. As a result a major oil company is suggesting that without really large additional increases in the domestic price we may be importing half of the nation's crude oil requirements by 1985 primarily from the Arab nations.

The developments that have occurred—increases in the world of crude and the prospect of greater U.S. reliance on Arab oil in the future—are the very dire consequences which industry representatives suggested would take place *if the quotas were abolished*. The significant point is that these new events have occurred even though the Task Force recommendations were rejected and the quota system has remained intact. I know it can be argued that if the quotas were abolished matters would be worse, but it is nevertheless true that the present program is failing to achieve its intended purpose.

There has been a great amount of significance attached to the increases in world oil prices which are a consequence of the increases in payments on oil negotiated by the Arab nations. There is of course a strong upward push in oil prices throughout the world and I do not minimize the impact of this new development. However, it is relevant to point out that prices have increased on domestic oil as well. During the past two years the price of crude oil produced in the United States has increased 25 cents a barrel while the price actually paid for crude oil in the Persian Gulf has increased but little more, about 35 cents a barrel. Tanker rates which shot up temporarily have now gone back down to their former levels where most observers expect them to remain.

Thus, after all is said and done, the \$1.25 per barrel saving to American consumers in importing Middle Eastern oil identified in the Task Force report has been reduced somewhat but the saving is still in the neighborhood of a dollar a barrel. Additional price increases are no doubt forthcoming in the world oil market but if domestic oil is to be an alternative there is reason to believe that its price will be increased as well. Thus with the increased volumes now contemplated the potential saving to consumers from replacing the quota system is not very much different from the 5 billion dollars per year set forth in the Task Force report.

In my view the events of the past two years have transformed our oil import program from one that "is no longer acceptable" to one that is no longer tolerable. I say this because the failure of the program to achieve its national security objective is now quite plain and consumers deserve relief from inflated energy prices and shortages to which the program is contributing.

The quota system over the past decade has certainly encouraged U.S. production by keeping out lower priced imported oil. As a result this nation with its enormous demands for oil has already utilized a sizeable percentage of our own economic oil resources. Our policy appears to be "Drain America First." And we have been successful, in fact so successful that we probably can't increase U.S.

productive capacity very much even if our present oil policies are continued. Industry spokesmen claim a large additional increase in oil prices is needed if U.S. production is to be increased and even price increases would have a doubtful impact.

We have already "skimmed the cream" of our oil resources. A continuation of rigid quotas on oil imports, if at all feasible, now requires large price increases or else we will surely have a major shortage of energy. But the President has just invoked price control on the whole economy which appears to rule out the kind of price increases the oil industry feels is necessary.

Phase II would seem to me to require an end of the rigid quota system on imports unless the President plans to include a hole in the price ceiling for oil. For even if we ran the cost of the program to consumers up to \$10 billion a year, and succeeded in stemming off additional imports for some years, it would be contrary to our long-term security by really draining America dry. And the environmental implications of such a stepped-up drilling effort have yet to be seriously considered.

A continuation of the oil import program thus promises to continue shortages and inflation while leading to more pollution and exhaustion of our limited resources. It would be difficult to dream up a program that served the public interest so poorly.

Having said all that, let me quickly state that there is a legitimate concern about security of supply for oil and other energy sources as well. The fatal flaw of the present program is that we fail to confine it to insecure sources and fail to connect the imposition of quotas to the development of adequate supplies to meet the needs of the U.S. consumer. The quotas keep Arab oil out but they don't assure that the energy gap will be filled—in fact they prevent it from being filled.

Imported oil is the only source of energy available in abundant supply in the next few years to meet the needs of the U.S. consumer in a manner compatible with air pollution control requirements. We cannot really maintain a policy of shutting out more imports without creating an acute shortage of clean energy.

Under the present program the prospect is for somewhat enlarged quotas fixed by the government in precise amounts and carefully controlled so as to have no competitive effect on prices. We will be spoon fed just enough oil to be sure no one has a cold home but not enough to cool off the inflation in fuel prices.

A continuation of the existing program with gradual increases in the quotas will hardly satisfy the energy needs of the American consumer. But it will certainly place us in a steadily more vulnerable position of there were emergency interruptions of energy supplies from the Middle East. This is true because our reserve productive capacity is now only a few percent of capacity and may be gone altogether in two years.

The Federal Government's import program is an insurance policy for each American consumer which costs him 2 to 3 cents a gallon on his gasoline and fuels oil bills to protect him against shortages. But if the time ever comes when the consumer needs to cash in his policy, I am afraid he will find that the oil bank is broke.

A central failure of the program is that we are restricting imports from secure, friendly neighbors, treating them much the same as distant Arab nations that could present a real problem. The Oil Import Task Force report found that Canada is a secure source of oil. Nevertheless the Administration has imposed quotas on the imports of oil from Canada which are contrary to the interests of the American consumer and contrary to the long-term security of oil supply for this nation.

There are large oil resources in Canada surplus to the needs of the Canadian people, but these resources will not be discovered, developed and brought to market as long as the United States maintains quotas which limit the volumes that can be imported. I am familiar with the contention made that if we removed these restrictions we would in effect be relying not just on Canadian oil but on the oil that is imported into Eastern Canada as well and this would present a security problem to the United States. But if one looks at the facts he finds that the Canadian imports from the Eastern Hemisphere amounted to less than 200,000 barrels per day in 1970. This amount is about one percent of the U.S. market.

We are imposing quotas which are discouraging the development of oil resources in Canada probably as large as our own because this tiny amount of imports may be cut off. It just doesn't make sense. There is really no creditable basis for quotas against Canadian oil.

The self-defeating nature of our oil policies with Canada are highlighted by the discovery of oil and gas in Alaska. The oil companies are seeking to market the Alaskan oil via a pipeline through Alaska and tankers to the West Coast. But the natural gas must come in a pipeline across Canada if it is to be economical at all. The Interior Department is considering the oil pipeline across Alaska without any assurances of early delivery of the associated natural gas which is a much more urgent need for the U.S. consumer. The oil of course could be transported in a pipeline on the same right-of-way across Canada as the natural gas.

The Canadian pipeline alternative for marketing the oil is environmentally superior to the Alaskan route because it skirts the earthquake zone in Alaska, avoids the oil spill problem altogether and by using a common right-of-way with the natural gas line it would minimize land-use problems.

But of perhaps equal significance, the trans-Canada route would enlarge the supply of oil and natural gas that could be made economically available to the U.S. market. By traveling through Canada the pipeline would encourage development of the vast oil resources in northern Canada and provide transportation to U.S. markets. A pipeline across Alaska would be limited to Alaskan oil. However by routing the pipeline through the Canadian oil fields it could transport the Canadian oil as well as Alaskan oil with resultant economies and additional secure supplies. In addition the pipeline system would deliver the oil closer to midwestern and eastern U.S. markets where it is really needed. It is the East Coast, and not the West Coast, of the United States that is he most heavily dependent on imports and where the major growth in demand is taking place.

The large quantities of additional Canadian oil the trans-Canada route would deliver would mean that much less to be imported from the Middle East where dependence on Arab oil would pose a security threat. There is thus a substantial national security advantage to the United States and to Canada as well in the trans-Canada alternative.

To my knowledge there has not been the kind of collaboration between the United States and Canada at the highest levels of government which the importance of this decision dictates. But it is by no means too late. And I take this occasion to urge that President Nixon invite the Canadian government to collaborate with us in pursuing the trans-Canada alternative on its merits, before a decision is made. If we go our separate ways in marketing the petroleum resources in Alaska and the Canadian North, the best interests of both nations will suffer in the process.

Elsewhere in the Western Hemisphere, Venezuela is also a relatively secure source of oil whose resources are not being developed as rapidly as they could because of the restrictions on entry into the U.S. market. Venezuela has proven to be a very secure source to the United States day in and day out and through all the emergencies that have occurred. In fact if one takes a somewhat broader view of national security, as I believe one must, the case for removing the quotas is quite compelling. Continuation of a vital and effective democratic form of government in Venezuela is heavily dependent upon growing access to the United States market for its petroleum resources which are the primary source of that nation's financial strength.

There is a shortage of petroleum within our border and vast economical resources available for exploration and development just across our border in North America and throughout the Western Hemisphere. Now that the shortage is so acute that we are seriously considering importing natural gas from the Soviet Union, surely the time has come for the United States Government to eliminate the oil import quotas with respect to our Western Hemisphere neighbors. Large new volumes will not flow at once but such an action would provide the encouragement and incentives necessary for opening up the areas that remain to be discovered which can make a large contribution in the years ahead.

The oil import quota system should be abolished and no alternative program is needed for imports from Western Hemisphere sources. But I do feel that we need some program with respect to imports from Arab nations. Western Europe and Japan are already heavily dependent on Arab oil and I would not lightly suggest that the United States add to the Arabs' potential for leverage on our foreign policy.

The problem we face is the prospect of greater imports of Arab oil whatever import policy we pursue. A fundamental answer is to adopt a program of conservation in the use of oil which means mass transit, smaller horsepower cars and the like. Any import program should link the volumes imported from these insecure sources to reserve productive capacity available in the United States.

The objective should be to protect consumers against the threat or reality of interruptions of oil supply by providing producing capacity that could replace these supplies if they were cut off. Such a program would protect our long-term security by utilizing Middle East sources and thus stretching out the time before our own resources are exhausted.

There are a variety of ways of accomplishing this objective. One possibility would be the imposition of the tariff idea as suggested by the Cabinet Committee but with the amount of the tariff earmarked and utilized to develop standby reserve producing capacity in the United States. This would in effect mean developing additional ready reserves similar to the Elk Hills Naval Petroleum Reserve. Such a program might be facilitated by the Government taking its one-eighth royalty from the oil now produced on federal lands in the form of oil rather than cash and through exchanges building up such standby capacity. Interestingly enough the existing leases permit the Government to take its royalties in the form of oil rather than cash under certain circumstances.

The ready reserves might contain stockpiles of oil products as well as crude oil to the extend products are imported. The amount of the tariff could be calculated to provide the needed revenues to build up and maintain a reserve productive capacity that would cover any credible contingency that our planners may postulate.

If we had reserve capacity developed and ready for use, a political blockade of imports would be ineffective and it is highly unlikely that the producing nations would attempt to impose such a blockade. The analysis is similar to our entire national security posture. Being prepared for a contingency is the most effective way to prevent the emergency from ever happening.

An alternative to the tariff might be a requirement placed on importers of either crude oil or oil products from insecure Eastern Hemisphere sources to maintain a stockpile to cover any interruptions. Anyone could import crude oil or its products in any amount he wished provided he maintained supplies in a ready reserve earmarked to replace the imports for a specified length of interruption. In this way the cost of assuring adequacy of supply would be internalized in the price of oil just as the reserve capacity that the electric power companies maintain is an integral part of the cost of producing electricity.

I realize that standby reserves cost money and this will reduce the savings to consumers from importing Arab oil. But at least the money will be spent on providing security of supply and not just an illusion of security as with the present program. The important point is that either of these alternatives, or others that may be suggested, would provide the American consumer with the oil supplies that he needs at prices set by healthy competition. And I have little doubt that the net benefits to the nation in terms of lower cost oil and longer-term adequacy of supply would be substantial.

It is worth observing that these reforms of oil import policy can be accomplished by a stroke of the President's pen. The groundwork has been laid in the Cabinet Committee's report. The need for reform is now urgent.

FEDERAL LEASING

One of the discouraging trends in the institutional structure of the energy industry is the growing concentration of ownership. This comes about as the major integrated petroleum companies have branched out into coal and uranium and become energy companies. And it also comes about as the number of active independent oil and gas producers continues to diminish.

Federal leasing policies are presently contributing to this trend but they could be reformed to help stem this tide toward monopoly. The present system of oil leases is the bonus system where the bids are awarded to the highest cash bidder. Because of the large sums of money involved it has been virtually impossible for the smaller independent producers to participate in this offshore leasing program.

A royalty bidding system would require only a minimum cash outlay by the bidder. The Government would award the lease to the bidder who offered to pay the highest royalty. It is quite obvious that the royalty bidding system would help make it possible for small companies to participate in the bidding either individually or jointly.

The royalty system should increase the return to the Government over the life of the lease because of the greater competition among bidders. Also the Government would share the profits in any bonanzas, an important consideration

since the oil companies usually know more about the prospects than the Government.

The fact that a bidder takes very little risk in a royalty bid makes such bidding especially attractive in a wildcat area where drilling is more of a gamble than established oil and gas provinces. And wildcatting is the traditional role of the independent. Royalty bidding for a wildcat sale would be an ideal way of permitting independents to enlarge their role of finding new oil and gas reserves.

An objection voiced to the royalty bidding system is that the liability for an oil spill offshore is so large that small companies are not strong enough financially to be held responsible. But this could be remedied by insurance required by the lease. It is also suggested that the large companies have the technical talent to avoid oil spills and the small companies do not. But it's hard to overlook the fact that the major spills have been caused by the major companies. Certainly independents would have to abide by the same stringent requirements as anyone else but the oil spill problem is one that is common to anyone operating in the OCS.

The overriding public interest in greater competition with all of its attendant benefits makes a compelling case for at least giving the royalty bidding option a fair trial.

The Outer Continental Shelf Law which governs offshore bidding expressly provides for royalty bidding as an alternative. But royalty bidding has not even been tried.

Here too is an area where reform of a government policy could be accomplished by a simple decision in the executive branch to put it into effect.

SUMMARY

Reform of the oil import program, federal leasing policies and other matters which are the subject of this hearing can make an important positive contribution to the anti-inflation programs of Phase II. As I have attempted to point out, such reforms are also essential to providing adequate energy supplies for the Nation.

But there is a broader dimension to the problem of inflation in this vital sector of the economy. Energy prices generally are going up sharply. The price of coal has nearly doubled in the past two years. Nuclear power plants that were supposed to produce electricity at 4 mills per KWH when planned cost 8 mills when built. And field prices of natural gas are also going up fast. As a result the retail price of both natural gas and electric power are increasing sharply.

This inflationary spiral comes at a time when we are undergoing a fundamental change of policy with respect to the environment and taking actions to abate pollution. These measures reduce the total cost to society of producing energy but they also contribute to the upward push on energy prices by including the cost of pollution control in the price of energy. But it is important to distinguish between price increases that provide funds to prevent pollution or reflect unavoidable increases in cost from price increases that are avoidable or simply add to profits.

It seems to me that a fundamental change in policy is needed now that we face shortages of energy and an abundance of pollution. We must become much more conservation minded in the use of energy, imported or domestic. By cutting out waste we can reduce pollution and conserve our dwindling resource base.

And there is another reason for energy conservation directly related to our oil import policy. If we really want to avoid becoming dependent on Arab oil in the 1980's we need to be spending more in the 1970's on mass transit to replace cars, on barge and rail transport to replace trucks, and on research and development for conservation and alternative sources of energy. There are major opportunities to conserve oil through more efficient transportation. And there are other measures to meet essential needs with less use of energy.

Conservation must replace subsidy and promotion as the essential purpose of U.S. energy policy because the era of abundant low-cost energy appears to be coming to a close. We are faced with serious environmental problems and a rapidly increasing real cost of energy, at least until we can better control inflation in the economy generally and perfect cleaner and more efficient energy sources. But it is precisely because inflationary pressures are so strong that action is urgent in areas such as the oil import program where government policy is unnecessarily contributing to higher prices.

Chairman PROXMIRE. Thank you, Mr. Freeman.
Mr. Mancke, please proceed.

**STATEMENT OF RICHARD B. MANCKE, ASSISTANT PROFESSOR,
ECONOMICS DEPARTMENT AND LAW SCHOOL, UNIVERSITY OF
MICHIGAN**

MR. MANCKE. Thank you, Mr. Chairman. I, too, would like to present a summary of my prepared statement.

Since 1959 the United States has used quotas to limit severely the quantity of imported oil. Enhanced national security is the alleged benefit from these restrictive oil import controls. Because of the difficulty of quantifying precisely either this benefit or the cost to the Nation of its present policy of mandatory oil import controls, it is not implausible to expect that even well-informed individuals would hold differing views as to whether this policy is—or has been—economical. That is, they would hold differing views as to whether the value of any benefits from increased national security more than offset this policy's total cost.

The long, rancorous debate about the merits of the Nation's present oil import policy testifies that this has indeed been the case. The remainder of my statement is designed to demonstrate that even if the responsible policymakers should decide that the benefit from increased oil security exceeds the present policy's cost, there remain strong reasons why they ought to oppose achieving the desired gains in national security by using this particular policy.

The sum of exploration, development, and operating costs measures the total resource cost that must be incurred when producing crude oil. Total resource cost includes a return—that is, profits—sufficient to induce companies to produce this oil.

The most important characteristic of the American crude oil industry is that there are large differences in the total per barrel resource costs of producing crude oil from its many different sources. To illustrate, there are some crude oil sources, such as parts of offshore Louisiana or the Alaskan North Slope, where the total per barrel resource cost of producing crude oil is less than \$1; there are other oil sources throughout the continental United States where this cost is between \$1 and \$3.50; finally, there are still other sources, from which very little or no crude oil is currently produced, where this cost would be at least \$3.50 and perhaps much higher. The reason why American crude oil producers do not produce oil exclusively from the very lowest cost sources is because the supply available from these sources is far less than the current demand.

The United States currently produces about 4 billion barrels of domestic crude oil and natural gas liquids annually. Because the average price of this crude oil is currently about \$3.50 at the well-head, its total cost to American consumers must be about \$14 billion annually. However, the total resource cost of producing these 4 billion barrels must be less than \$14 billion because large quantities cost less than \$3.50 per barrel to produce. The difference between the total revenue earned from the sale of each barrel of this crude oil and the total resource cost of producing that barrel is a rent.

Three types of crude oil rents are collected in the United States: (1) royalties, (2) lease bonuses are paid to the oil land's owners, (3) severance taxes are paid to the States in which the oil is located.

In my formal statement I present my reasons for concluding that the total value of these rents currently exceeds \$3 billion annually.

There is an alternative way to look at these \$3 billion of rents. That is, that they represent transfers of value from oil consumers to either the owners of the oil and or the oil-producing States. The term "transfers" is used by economists to denote a payment for which no productive service is rendered. As the President's Oil Import Task Force observed, policymakers ought to be concerned about the magnitude of any transfers because "we do not sanction the transfer of value from one group of citizens to others in the absence of clear public policy justification."

The supply of crude oil available from the lowest resource cost American sources is not nearly sufficient to satisfy current demand; therefore, domestic producers of crude oil find it profitable to produce additional—that is, higher cost—barrels only at a higher price. Oil import quotas encourage domestic crude oil producers to produce the desired higher output by restricting severely the price competition offered by foreign oil. More precisely, whenever oil imports are restricted the demand for domestic crude oil is raised and this higher demand can be satisfied only at a higher price.

The enforcement of mandatory oil import controls has stimulated greater domestic crude oil production by raising crude oil's price. This implies that the use of these controls has raised the rents earned on all barrels of crude oil that would have been produced at a lower price. Because a large fraction of these higher rents are paid by oil consumers to either oil landowners—including oil producers—or oil-producing States, we can infer that the enforcement of mandatory oil import controls has led to the redistribution of large sums of money from residents of oil-consuming States to residents of oil-producing States.

Some defenders of the present policy of restricting oil imports argue that all Government expenditures for goods and services redistribute large sums of money; hence, oil import controls should not be singled out for special condemnation. It is easy to show the fault in reasoning of those who advance this argument.

The Government spends vast sums on many types of projects to promote our national security. These projects may be distinguished from oil import controls precisely because they do not lead to massive payments of rents, for which no productive services are rendered, by one group of citizens to another. To illustrate, suppose the Army decides to spend \$1 billion to buy new trucks. This truck purchase has economic consequences which differ from the economic consequences of oil import controls for two reasons. First, the Nation's taxpayers pay for this purchase of trucks and the Nation's citizens presumably benefit from it. The members of these two groups are largely overlapping. To the extent that they differ it is because of an explicit policy decision by the American Government. Second, if the Government acquires these trucks from the lowest bidder and if these bids are competitive then the Government's funds are used to pay for truck construction; none are used to raise the rents earned by either the owners and workers of the truck-producing companies or the citizens of the States in which these companies are located.

Mandatory oil import controls were presumably imposed because the American Government felt that the United States would become

dangerously dependent on foreign oil if there were no restrictions on the amount imported. Mandatory oil import controls must be judged undesirable because the reduced dependence on foreign oil is achieved by raising crude oils' price and this causes a large and regressive redistribution of income from one identifiable group of citizens—that is, oil consumers—to another—that is, oil landowners and producers, and citizens of oil-producing States.

In closing, I would like to suggest three alternative policies which could be used to achieve any desired degree of oil security and which would not have these undesirable redistributive consequences. My brief discussion of each of these policies will be premised on the debatable assumption that, as a result of the elimination of all restrictions on crude oil imports, the Government believes that the U.S. dependence on foreign oil has become dangerously high.

Expanded oil storage offers one way to achieve any desired amount of oil security. This could be accomplished either by using specially constructed storage facilities—for example, salt domes or steel tanks—or by developing, on Federal oil-bearing lands, shut-in capacity that could be used in the event—

Chairman PROXMIRE. Mr. Mancke, have you priced out any of these?

Mr. MANCKE. I have not done any studies on this myself. I would like to suggest that more detailed studies need to be done in order to determine the costs of this policy. The policy that I personally favor is the next one that I shall discuss.

Chairman PROXMIRE. All right.

Mr. MANCKE. A second way to achieve any desired amount of oil security would be for the Government to determine how many additional barrels of domestic crude oil it would like to have produced and then to subsidize companies so that they will produce this amount. I shall illustrate one feasible subsidy mechanism. Suppose after all import quotas are abolished (a) the price of crude oil falls by \$1 per barrel and (b) as a result of this price fall it appears that the annual production of domestic crude oil will eventually fall by about 1 billion barrels. Suppose one-half billion of these barrels are thought to be vital to the Nation's security. Then the Government could solicit competitive bids asking the oil companies how large a payment they would demand in return for producing the desired additional domestic oil. If these firms are competitive and the Government selects the lowest cost bids, then this subsidy would be used exclusively for paying the higher resource costs of producing this oil; none would be used for raising crude oil rents.

A third way to get the desired amount of oil security would be for the Government, rather than subsidized private firms, to produce the additional crude oil on existing Federal lands and to sell it at the going market price.

To conclude, I have argued that the present policy of mandatory oil import controls is unsatisfactory because it violates the criterion that Government policies should not lead to large redistributions of income from one group of citizens to another. In addition, I have suggested alternative policies which do not run afoul of this criterion.

As my final point, I would simply say the obvious: that when choosing among these policies which do not involve large redis-

tributions of income from one group of citizens to another, the nation ought to choose the one that has the lowest resource cost.

Thank you.

(The prepared statement of Mr. Mancke follows:)

PREPARED STATEMENT OF RICHARD B. MANCKE

THE COST OF IMPORT CONTROLS

Since 1959, the United States has used quotas to limit severely the quantity of imported oil. The need to protect national security has been advanced by the American government as its justification for imposing these import controls. Specifically, spokesmen for the American government have repeatedly affirmed that its goal is to give American consumers the lowest possible price for crude oil as long as the imports necessary to achieve this low price do not threaten national security. The purpose of my statement is to show why I consider any mandatory oil import quota policy to be inconsistent with achieving this admittedly desirable goal.

I

The long and acrimonious debate over the wisdom of the United States' policy of enforcing mandatory oil import controls has been punctuated by widely differing, often partisan, estimates of this program's cost. In principle, it ought to be an easy task to compute at any given time, the cost of the present oil import quota policy to American consumers. To do so, one need only calculate the difference between the total cost of crude oil sold in the United States under the present policy and the total cost of this oil if this policy had never existed.¹ The total cost of crude oil sold in the United States under the present policy may be estimated with a high degree of accuracy.² Therefore, the principal cause of the widely differing estimates of this policy's costs must stem from different estimates about what would be the cost of crude oil in the absence of oil import quotas.

The Report of the President's Oil Import Task Force estimated that the policy of mandatory oil import controls cost American consumers about \$5 billion in 1969.³ It arrived at this estimate by summing the products of (a) its estimates of what would have been the total per barrel reduction in each region's crude oil costs if there had been no import controls (i.e., had free trade existed) by (b) that region's total crude oil consumption. The Oil Import Task Force used a two-step argument to deduce its estimates of what would have been the per barrel reduction in each region's crude oil costs if there had been no import controls. First, it observed that during 1969 the actual differences between the delivered costs to refiners of equal quality barrels of domestic and foreign crude oil were approximately \$1.50 in P.A.D. District I, \$1.05 in P.A.D. Districts II-IV, and \$0.85 in P.A.D. District V.⁴ Secondly, it inferred that if unlimited quantities of foreign crude oil had been available in each of these regions at these lower prices, then competition would have forced corresponding reductions in the price of domestic crude oil.

Both critics and advocates of the present policy of mandatory oil import controls agree that the Report of the Oil Import Task Force used the correct methodology when estimating the total consumer costs of this policy. Therefore, any disagreement with its estimate that mandatory oil import controls cost American crude oil consumers about \$5 billion in 1969 must stem from disagreement with the Task Force Report's implicit assumption that if there had been no import controls then the delivered price of foreign crude oil would have been the same as it was actually observed to have been with the present mandatory import controls.

Spokesmen for the American oil industry and for several of the larger oil producing states have challenged the Oil Import Task Force's implicit assumption

¹ Actually, this measure would underestimate the "true" cost of this program because it ignores the "consumers' surplus" which arises because more oil would be consumed at the lower price.

² This cost is equal to the product of (a) the number of barrels of crude oil sold in the United States and (b) its average per barrel price.

³ See *The Oil Import Question* (U.S. Cabinet Task Force on Oil Import Control, *The Oil Import Question*, Washington, U.S. Government Printing Office, February 1970), pp. 259-263.

⁴ The P.A.D. District in which each state is located are shown on page 16 of *The Oil Import Question*.

that, at any specified time, the observed delivered price of foreign crude oil accurately estimates what this product's price would have been under free trade. Specifically, these critics have asserted that if the United States had been (or were to become) much more dependent upon foreign oil supplies, then the major oil exporting nations would have banded together in order to charge a sharply higher price. Rather obviously, if these critics are correct, then the Oil Import Task Force did overestimate the cost to consumers of the mandatory oil import controls.

I must confess that I find it difficult to agree with those critics just cited. The root of my difficulty is that I believe that their argument is deduced from an implausible premise. That is, that the broadening of the market for foreign oil (by increasing the number of buyers) will lead to increased monopoly power and therefore higher prices. I would argue that the reverse is much more plausible: because existing American oil import quotas restrict the size of the potential market available to oil from foreign countries, collusion to prevent competition that would lead to lower prices (but unchanged imports) is encouraged. If all mandatory import controls were abolished, then each oil exporting country would be more apt to believe, that by reducing its prices slightly, it could have sharply higher American sales and, therefore, higher profits. This belief ought to make collusion much more difficult. Hence, I would expect to see that a move to freer trade would cause competition to increase and the delivered price of foreign oil to fall. Of course, if this price fall does occur, then the total consumer cost of mandatory oil import controls would exceed the Oil Import Task Force's estimate.⁵

This discussion indicates the dilemma the nation's oil policymakers face: which set of consumer cost estimates ought they to believe? I will show that one does not need to answer this question in order to conclude that the present policy of mandatory oil import controls is unwise.

II

Enhanced national security is the alleged benefit from restrictive oil import controls. Because of the difficulty of quantifying precisely either this benefit or the cost to the nation of its present policy of mandatory oil import controls, it is not implausible to expect that even "well-informed" individuals would hold differing views as to whether or not this policy is (or has been) economical.⁶ That is, they would hold differing views as to whether the value of any benefits from increased national security more than offset this policy's total cost. The long debate about the merits of the nation's present oil import policy testifies that this has indeed been the case. The remainder of my statement is designed to demonstrate that even if the responsible policymakers should decide that the benefit from increased oil security exceeds the present policy's cost, there remain strong reasons why they ought to oppose achieving the desired gains in national security by using this particular policy. The first step in this demonstration requires us to examine in some detail the different types of costs incurred by companies producing crude oil in the United States.

The sum of exploration, development, and operating costs measure the total resource cost that must be incurred when producing crude oil.⁷ Total resource cost includes a return (i.e., profits) sufficient to induce companies to produce this oil. In the United States crude oil is (or can be) produced from a variety of very heterogeneous sources. The most important characteristic of the American crude oil industry is that there are large differences in the total per barrel resource costs of producing crude oil from these different sources. To illustrate, there are some crude oil sources, such as parts of offshore Louisiana or the Alaskan North Slope, where the total per barrel resource cost of producing crude oil is less than

⁵ Mancke (Richard Mancke; "The Longrun Supply Curve of Crude Oil Produced in the United States," *The Antitrust Bulletin* (Winter 1970), p. 755) explains why if there had been no oil import controls crude oil transportation costs would have been much lower. This provides an additional reason for suspecting that the staff of the Oil Import Task Force may have underestimated the cost to consumers of the oil import quotas.

⁶ Whether or not one judges the benefit of this policy to exceed the cost depends upon his evaluation of (a) the probability and the magnitude of any future disruption in the supply of foreign crude oil and (b) his estimate of the delivered price of foreign crude oil if the U.S. moves to a less restrictive import policy. It is not difficult to believe that "reasonable" men might have sharply different estimates about both items.

⁷ Exploration costs are incurred when finding new reserves of crude oil; development costs are incurred when production facilities are set up so that previously discovered crude oil reserves may be extracted from the ground; operating costs are incurred when existing production facilities are used in order to extract crude oil from the ground.

\$1.00; there are other oil sources, throughout the continental United States, where this cost is between \$1.00 and \$3.50; finally, there are still other sources, from which very little or no crude oil is currently produced, where this cost would be at least \$3.50 and perhaps much higher.⁸ The reason why American crude oil producers do not produce oil exclusively from the very lowest cost sources is because the supply available from these sources is far less than the current demand.

The United States currently produces about 4 billion barrels of domestic crude oil (and natural gas liquids) annually. Because the current average price of this crude oil is about \$3.50 at the wellhead, its total cost to American consumers must be about \$14 billion annually. However, the total resource cost of producing these 4 billion barrels must be less than \$14 billion because large quantities cost less than \$3.50 per barrel to produce. The difference between the total revenue earned from the sale of each barrel of this crude oil (i.e., \$3.50 currently) and the total resource cost of producing that barrel is a rent.⁹

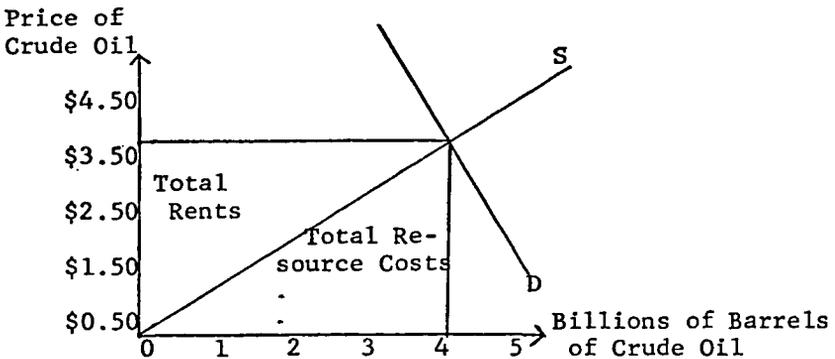
Three types of crude oil rents are collected in the United States: (1) royalties and (2) lease bonuses are paid to the oil land's owners, (3) severance taxes are paid to the states in which the oil is located. Royalties and severance taxes are almost always fixed at some percentage of the crude oil's wellhead price. In the United States royalties are set most frequently at either 12½ percent or 16 percent of this price; whereas, state severance taxes typically average between 2 and 4 percent of this price. These figures suggest that if (a) crude oil's wellhead price is \$3.50 per barrel and (b) 4 billion barrels of domestic crude oil are sold, then the sum of royalties and severance taxes totals about \$2 billion.¹⁰

Lease bonuses are paid to the owners of land on which the expected sum of (a) the total resource cost of producing any crude oil and (b) the total royalties and severance taxes that must be paid when that oil is produced is thought to be less than the oil's expected wellhead price. Obviously, lease bonuses will be highest in those areas where crude oil is thought to be cheapest to produce; for example, parts of offshore California, Louisiana, and Texas, and parts of the Alaskan North Slope. Annual total lease bonuses have averaged about \$1 billion over the past several years.¹¹

The foregoing establishes that if crude oil's wellhead price is about \$3.50 per barrel and if sales of domestic crude oil are approximately 4 billion barrels, then rents must comprise about \$3 billion of the \$14 billion cost paid annually by con-

⁸ See Adelman (M. A. Adelman, "The World Oil Outlook," in Marion Clawson, *Natural Resources and International Development*, Johns Hopkins Press, 1964) and a study by the staff of the Oil Import Task Force (U.S. Cabinet Task Force on Oil Import Control, *Estimated Wellhead and Delivered Costs of North Slope Alaskan Crude*, August 5, 1969).

⁹ Demand and supply analysis may be used to illustrate total rents and total resource costs. Let D denote the demand curve for domestic crude oil and S denote the supply curve. S will be upward sloping because crude oil from some sources is more costly to produce than crude oil from other sources. Given these two curves, the total resource costs and total rents are illustrated in the figure below.



The figure shows that the highest rents are paid for those barrels of crude oil that are cheapest to produce.

¹⁰ 12½ percent of \$14 billion is \$1.93 billion; 20 percent of \$14 billion is \$2.8 billion.

¹¹ See Mancke (*op. cit.*, pp. 741-748) for an explanation as to why \$1 billion is probably an underestimate of the annual value of lease bonuses.

sumers. It deserves to be stressed that these rents are not costs that must be paid in order to persuade oil companies to produce this oil. Rather, they arise only because the supply of crude oil available from the very lowest cost sources is not nearly sufficient to satisfy the demand. Therefore, demand must be satisfied with oil produced from higher cost sources.

There is an alternative way to look at these \$3 billion of rents. That is, that they represent "transfers" of value from oil consumers to either the owners of the oil land or the oil-producing states.¹² The term "transfers" is used by economists to denote a payment for which no productive service is rendered. As the President's Oil Import Task Force observed, policymakers ought to be concerned about the magnitude of these transfers because "we do not sanction the transfer of value from one group of citizens to others in the absence of clear public policy justification."¹³

Next, I shall show why the United States' policy of mandatory oil import controls is prohibitively expensive when judged by this criterion.

III

The supply of crude oil available from the lowest (resource) cost American sources is not nearly sufficient to satisfy current demand; therefore, domestic producers of crude oil find it profitable to produce additional (i.e., higher cost) barrels only at a higher price. Oil import quotas encourage domestic crude oil producers to produce the desired higher output by restricting severely the price-competition offered by foreign oil. More precisely, whenever oil imports are restricted, the demand for domestic crude oil is raised and this higher demand can be satisfied only at a higher price. This higher price induces the domestic oil producers to raise their output.

The cost to consumers of restrictive oil import controls is approximately equal to the sum of (a) the rise in resource costs because more costly domestic crude oil is substituted for foreign crude oil and (b) the higher cost of purchasing all units of domestic crude oil that would have been purchased at the lower, free trade, price. Use of Figure I permits us to describe the components of the consumers' cost more precisely.

Suppose that with no oil import controls (i.e., free trade) the price of domestic crude oil would be \$2.00 per barrel; however, with import controls the price would rise to \$3.50. If *S*, in Figure I, denotes the supply curve of domestic crude oil, domestic production would rise from 2½ billion barrels to 4 billion barrels if crude oil's price rose from \$2.00 to \$3.50 per barrel. Inspection of Figure I reveals that the cost to consumers of using import controls to raise domestic crude oil output from 2½ billion barrels to 4 billion barrels would be equal to the sum of (a) the higher resource costs because each additional barrel of domestic crude oil (i.e., all domestic output greater than 2½ billion barrels) costs more than \$2.00 to produce, (b) the higher rents earned on the 2½ billion barrels of domestic crude oil that would have been produced even if there had been no import controls, and (c) the rents earned on each barrel of crude oil costing less than \$3.50 but more than \$2.00.¹⁴ These higher rents are paid by the oil consumers to either oil landowners (including oil producers), the oil-producing states, or the federal government.¹⁵ They occur because more domestic oil will be produced only at a higher price; therefore, additional rents are earned on the sale at this higher price of *each barrel of crude oil that would have been produced at a lower price*.¹⁶ Assuming that President Nixon's Oil Import Task Force was correct when it asserted that the government does "not sanction the transfer of value from one group of citizens to others in the absence of clear public policy justification," I conclude that the adoption of restrictive oil import quotas ought to be rigorously opposed.

¹² A large fraction of the most productive oil lands is owned by either the largest oil producing states or the federal government. Therefore, they also collect the royalties and lease bonuses paid by oil companies for the right to produce and sell this oil.

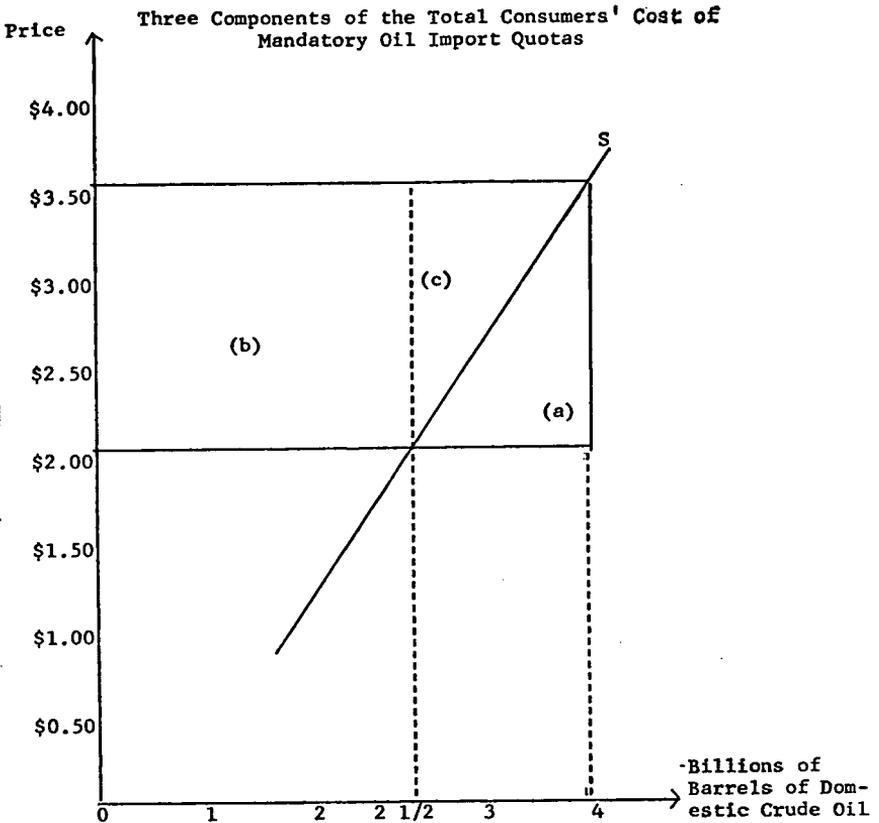
¹³ *The Oil Import Question* (op. cit., p. 259).

¹⁴ The magnitude of the total rise in rents is a positive function of (a) the total increase in domestic crude oil production and (b) the level of the nation's total consumption of crude oil; the rise in rents is a negative function of the price-elasticity of the nation's crude oil supply.

¹⁵ Any increase in national security benefits citizens living in all parts of the nation. However, when oil import quotas are the device by which this increased security is achieved, citizens in one part of the country (the non-oil-producing states) are taxed in order to subsidize citizens of oil producing states. The total rents measure the size of this subsidy.

¹⁶ To illustrate, suppose that at a price of \$3.50 (i.e., the current wellhead price) domestic crude oil producers find it profitable to sell 4 billion barrels (i.e., approximately current domestic output). *Ceteris paribus*, if the price of crude oil rises by \$0.10 per barrel, the owners of these 4 billion barrels will earn additional rents of \$400 million.

FIGURE I



- (a) Higher resource costs of producing each barrel of domestic crude oil in excess of 2 1/2 billion barrels.
- (b) Higher rents earned by owners of the 2 1/2 billion barrels of domestic crude oil that would have been produced if price were \$2.00 per barrel.
- (c) Rents earned on the 1 1/2 billion barrels of domestic crude oil which cost less than \$3.50 but more than \$2.00 to produce.

I have shown that, because the present oil import controls raise the price of crude oil to a higher level and therefore raise the rents on all barrels that would have been produced at a lower price, they have led to the redistribution of large sums of money from residents of oil-consuming states to residents of oil-producing states. Some defenders of the present policy of restricting oil imports argue that all government expenditures for goods and services redistribute large sums of money; hence, oil import controls should not be singled out for special condemnation. It is easy to show the fault in the reasoning of those who advance this argument.

The government spends vast sums on many types of projects to promote our national security. These projects may be distinguished from oil import controls precisely because they do not lead to massive payments of rents, for which no

productive services are rendered, by one group of citizens to another. To illustrate, suppose the Army decides to spend \$1 billion to buy new trucks. This truck purchase has economic consequences which differ from the economic consequences of oil import controls for two reasons. First, the nation's taxpayers pay for this purchase of trucks and the nation's citizens presumably benefit from it. The members of these two groups are largely overlapping. To the extent that they differ it is because of an explicit policy decision by the American government. Second, if the government acquires these trucks from the lowest bidder and if these bids are competitive then the government's funds are used only to pay for truck construction; none are used to raise the rents earned by either the owners and workers of the truck-producing companies or the citizens of the states in which these companies are located.

IV

Mandatory oil import controls were presumably imposed because the American government felt that the United States would become dangerously dependent on foreign oil if there were no restrictions on the amount imported. Mandatory oil import controls must be judged undesirable because the reduced dependence on foreign oil is achieved by raising crude oil's price and this causes a large and regressive redistribution of income from one identifiable group of citizens (i.e., oil consumers) to another (i.e., oil landowners and producers, and citizens of oil producing states). In closing, I would like to suggest three alternative policies which could be used to achieve any desired degree of oil security and which would not have these undesirable redistributive consequences. My brief discussion of each of these policies will be premised on the debatable assumption that, as a result of the elimination of all restrictions on crude oil imports, the government believes that the United States dependence on foreign oil has become dangerously high.¹⁷

Expanded oil storage offers one way to achieve any desired amount of oil security. This could be accomplished either by using specially constructed storage facilities (e.g., salt domes or steel tanks) or by developing, on federal oil bearing lands, shut-in capacity that could be used in the event that the supply of foreign oil was interrupted. At present there is sharp disagreement among experts about the resource cost of this policy. More detailed studies are needed.

A second way to achieve any desired amount of oil security would be for the government to determine how many additional barrels of domestic crude oil it would like to have produced and then to subsidize companies to produce this amount. I shall illustrate one feasible subsidy mechanism. Suppose after all import quotas are abolished (a) the price of crude oil falls by \$1.00 per barrel and (b) as a result of this price fall it appears that the annual production of domestic crude oil will eventually fall by about 1 billion barrels. Suppose ½ billion of these barrels are thought to be "vital" to the nation's security. Then the government could solicit competitive bids asking the oil companies how large a payment they would demand in return for producing the desired additional domestic oil. If these firms are competitive and the government selects the lowest cost bids then this subsidy would be used exclusively for paying the higher resource costs of producing this oil; none would be used for raising crude oil rents.

A third way to get the desired amount of oil security would be for the government (rather than subsidized private firms) to produce the additional crude oil on existing federal lands and to sell it at the going market price.

To conclude, I have argued that the present policy of mandatory oil import controls is unsatisfactory because it violates the criterion that government policies should not lead to large redistributions of income from one group of citizens to another. In addition, I have suggested three alternative policies which do not run afoul of this criterion. As my final point, I would simply say the obvious: that when choosing among those policies which do not involve large redistributions of income from one group of citizens to another, the nation ought to choose the one that has the lowest resource cost.

¹⁷ Many of those who favor retention of the present oil import controls have argued that if the United States eliminated all oil import restrictions, then the governments of the largest oil producing countries would band together to raise crude oil's price. The advocates of this position have failed to realize that if the scenario they paint did take place, then the abolition of all import controls would not coincide with a large increase in American oil imports. Hence, this policy change would not cause a significant national security problem.

Chairman PROXMIRE. I am delighted with that constructive conclusion. I think it is very, very helpful to have these alternatives. Anything we can do to encourage cost estimates of these alternatives, anything that you think, any way these studies can be made, we would be very receptive.

Sometimes this committee is helpful in encouraging studies of this ink to be made.

Mr. MANCKE. Yes; I think I would be interested in doing some of those studies.

Chairman PROXMIRE. You can work with us to suggest how these studies can be made; it would be very helpful.

I would like to ask each of you gentlemen to comment on the fact that, as I understand it, because of the change in exchange rates, because of the devaluation of the dollar and the revaluation of other currencies, the big producing countries, big oil producing countries, exporting countries, now want a higher world oil price.

As you know, it was either last year or quite recently, an agreement was made on the oil that was sold by these big oil producing countries and, as I understand it, that agreement was quite historic and quite interesting. That was the first time the selling countries, the sellers, were able to get an enormous increase. It seemed to be a sellers' market; they say this situation continues and that the negotiations going on, I think, either today or sometime this week, and expect to be consummated in the near future with a still higher price probably for the nonproducing and oil-consuming countries, is likely to develop from this.

Would this change—the question is, Would this change your recommendations in any way if these countries do ask for substantial increases in prices and secure them?

Mr. FREEMAN. Mr. Chairman, it would not change my recommendation because my testimony contemplated and reflected the fact that there is a strong upward push on world oil prices. It seems to me that the price of oil in the United States, if it is to serve as a substantial alternative, is likely to go up at least as much. The history of the last 2 years, despite the almost revolutionary changes in the marketing situation in the world, has been such that the differential between world and domestic crude prices has not materially eroded.

Perhaps it will in the future; no one can be sure. The adjustments because of the exchange rates, however, are just one facet of a much larger new trend.

Chairman PROXMIRE. Yes; but what I was getting at was the exchange rate is just the tool for getting into it right now.

It seems they are going to ask for another hike, probably an increase, but the point was that it seems because of the political unity, perhaps, and also because possibly the supply-demand situation in the world is changing somewhat, the world price is likely to go up rather sharply over the next few years and I wondered if we could expect that to affect these recommendations.

You say that they are not. You had that in mind; it was understood and you have allowed for that in your recommendations.

Mr. FREEMAN. Yes, sir.

Mr. FIELD. Mr. Chairman, if I may comment on that question, there is one preliminary question that needs to be asked in evaluating a

push for higher prices for Middle East crude as a result of changes in world exchange rates over the last few month. That important preliminary question is, In what currency are the Persian Gulf governments and the other OPEC governments currently being paid? Some of the oldest agreements require that the sovereign be satisfied in gold delivered to his capital. The agreements make it quite obvious the sovereigns didn't trust any currency.

But I would suspect, without knowing, that since the majority of Middle Eastern oil is sold in Europe, at least some of these agreements provide for settlement in European currencies. To that extent, the change in the dollar's value has no pertinence at all; and the argument that the amount paid for oil should go up because the dollar has decreased in value is a specious one. So the important preliminary question is, In what currency are the Middle Eastern governments being paid? Unfortunately, to that preliminary question I cannot contribute any reliable answer. Oil executives or possibly other members of the panel might be able to help.

Chairman PROXMIRE. Mr. Mancke, would you like to comment?

Mr. MANCKE. Yes, I would like to make four points about the consequences that will arise if the foreign nations do succeed in raising the price of their oil:

The first is if they do succeed in raising it by a larger amount than the American price of oil is raised, then the common measures of the consumer cost and resource cost of oil import quotas would be less than currently estimated.

Secondly, if the Nation adopted the tariff proposal of the oil import task force, a rise in the price of foreign oil would lead to lower American crude oil imports because the tariff would start to freeze out foreign oil as its price rise.

The third point that I wish to emphasize is that if the price of foreign oil rises and the price of American oil rises, then continued use of oil import controls will lead to an annual redistribution of income for greater than the \$3 billion estimate made in my statement. Hence, the income distribution problems referred to in my statement would be accentuated.

The fourth point that I wish to emphasize is feeling that one reason why the OPEC nations have been able to succeed in negotiating higher prices is because the American market, which is the largest single market for oil, is closed to them. More precisely, they cannot gain higher American sales by cutting prices because of the import quotas. It is the view of many economists that if the U.S. restrictive oil import quotas were abolished, the price of foreign oil would fall because there would be strong economic incentives for several of the large oil-exporting nations to cut their royalties in order to increase their sales to the United States. That incentive does not exist now because the import quotas limit severely any increase in their exports to the United States.

Chairman PROXMIRE. Let me ask—maybe Mr. Field can help me on this: Could it be as much as one-half of any increase in the price of foreign oil is paid for by the American taxpayer because of the tax credit, foreign tax credit we allow?

Mr. FIELD. Better than one-half in most case.

Chairman PROXMIRE. So we do have quite an interest in this. If the price is increased, which it well might be, then because there is such a very large proportion of this is American investment, American corporations which presumably pay taxes to the American treasury, this will result in a tax credit, reduction in taxes to these firms and a greater burden on the American taxpayer?

Mr. FIELD. Yes, sir. As I point out in my prepared statement, the effect of the Internal Revenue Service rulings that permit the crediting of royalty type taxes is to make additional payments to Middle East sovereigns come directly out of the U.S. Treasury. Obviously that lessens the resistance to any proposed price increase of oil company executives who are negotiating with Middle Eastern sovereigns. The oil executive knows that he can pass along to the U.S. Treasury a large portion of the additional payment made to the foreign sovereign.

Chairman PROXMIRE. How about the direct drilling incentive plan that some of us have suggested as an alternative way to encourage domestic drilling?

Mr. FIELD. In my prepared statement, Mr. Chairman, I have mentioned the importance of going directly at the problem of promoting national security in oil, rather than attempting to use indirect and largely ineffective tax gimmicks to promote drilling. So far as I am concerned, one of the most enlightened drilling proposals of this sort was that which you submitted in 1969 to the Senate Finance Committee during their consideration of the Tax Reform Act of 1969. In effect, you said at that time "Look, we are losing very substantial amounts of revenue due to percentage depletion and the intangibles deduction, and we are getting very little in return." And your suggestion was that, instead of indirect tax subsidies whose effect is uncertain, why not take a portion of the money that we are currently losing through the tax system and devote it, instead, to a direct drilling subsidy which would reward one thing only: exploratory drilling. I thought that was a sensible proposal at the time, and I still think it is a sensible proposal.

Chairman PROXMIRE. Without objection, I shall place my proposal for a direct drilling incentive program in the record at this point. (The proposal follows:)

A PROGRAM TO INCREASE THE EFFECTIVENESS OF FEDERAL INCENTIVES FOR ENERGY RESOURCES DISCOVERY*

BACKGROUND

Federal encouragement to the expansion of the nation's resource base is a long standing policy. Implementation of this policy presently includes direct appropriations for geological surveys and support of research and development and an extensive set of income tax incentives designed to favor minerals production. The proposal below is intended to address only a portion of the Federal minerals resource base assurance program, that relating to energy resources. There are two reasons for limiting the proposal to energy resources: energy resources are basic inputs to all stages of the economic process; and the dominant characteristics of the principal energy resources, oil and natural gas, require a continuous high rate of exploration in order to sustain a reliably high level of consumption. The significance and distinctiveness of the energy resources problem is already recognized in Federal programs. Not only are

*This proposal for a direct drilling incentive program was submitted by Senator Proxmire to the Senate Finance Committee in 1969.

particular expenditure programs designated for oil and coal research and development, but special provisions for the taxation of oil and natural gas have been incorporated in the tax laws.

There are obviously two ways by which to expand the nation's energy resource base: by the discovery of new deposits of energy resources; and by the development of technologies for increasing the recovery of useful forms of energy from known mineral deposits. Presently, the bulk of Federal incentives for energy resources exploration and research are directed toward oil and natural gas, and a preponderant fraction of these incentives are provided via the income tax. Very little Federal support of research and development of technologies for increasing the yield from known mineral deposits is being provided and this is almost entirely in the form of direct expenditures. Since reform of the Federal income tax is now before the Congress, the opportunity presents itself for reviewing and improving the effectiveness of existing tax incentives, and comparing them to the amount of direct expenditure.

PRESENT TAX SITUATION

Of the tax incentives for energy resources discovery and development, those for oil and natural gas are by far the most important. This derives from the fact that, in the cases of coal, oil shale, and tar sands, the other principal sources of energy resources, existing known stocks are extremely large relatively to current usage. For these minerals, development of economic technologies for their conversion into liquid fuels, not discovery of mineral deposits, is the critical need.

As is well known, the tax incentives for the exploration and development of oil and gas reserves are provided in the tax accounting for investment expenditures relating to discovery and development of reserves. Due to the nature of these minerals, a major fraction of investment expenditures is devoted to well drilling and the equipment of wells. In 1966, for example, the Joint Association Survey (a cooperative petroleum industry endeavor) reported the following expenditures within the United States:

[Dollar amounts in millions]

	Amount	Percent
Exploration:		
Drilling and equipping wells.....	\$832	18.7
Geological and geophysical expense.....	378	8.5
Land acquisition and rentals.....	827	18.6
Other.....	128	2.9
Total exploration.....	2,165	48.6
Development:		
Drilling and equipping wells.....	1,528	34.3
Lease equipment.....	459	10.3
Improved recovery programs.....	187	4.2
Other.....	119	2.7
Total development.....	2,293	51.4
Total exploration and development.....	4,458	100.0

Under normal circumstances, all these expenditures would be capitalized and treated as the investment cost to be recovered by future production from whatever oil deposits had thereby been discovered and made available for recovery. However, industry practice, reflecting the peculiar technological processes of oil field discovery and the conditions under which individual firms engage in one or more stages of the discovery, development, and production process of the industry, results in normal capitalization of less than the full amount. And, under the tax laws, still less of this investment cost is required to be capitalized and recovered (as depletion and depreciation, from future production).

The major source of difference between oil industry capitalization of investment costs and that permitted under the Internal Revenue Code is attributable to the tax treatment of so-called intangible drilling expenses. These expenses include the costs of clearing land preparatory to drilling, the labor and related costs of drilling, etc. In the data above, it is estimated that about 80 percent of the \$2,360 million for drilling and equipping exploratory and development wells is considered intangible drilling expense for tax purposes, the remainder being

related to depreciable machinery and equipment which is required to be capitalized and recovered over the useful lives of wells. Of course, under normal accounting procedures, and under the tax laws, all non-salvageable costs associated with dry holes would be written-off as an expense. But, under the tax laws, the intangible drilling costs of successful wells also may be written-off as expenses as incurred. Of course, notwithstanding this option under the tax laws to expense depletable investment costs of successful wells, the taxpayer with production is nevertheless able to claim percentage depletion in future years.

This then is the substance of the tax incentive to exploration and development of oil and gas deposits. The tax treatment of intangible drilling expense applies equally to development drilling as well as to exploratory, and herein lies a significant cause of the dilution of the incentive for exploration, without which there could be little expansion of available oil and gas reserves. The attractiveness of expensing of intangibles to a driller depends upon the likelihood that he will tap an oil pool and thereby become eligible to take percentage depletion against future production income. If he drills a dry hole, his investment cost is lost, and though he has been permitted to deduct his costs (as intangible drilling expense, or dry hold deduction) in arriving at taxable income, this affords him no particular advantage. Now, it is well known that the probability of drilling a successful exploratory well is far less than the probability of drilling a successful development well. This follows from the definition of the two classes of wells: "An exploratory well is a well drilled (1) to find and produce oil or gas in an unproved area; (2) to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir; or (3) to extend the limits of a known oil or gas reservoir . . . a development well is a well drilled within the proved area of an oil or gas reservoir, and completed in a stratigraphic horizon known to be productive."¹ Indeed, over the years 1967-1968 only 16 percent of wells classified as exploratory were successful while 75 percent of development wells drilled were successful.² Clearly, once a reservoir has been identified by an exploratory well, little more incentive to development is necessary beyond that provided by the marketability of the oil or gas and the prospect of tax depletion deductions to enhance the after-tax return to the developer. Therefore it may be reasonably concluded that much of the tax incentive from intangible drilling expense deductions is channeled to development, where it is less needed because of the availability of percentage depletion, and not to exploration, where some tax incentive designed to recognize the inherent riskiness of exploration and its importance to the maintenance of the national energy resource base would be desirable.

PROPOSED TAX REFORM

Due to the difficulty of consistently identifying expenditures which result in dry holes with producing properties held by taxpayers, it is proposed to continue to permit intangible drilling expenses associated with dry holes to be currently expensed. However, it is proposed that intangible drilling expenses associated with successful wells be capitalized for tax purposes and the taxpayer permitted to recover this investment cost through cost or percentage depletion in future years, whichever is more favorable for him.

Finally, in order to direct Federal tax incentives toward exploration for oil and gas deposits, it is proposed that a distinction between exploratory and development wells be established under the tax laws. The Secretary of the Treasury with the assistance of the Secretary of the Interior, would promulgate regulations defining exploratory wells for tax purposes; it is to be expected they would adapt definitions already established by the American Association of Petroleum Geologists and which have been utilized for well census purposes in recent years. Then, for *all* exploratory wells, it is recommended that a refundable tax credit equal to 25 percent of intangible drilling costs be provided under the Internal Revenue Code. This credit for exploratory wells that turn out to be dry holes would be additional to the expensing of intangibles. In order that maximum effectiveness of this tax incentive be enjoyed by taxpayers engaged in exploration, it is further recommended that no restrictions be placed on the amount of the credit for which a taxpayer may be eligible in a single year, and that unlimited carryforward be permitted. To minimize the possibility that this incentive will be converted into a tax shelter subject to future attack as a loophole, it

¹ American Petroleum Institute, "Standard Definitions for Petroleum Statistics," July 1, 1969, pp 27ff

² American Petroleum Institute, *Quarterly Review of Drilling Statistics for the United States*, for 1967-1969

is further recommended that the amount of the credit be added to the qualified taxpayer's taxable income. This treatment of the credit has the additional advantage of making the value of the credit slightly larger the lower the income of the taxpayer; as a result, this incentive should provide a positive contribution toward stemming the decline in numbers of independent wildcaters.

The effect of this proposal is shown in Table 1 which compares estimated revenue losses with present law. Altogether, the proposal would entail an annual revenue loss of \$510 million as compared with revenue losses of \$795 million under present law treatment of intangible drilling expenses; this is a net gain of \$285 million in Federal revenues which is available for direct expenditure to stimulate development of economic conversion technologies for coal and oil shale, and to enhance our geologic knowledge of the country, as discussed below, or for general tax reduction. Despite this overall revenue gain, the total tax incentives going to exploration drilling will have been increased by \$100 million, a gain of more than 35 percent over results under the present law treatment of exploratory drilling expenditures.³ Naturally, the source which provides this increase in exploration incentives and the remaining \$285 million revenue gain is the capitalization of intangible drilling costs on successful development wells. As noted above, present provisions for depletion deductions amply protect the economic interests of taxpayers who operate producing wells.

There are a number of advantages which may be cited in favor of this proposal:

1. It provides a positive incentive to taxpayers to undertake the risky business of exploration. Under present law, the weight of the incentives is in the direction of encouraging further drilling of known deposits rather than discovery of new deposits.

2. It introduces no new problems of definition, adds no complexity to existing law. Intangible drilling expenses, on which the credit is based, is a well established tax category, familiar to both taxpayers and revenue agents alike. While the requirement to capitalize intangibles on successful wells is novel in the tax laws, it conforms with common practice in the oil industry. And though the definition of an exploratory well will also be novel in the tax laws, the distinction is well understood by the industry and amendable to objective determination.

3. It more logically relates tax depletion deductions to the capitalized investment costs they were originally intended to cover. Presently, oil industry taxpayers are required to capitalize virtually nothing to represent their depletable base yet they are subsequently allowed depletion deductions. The proposal would allow generous expensing of all costly dry holes and merely require capitalization of intangibles associated with successful wells, the logical basis for depletion.

PROPOSED EXPENDITURE PROGRAM

It is impossible to design a tax incentive program which will explicitly encourage the performance of research and development needed to develop economic techniques for the conversion of coal, oil shale, and tar sands into liquid fuels. Expensing of research and development expenditures is already provided for in the Internal Revenue Code, but this is available for all manner of R & D and it is impractical to delimit this privilege so that it may be used to reward only the successful achievement of predetermined results. Similarly, geologic mapping of the country and its continental shelf, if it is to have maximum utility to geologists generally and minerals explorers specifically, must be publicly funded and the results made available to all.

For fiscal 1970, direct appropriations to the Department of the Interior which may be identified with this objective amount to approximately \$195 million, a large amount of which naturally funds administration of existing information data, and service functions. This amount, which has not varied appreciably in recent years, could be doubled, with nearly all the increase going to active mapping, research and development, and the construction of oil shale and hydrogenation pilot plants, with the net revenue gain from reform of the tax treatment of intangible drilling expenses, and there would still be \$90 million remaining.

This is perhaps not the appropriate form in which to consider the specifics of a set of increased expenditures directed toward ensuring future energy supplies. However, all who retain confidence in the ultimate virtue of Planning Programming and Budgeting Systems would agree that simultaneous consideration of tax and resources policy objectives is a necessary evolutionary step in the

³ See appendix for a numerical illustration of the manner in which this increase in tax benefits comes about under the proposed reform.

perfection of PPBS. The occasion of minerals taxation reform by this Congress is an unprecedented opportunity to take that step.

TABLE 1.—ESTIMATED ANNUAL REVENUE LOSSES, PROPOSED EXPLORATION TAX INCENTIVE PLAN COMPARED WITH PRESENT LAW

[In millions]

Type of well	Revenue loss, under					
	Present law	Total	Exploration tax incentive plan			
			Intangible expensing	Exploration drilling credit		
				United States	Other Western Hemisphere	Rest of world
All wells.....	\$795	\$510	\$365	\$100	\$25	\$20
Exploratory.....	280	380	235	100	25	20
Development.....	515	130	130			

APPENDIX. HOW THE PROPOSED REFORM INCREASES TAX BENEFITS FOR OIL AND GAS EXPLORATION

The tax benefits derived under present law by an average taxpayer who drills exploratory wells with average success are to be compared with the benefits he would derive under the proposed reform of the tax treatment of intangible drilling expenses. Since it is not proposed to alter any other minerals tax provisions, the comparison may be restricted to the tax treatment of intangible drilling expenses.

Assume the average exploratory well driller spends \$100,000 which qualifies as intangible drilling costs on a number of wells (he might actually have a one-thirty second interest in 32 wells) and that he experiences the average success ratio of 0.163 (0.837 of his exploratory wells turn out to be dry holes).¹ Under present law, he may expense his entire \$100,000 of intangible drilling costs; and if his tax rate is 0.50, he is out of pocket only \$50,000 (his tax bill is lower than it would have been by $0.50 \times \$100,000$).

Under the proposal, his intangible drilling costs for exploratory wells are divided into two parts: the one part representing his unsuccessful wells, \$83,700, is fully expensed so that he is out of pocket only \$41,850 with respect to this deduction, but he also has a taxable grant of 25 percent of this \$83,700 which, at his tax rate of 0.50 nets him \$10,462.50 ($0.25 \times \$83,700 \times 0.50$). Altogether, for his original expenditure of \$83,700 on unsuccessful exploratory wells, he is out of pocket only \$31,387.50 (the \$41,850 after deducting intangibles, less the net value of the credit, \$10,462.50). For the other part of his intangible drilling costs associated with successful exploratory wells, amounting to \$16,300 in this instance, which must be capitalized, his only tax benefit is the net tax credit \$2,037.50 ($0.25 \times \$16,300 \times 0.50$), so that he is out of pocket only \$14,262.50 with respect to this portion of his exploration drilling expenditure.² Altogether, then, the taxpayer is out of pocket only \$45,650 (\$31,387.50 for the unsuccessful wells plus \$14,262.50 for the successful wells) under the proposal as compared with \$50,000 under present law. In effect, the proposed exploration incentive has reduced the cost of intangibles to this explorer-taxpayer by 8.7 percent.

The difference between this illustrative result and that reported in the text of the proposal is due to two factors: in the revenue estimates, a lower, more realistic average tax rate applicable to the industry was used; this simultaneously reduces the present law tax benefits and increases the value of the credit. Secondly, in deriving the revenue estimates it was assumed that, due to the large volume of excess foreign tax credits held by United States oil companies, a change in the expensing of intangibles on foreign drilling would have no revenue consequences for the Treasury; however, the proposed credit would benefit all foreign exploratory drilling.

¹ Based on United States drilling experience, 1967-68.

² This assumes that percentage depletion deductions based on future production, which are available under present law and also under the proposal, would always exceed cost depletion of the capitalized intangible drilling costs. In the event there are instances when cost depletion exceeds percentage, as when start-up problems or the net income limitation come into play, the taxpayer would derive additional tax benefits under the proposed reform.

Chairman PROXMIRE. As I calculate that, that would save about \$285 million and increase incentives, I think we estimated, 35 percent.

Mr. FIELD. The figures depend on the shape of the proposal. The precise savings that would be realized depend upon whether the proposal is substituted for only a portion of our petroleum tax expenditures or for the entire mix tax expenditures, including percentage depletion.

Chairman PROXMIRE. Let me get into that with you.

If I understand you completely, Mr. Field, according to the Treasury Department and your calculations, in 1970 intangible expensing cost the taxpayers \$340 million, depletion allowance cost \$1.47 billion, and foreign tax credits for disguised royalty payments cost about \$2.5 billion, a total tax subsidy in 1970 of over \$4.3 billion?

Mr. FIELD. That is approximately correct sir. The precise figures are set forth in my prepared statement.

Chairman PROXMIRE. Yet in spite of that, domestic drilling is declining rapidly; is that correct?

Mr. FIELD. It is. It is a secular, long-term decline but the figures tend downward.

Chairman PROXMIRE. Now, is part of the reason for the lack of effectiveness, the fact that over half of the tax subsidies received by the oil industry go toward encouraging foreign exploration?

Mr. FIELD. Yes; there is no question about that. In effect, an oil company operating in virtually any of the OPEC countries pays a zero tax rate or very close to it.

Chairman PROXMIRE. He has a greater incentive to explore abroad than he has here; and unless his exploration is in Canada, it does nothing to assure a greater militarily secure energy resource; is that right?

Mr. FIELD. I paused a moment ago, because when I was speaking of tax rates I was speaking of the U.S. tax rate. Now, admittedly, there are payments made to overseas sovereigns.

Chairman PROXMIRE. I am talking about what we can do here; what they do there is something we have no control over.

Mr. FIELD. That is correct, and certainly one of the things we can and should be doing is adjusting our tax rules so we do not have a positive incentive to invest overseas as contrasted with domestic investment.

Chairman PROXMIRE. Can you tell me where the rationale, the justification, behind this \$2.5 billion for tax credit subsidy is consistent with the rationale behind the oil import quota program? In other words, can you justify paying the major oil companies to explore for cheap foreign oil and at the same time prevent the American taxpayers from getting the advantage of this oil by limiting its importation through the oil import quota program?

Mr. FIELD. Obviously, those two policies cut in opposite directions.

Chairman PROXMIRE. \$2.5 billion, on the one hand, we take out of the Treasury in effect in a tax expenditure to American oil companies to invest and develop oil abroad, and then we support an oil quota program to keep the oil that they develop out.

Mr. FIELD. Those are obviously inconsistent policies. It seems to me that the step on the tax side that needs to be taken is to look very hard at the Internal Revenue Service rulings which permit the crediting

of so-called taxes which are pretty clearly disguised royalties. The net revenue pickup if those "taxes" were treated as royalties would be about \$1 to \$1.25 billion each year.

Chairman PROXMIRE. I don't know whether you were here when Senator Stevens addressed us.

Mr. FREEMAN. Yes; I was.

Chairman PROXMIRE. I thought he made a very fine and thoughtful statement. I disagree with him, but from his point of view a very excellent job.

What is your reaction to his opposition to the Canadian pipeline? The Canadian pipeline that you mentioned appeals strongly to me. But he said it would be longer and more costly. He said the west coast is where the demand for oil is as contrasted with natural gas; prices are higher on the west coast. How do you reply to that?

Mr. FREEMAN. I think one has to look at the question from the perspective of the United States as a whole and not merely from the perspective of Alaska or of the Midwest or of the west coast. And if one takes that broad perspective, he finds that the area of the United States that is most heavily dependent on foreign oil today, the area that is most vulnerable, is the east coast of the United States, not the west coast. Most of the oil for the west coast is either produced in the United States or in Canada.

On the east coast of the United States, half of the oil supply is coming from overseas. Now, it seems to me that that is a central point.

Another central point is if one wants to improve the security of the United States so far as oil supply, we should try to bring the oil to the area where we are least secure, and bring it there in the most secure manner. I think everyone would agree that an overland pipeline route from Alaska to the United States, through Canada, is a more secure route than a route involving a tanker.

Chairman PROXMIRE. He said tankers were cheaper. He also argued that the pipeline would have to be longer, and because it would be similar to the one in Alaska, it might pose as great an environmental threat or a greater threat.

Mr. FREEMAN. Well, most of the environmentalists believe that the threat of oil spills from tankers is a very dire environmental threat, and that by eliminating the tanker route, one has eliminated a most important environmental damage, potential damage, from the Trans-Alaska route.

Now, as far as the costs are concerned, the studies that I have seen suggest that on a unit cost, that one can transport the oil to markets in the Midwest and the east coast via pipeline as cheaply as any other route.

But I think that Senator Stevens did not mention the overriding consideration that favors the Canadian alternative, and that is the opening of the northern Provinces of Canada for exploration and development, so that we can lessen our dependence on Mideastern oil in the 1980's. I think that the figures, in terms of costs, are quite speculative, no matter what costs one uses. But if his \$3 billion figure is correct for the pipeline across Alaska, that route, if one adds to it the cost of the tankers and the subsidies for those tankers which the Federal Government would have to pay from the Treasury, and the other costs of bringing the oil via that route, I think one would find

that if one is trying to bring the oil to the areas where we are most in need of secure oil, that from a cost and environmental point of view the Trans-Canada route is superior.

But I would like to add just one other thought: All this talk about the oil is missing the most important aspect of it. We have a rather severe shortage of natural gas in this country, not oil. There is no shortage of oil in the world market today. There is a shortage of natural gas. We are taking oil and converting it to gas. The Government is not pursuing this Alaskan energy resource on the basis of expediting the delivery of the energy resource that the consumers need the most, which is the natural gas. In my view, we should not be approving any project for the transportation of the oil, that does not include as part a project for the transportation of the gas, and that has got to be economically a pipeline across Canada.

Chairman PROXMIRE. Your recommendations of oil and gas pipelines across Alaska and across Canada make so much sense, I can't understand why it didn't receive better reception in either administration. You were, as I understand it, the head of the energy policy staff in the President's Office of Science Adviser, both in the Johnson and Nixon administrations?

Mr. FREEMAN. Yes, sir.

Chairman PROXMIRE. Was this proposal seriously considered in the executive branch? If not, why not?

Mr. FREEMAN. It is difficult for me to see how seriously proposals have been considered by the Interior Department. I will say this, I have not given up, and in my testimony today I urged the Secretary of the Interior to favorably consider the Trans-Alaska alternative. He has not made a decision yet. When oil was first discovered—

Chairman PROXMIRE. You say he has not made a decision; there is still time to give it consideration?

Mr. FREEMAN. To my knowledge, he has not issued it.

Chairman PROXMIRE. Have you any knowledge whether he is still considering this possibility?

Mr. FREEMAN. Since I left Government, I know no more than what I read in the paper.

Chairman PROXMIRE. Can you tell us about where the real power is, the clout? What is the oil industry's attitude toward the Canadian pipeline proposal?

Mr. FREEMAN. Well, I don't think they have made any secret of their preference for the Trans-Alaska alternative. They have an application pending for it because they have a lot of money invested, and they feel that their application could be completed perhaps sooner.

Chairman PROXMIRE. How would their financial position be affected if this were built across Canada instead?

Mr. FREEMAN. Well, it is difficult for me to say. I would assume that for the companies that own the oil in Alaska, the cash value of money, discounted value of money, being what it is, they would have a large stake in an early decision on the application they have pending. But it seems to me that the Federal Government has to take a broader perspective. I can see that from the points of view of the companies involved, they have an enormous stake in an early decision of approval of the application that they filed. But my point is that the Federal Government's responsibilities are to the people as a whole, and I

think that the environmental interests and the energy interests of this Nation dictate an alternative, the Trans-Canadian alternative. I would suggest that the way for that to come about would be for the Secretary of the Interior to announce he is not going to approve the Trans-Alaska alternative until an application is filed for a pipeline across Canada so he can evaluate that on a comparative basis.

Chairman PROXMIRE. We have to develop a real consciousness and a real awareness on the part of the people in the Midwest and the East and the rest of the country of their stake in this, because obviously when it comes to a fight between the oil industry on the one hand and the consumers on the other, regardless of what the objective competent experts say about the recent tax laws and the oil import program, you know who wins unless you can focus enough attention so that there is some real political benefit in supporting the consumer position, and the broad public interest position; isn't that correct?

Mr. FREEMAN. Yes, sir; this has been my experience. I think one of the reasons that the Cabinet Committee's study did not get more favorable attention than it received, quite frankly, is that, to my knowledge, we didn't hear from the people on this issue.

Chairman PROXMIRE. You never do expect the people who are interested, people who have a financial interest. Of course, when you have something like the SST or something like that, you hear from them. You hear from conservation people because they are getting organized, they are doing a fine job; but the consumer is so amorphous, all of us are consumers and even though it does hit us a hundred dollars in the pocketbook per family, it is something that is very, very hard to organize and to focus and to develop.

Mr. FREEMAN. What is heartbreaking, Mr. Chairman, is that the discovery of this resource in Alaska gives us the best opportunity that we have ever had to develop strong and mutually supporting relations with the Canadian Government, and if we go our separate ways, we will have blown it.

Chairman PROXMIRE. Well, let me ask you one other question: The oil import quotas are, as you so aptly put it, and I thought this was a very good phrase, was a "drain America first" policy. A system of secure domestic reserves would be far more rational and far less costly.

Your suggestion that importers be required to hold reserves proportional to their imports seems to me to make a lot of sense. The real costs of security would be incorporated into market prices.

How large a reserve would we need? How much would it cost?

Mr. FREEMAN. I think that that would depend on what the contingency planners felt was the required stockpile and, of course, the larger the stockpile the more it would cost. But the important point is that the cost would be directly related to providing national security, and whatever the cost it would be reflected in the price, and the consumer would be getting what he paid for.

To me, that is the most important point. The present program is not producing the security of supply that it purports to be designed for. I can't give you a hard number of what the stockpile program would cost, but it would depend upon the size of the stockpile. It seems to me that if this were a requirement and the cost internalized, there would be all of the incentives in the world for the companies to mini-

mize those costs, and we would have competition working to give them greater incentives to minimize those costs.

Chairman PROXMIRE. Professor Mancke, each time that I am reminded of the costs of Federal oil policies, I am astonished that we continue to put up with these absurdly costly and ineffective programs. The import quotas cost consumers \$5 billion a year. Tax benefits, according to Mr. Field's estimates, cost close to \$4 billion: \$1.6 billion for percentage depletion and intangibles, plus \$2 to \$2.5 billion for tax treatment of foreign royalties. That is a total of about \$9 billion a year. Yet none of these policies is effective in giving us a secure supply of domestic oil. We are paying \$9 billion for policies that do more harm than good, policies that encourage us to use up our domestic oil rather than save it; and drain America first, as Mr. Freeman puts it so well.

Can you explain why no action has been taken to implement the Cabinet task force recommendations? As I understand it, you were on the staff of President Nixon's Cabinet task force on oil import control. Why was no action taken on this?

Mr. MANCKE. I have to confess total ignorance to the answer to that question. There was a fairly broad consensus among a majority of the members of the Cabinet task force that the quotas should be replaced with tariffs. I can't tell you why the President decided not to proceed.

Chairman PROXMIRE. Who were the members of that; can you remember?

Mr. MANCKE. They included Secretary of Labor Schultz as Chairman, Secretary of State Rogers, Treasury Secretary Kennedy, Secretary of Defense Laird, Secretary of Interior Hickel, Secretary of Commerce Stans, the Director of OEP, General Lincoln. In addition, there were six observers: The Director of Bureau of the Budget, the Chairman of the Federal Power Commission, the Assistant Attorney General for Antitrust, the Council of Economic Advisers, the Special Representative for Trade Negotiations, and the Office of Science and Technology.

Chairman PROXMIRE. What was the vote in favor of modifying sharply the oil import program?

Mr. MANCKE. It was 10 to 3.

Chairman PROXMIRE. It was a solid majority?

Mr. MANCKE. Yes, it was a solid majority. There were three dissenters to the report.

Chairman PROXMIRE. Wouldn't you say that a task force of this kind made up of such distinguished Americans would certainly not be construed by any objective observer as being loaded against the oil industry or being loaded against business or being loaded against industry generally?

Mr. MANCKE. That was certainly the sentiment of those of us who were on the staff of the task force.

Chairman PROXMIRE. It would seem to me it would be very sympathetic. I think they are excellent men, men with outstanding reputations, great intelligence, and certainly men who were committed to this country's military as well as economic strength, and they came down overwhelmingly in favor of modifying, sharply modifying, the oil import quota program; isn't that correct?

Mr. MANCKE. Yes.

Chairman PROXMIRE. But the President decided not to follow their advice; is that right?

Mr. MANCKE. That is correct.

Chairman PROXMIRE. Mr. Freeman.

Mr. FREEMAN. Mr. Chairman, if I could add just this thought: Picture for a second the reaction to a Cabinet committee task force that would come out for a tariff comparable to the \$1.45 a barrel oil tariff, for steel or some other commodity that was not subject to any preexisting program. This would be a rather protective type of recommendation.

This Cabinet committee report and recommendation, in my judgment, was a conservative recommendation. They recommended a rather sizable tariff that would come very close to providing complete protection for the existing price of oil. It was not a recommendation that I think could be labeled as in any way not thoughtful, and I think it should be viewed in the context of an alternative to the existing program and not a recommendation that would have left the domestic oil industry at the complete mercy of Arabian oil.

Chairman PROXMIRE. I understand that, and that is why I tried to be careful to say they didn't recommend abolishing the program as some people would do; and they can make a strong argument for abolishing it, but this was quite a conservative, moderate position, as I understand it.

Mr. Freeman, why do we have quotas? You argued very strongly against quotas on Canadian oil. Why do we have these quotas? Are the Canadians at fault? I recall debating this with Senator Russell Long on the floor of the Senate, and I argued that the Canadian oil was militarily secure, more secure than our offshore oil and Alaskan oil. He denied this; he said we might be at war with Canada, and under these circumstances, of course, we might lose our Canadian oil.

Well, dismissing this argument, are there any serious arguments as to why Canadian oil shouldn't be considered as militarily secure as domestic oil?

Mr. FREEMAN. Well, the argument that is seriously advanced is that the Canadians import oil in the eastern half of Canada primarily from Venezuela, but also to a limited extent from the Eastern Hemisphere, and if we opened our market entirely to Canadian oil, that we might be importing more foreign oil through the back door, so to speak. Until the Canadian Government adopts some sort of policy that would prevent the unfettered flow of foreign oil into the United States via Canada, we should not open our markets to Canadian oil without restrictions, so the argument goes.

Well, if one looks at the figures and looks at the size of the Canadian market as compared to the U.S. market, I think that you find that the imports into Canada from other than from the Western Hemisphere sources, which seem to me to be relatively secure, amounted to less than 1 percent of the total U.S. market. We are talking about a thimbleful of oil, so to speak, that Canada imports.

Chairman PROXMIRE. Compared to Venezuela.

Mr. FREEMAN. Most of it from Venezuela.

Chairman PROXMIRE. And the Venezuelan oil is relatively secure. After all, regardless of the criticism of our Navy, and there have been

increasing criticisms of the Navy as to its adequacy, if we can't protect Venezuelan oil, we would be in bad shape.

Mr. FREEMAN. This seems to me more of an excuse than a reason. What we are losing by these quotas are the incentives for companies to go into the northern Provinces of Canada and develop the enormous oil resources up there. With quotas staring them in the face, this is not going to happen. As a matter of fact, the statistics show a rather sharp dropoff in exploration and development in Canada.

Chairman PROXMIRE. So your argument goes much farther and better than the argument I have been making, which would be we ought to simply remove the limitation on Canadian oil because after that it would reduce the price of oil for Americans. You argue that there is more profound and longer term argument here, and that is that it would provide a sharp incentive for the exploration and development and improving Canadian oil resources much more thoroughly than we would otherwise—

Mr. FREEMAN. Yes, sir.

Chairman PROXMIRE (continuing). Resulting in exactly what we want, which is a militarily secure source of energy?

Mr. FREEMAN. Precisely, and I think the same analogy would apply to all of Latin America, and for that reason the removal of the quotas would be a most effective and dramatic action we could take to encourage exploration and development in the relatively secure sources of the Western Hemisphere, and to lessen our dependence on the insecure Arabian oil in the 1980's. But I repeat again that the fundamental answer, Mr. Chairman, has got to be to move to a policy of conservation in the use of oil and other energy resources. We cannot continue to use energy so lavishly and so inefficiently in this country and expect not to suffer rather dire consequences in all of our policies.

Chairman PROXMIRE. Very good. I want to thank all of you gentlemen. I think your testimony has been excellent, most helpful.

The subcommittee will stand in recess until tomorrow morning, and we will convene in this room.

(Whereupon, at 12:15 p.m., the subcommittee was adjourned, to reconvene at 10 a.m., Tuesday, January 11, 1972.)

APPENDIX

(The following analysis of the capital expenditures of the oil industry was subsequently submitted for the record of this day's hearings by William Barrett of the University of New Hampshire:)

INTRODUCTION

United States government officials and American petroleum industry executives have publicly proclaimed that the United States' petroleum policies intent is to provide the American public with a sufficient and secure supply of petroleum products at the lowest possible cost in terms of both resources and prices to the consumer. These policies include the oil depletion allowance, the tax deductible expensing of "intangibles" specifically for the petroleum industry, state prorationing statutes supported by the national Connally "Hot Oil Act", types of foreign tax credits which are tax deductible but which many believe should be royalties and not tax deductible, and the Mandatory Oil Import Program implemented in 1959.

These policies have in effect insulated the petroleum markets in the United States from foreign competition while the American public continues to subsidize the American petroleum industry with the special tax policies and the higher prices resulting from the protected markets and imposed state prorationing.

For years those responsible for the formulation of these policies have asserted that such protection and subsidization benefitting the oil companies would induce them to direct their efforts more conscientiously in the development of sufficient and secure supplies of crude petroleum. In other words, these policies are a response to the belief that consumer demand is insufficient for stimulating the American petroleum industry so that it provides the American consumer with the quantity he demands at a price he is willing to pay. Therefore, unlike most other businesses, the American petroleum industry must be subsidized, protected and semi-regulated so that it is capable, reputedly, to adequately fulfill its supply responsibilities.

In the past, whenever anyone questioned these various forms of subvention or protection, he was immediately told that the level of reserves (accepted as the best measure of the element of security called for by national policy) was constantly threatening to decline, if it had not already done so, and that, therefore, the price of crude and petroleum products must be increased so that the resulting increases in exploration and development activity would replenish those depleted supplies and declining reserves. Prices, rates of return for the oil companies, the level of reserves, and the intensity of exploration and development activity have all been invoked to answer charges that possibly the present national oil policies have been impractical, unnecessary, insufficient, inequitable, profligate, or simply poorly conceived.

It has been said that the American petroleum industry is semi-regulated. By this it is meant that, unlike other industries which are given either a protected market (a market franchise) or a subsidy and are usually subjected (at least in theory) to comprehensive public scrutiny of the recipients' investment policies and effectiveness in providing the desired level of service which initially justified the franchise or subsidy, the oil industry, by contrast, is given both subsidies and an entire protected market without any of the usual accompanying regulatory supervision. Therefore, in order to evaluate the performance of the national oil policies, it is necessary to review the investment performance of the American petroleum industry so that one may determine if the industry is adequately satisfying the original policy justifications.

This paper provides such a review of the American petroleum industry's capital investment and exploration expenditure performance. First, the entire

industry's capital expenditure performance will be considered with particular emphasis on where it has made investments, in what it invested, and how much it has invested in various assets. Then the exploration and development expenditures will be reviewed.

Part II will examine the principle companies in the American Petroleum industry which constitute the Chase Manhattan Bank "Group." The same considerations that were applied to the entire American petroleum industry will be used to focus on the Group: "for what," "where," and "how much" will again be answered.

Following the analysis of the Group, this paper will then consider the expenditures in the light of the net income and cash flow performances by the Group's companies, and then of those American petroleum companies whose financial results are subsumed in the statistics compiled by the FTC and SEC. This analysis explores the American petroleum industry's performance in an attempt to establish relationships between the amount of capital expended for exploration and development of new reserves and the achieved rates of return, the price of crude oil in the United States, and/or the growth in cash flow and net income for the petroleum companies.

Finally, the paper will conclude with a review of the level of reserves and the exploration and development expenditure performance by the American petroleum industry to determine if there is any relationship between the two. There will then follow a reiteration of the salient facts and some concluding assessments of the efficacy of the present national oil policies.

All data and other information contained in this paper was extracted from the publications of the Chase Manhattan Bank dedicated to the review of the industry's operations and those of the Group. The information found on Charts P-1 and P-2 was taken from the Office of Emergency Preparedness *Report on Crude Oil and Gasoline Price Increases of November 1970*, which is also the source of those charts before being supplemented by this writer.

Two remarks regarding the data and its use: first, there is an appalling paucity of impartially compiled information concerning the petroleum company financial performance, production capabilities, and reserves. Earnings are not segregated according to functional source (i.e. chemicals, crude sales, refined products sales, etc. and their location, U.S., Middle East, Europe, etc.). A serious indictment of United States oil policy is that adequate information is not available enabling objective review and appraisal. Because the American Public suffers this lack of information, Part I of this paper can not determinantly explore the industry's performance in as much depth as required. The review of the Group is more penetrating, but still woefully incomplete resulting from insufficiency of requisite facts. Responsible and efficacious policy requires all relevant obtainable information. Many have complained of this inadequacy in petroleum industry information, but little has been done to rectify it. For this reason alone, national petroleum policies should be challenged demanding release of the captive facts and validation of the pittance of publicly divulged information.

Second, this paper deals with relationships and trends, not with absolutes. It employs marginal analysis in studying the relationships among petroleum industry operations when reviewing how much more is applied to activity "A" in location "X" at the expense of activity "A" in location "Y", or how much of B in X at the expense of A in X, etc. These marginal relationships manifesting growth trends constitute the proper perspective for policy appraisal and design. The magnitudes of some of the dollar amounts discussed will appear conclusive and dominant until one observes the more recent trends evincing performance possibly incompatible with policy intentions.

A simple standard has been applied for evaluating the effectiveness of the present policies: if the American petroleum companies in the past have increasingly devoted their capital and exploration expenditures to purposes involving the continued development of new oil reserves in the United States, or in areas whose crude is unrestrictedly augmentable to the United States reserves, then these policies will be considered effective, and the American petroleum companies will have responsibly fulfilled their obligation. If, on the other hand, the American oil companies have diverted capital investments and exploration expenditures necessary for the continuous development of oil reserves in the United States from purposes of domestic supply and reserve development to activities either in foreign countries or for purposes not directly related to the discovery of more domestic crude, then the present policies are considered ineffective and revisions should be made.

I. A review of the capital expenditures made by the entire American petroleum industry

A. General dimensions of the American petroleum industry's capital expenditures.

In its 1969 edition of *Capital Investments of the World Petroleum Industry*, the Chase Manhattan Bank reported that American petroleum companies accounted for 65.2% of the \$18.4 billion of total capital expenditures by petroleum companies world-wide, 91.5% of the \$8.2 billion invested in the United States, 44.1% of the \$10.2 billion invested in the Free World areas outside the U.S., and, of critical importance, American oil companies accounted for 81% of the world-wide spending in the search for new petroleum reserves. This 81% not only includes capital expenditures for production, but also exploration expenses which are not capitalized, but written-off as "intangibles", according to the United States tax laws.

B. Rates of growth of major types of capital expenditures in the United States and in foreign countries by American oil companies.

One perspective for evaluating the American petroleum companies' investment performance is to compare the growth rates of their total investment, their investments in the U.S., and their investments in foreign countries from 1964 to 1969, the years for which information was readily available.

Between 1964 and 1969, their total capital investment increased 38.3%, from \$8,690 million per year to \$12,005 million: their capital investments in the U.S. increased 22.9% from \$6,100 million per year to \$7,455 million while in foreign countries, however, their total investment increased 76.3% from \$2,580 million per year to \$4,510 million. In other words, the rate of growth for foreign investments by American petroleum companies is over three times as fast as the rate of growth for their domestic investments.

There is another perspective for reviewing where the American oil companies are investing their capital. Again using the years 1964 to 1969 for comparisons, the accompanying table and charts show that in 1964 American petroleum investment and capital expenditures totaled \$8,680 million. Of this, \$2,580 million, equal to 29.7% of their total capital expenditures, was invested in Free World Foreign Countries, and it accounted for 41.8% of the total capital expenditures for that year in those countries. Progressing through the table and charts, in 1969 the American petroleum companies had capital expenditures of \$12,005 million. Of this, \$4,510 million, or 37.6% of their total capital expenditures, was invested in Free World Foreign Countries, where it accounted for 44.2% of the total capital investments by all petroleum companies in those countries.

One can observe, therefore, that since 1964 the percentage of total American petroleum company capital expenditures abroad, or in other countries, has steadily increased from 29.7% to 37.6%.

One can also observe that capital expenditures by American companies through this period have accounted for 41.8% to 44.2% of the total capital expenditures in other countries, accounting for as much as 49.3% in 1966.

Interestingly enough, American petroleum companies do not account for all of the capital expenditures made in the U.S. The following percentages next to their respective years are the proportion of the total capital expenditures in the U.S. by American companies: 1965—92.2%, 1966—91.5%, 1967—90.9%, 1968—91.5%.

This relationship has remained fairly constant during the period considered. Therefore, it is entirely reasonable to suspect that the American petroleum companies are responsible for the declining efforts, in terms of rate of growth compared to the efforts realized in other countries, in exploration and production capital expenditures in the U.S. throughout most of this decade.

C. The magnitude of the capital investment lost to foreign countries as a result of increased allocation from the U.S. to foreign countries.

The 8% increase, from 29.7% in 1964 to 37.6% in 1969, in the capital allocated predominantly by American petroleum companies to foreign countries at the expense of the U.S. domestic petroleum industry is staggering. If in 1969 American petroleum companies had continued to maintain the 1964 proportion between foreign and domestic expenditures of roughly 30% and 70%, then an additional \$960 million would have been invested in the U.S. domestic petroleum industry. This extra \$960 million would have more than doubled the \$725 million spent for exploration expenses in the U.S. for 1969; it would have been more than three times the expenditures for pipelines, more than nine times the expenditures for tankers and tanker facilities, and it would have increased the domestic capital expenditures for that year allocated to production by 20.2%.

D. A more precise review of the types of capital expenditures made by American petroleum companies according to function and location.

Keeping in mind the historically allocated shares between domestic and foreign expenditures and expenses by American petroleum companies between 1964 and 1969, it is pertinent to review the trends for these expenditures for the years including and between 1958 and 1969.

Capital expenditures include investments for the following activities and facilities: production, pipelines, marine (tankers and tanker facilities), refineries, chemical plants, marketing, and other investments, presumably diversification by oil companies into other fields of energy fuels and industry. The following table considers exploration expenses, capital production expenditures, total capital expenditures, and the total combined capital and exploration expenditures and expenses for the Free World, the United States, and the Free World excluding the U.S. It compares these respective expenditures and expenses for the years 1958 and 1969. Beside the 1969 figures are percentages in parentheses denoting the increase for that particular expense or expenditure in its respective area from 1958 to 1969. The accompanying chart portrays the changes in these four expenditures for the three areas in two-year increments from 1958 and 1969.

INVESTMENT PERFORMANCE OF THE AMERICAN PETROLEUM INDUSTRY

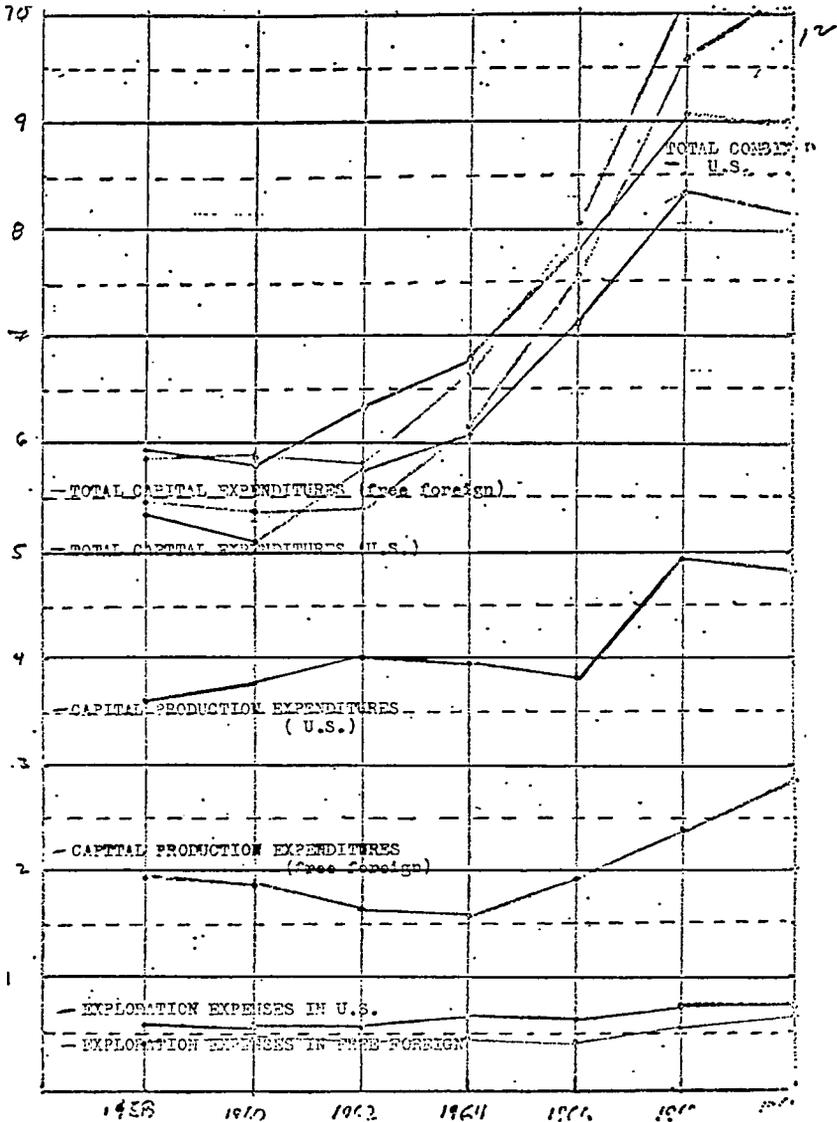
[Dollar amounts in millions]

	1964	1965	1966	1967	1968	1969
Total capital expenditures by American petroleum companies.....	\$8,680	\$9,450	\$9,845	\$10,905	\$11,985	\$12,005
Total capital expenditures in the United States by American petroleum companies.....	6,100	6,375	6,525	7,000	7,745	7,495
Total capital expenditures in free foreign countries by American petroleum companies.....	2,580	3,075	3,320	3,905	4,240	4,510
Percent.....	29.7	32.5	33.7	35.8	35.4	37.6
Total capital expenditures in free foreign countries.....	6,175	6,800	7,550	7,925	9,550	10,200
Percent.....	41.8	45.2	44.0	49.3	44.5	44.2

Note: The percentage figures under the "Total capital expenditures in free foreign countries by American petroleum companies" are for the percentage of total American capital invested in foreign countries.

[Dollar amounts in millions]

	1958 amount	1969	
		Amount	Percent
Free world:			
Total capital expenditures.....	\$10,760	\$18,375	71.7
Production expenditures.....	5,575	7,540	35.2
Exploration expenses.....	1,050	1,380	31.4
Total capital and exploration expenditures.....	11,750	19,755	68.1
United States:			
Total capital expenditures.....	5,300	8,175	54.2
Production expenditures.....	3,650	4,750	30.1
Exploration expenses.....	650	725	11.5
Total capital and exploration expenditures.....	5,950	8,900	49.6
Foreign free world:			
Total capital expenditures.....	5,400	10,200	88.9
Production expenditures.....	1,925	2,790	44.9
Exploration expenses.....	400	655	63.8
Total capital and exploration expenditures.....	5,800	10,855	87.2



After reviewing the table and chart, it is apparent that American firms are investing an increasingly larger percentage of their capital expenditures and exploration expenses abroad at the expense of their counterpart expenditures in the United States. More penetrating analysis shows that exploration expenses, which are the primary costs incurred in the search for new oil reserves, grew during the period in the United States only 11.5%, but in the Foreign Free World they increased 63.8%. Considering American firms are responsible for over 80% of these exploration expenses, these figures dramatically illustrate increasing U.S. taxpayer subsidization of foreign petroleum exploration, potential supplies which current United States policies prohibit Americans from enjoying.

1. Trends in the allocation of capital expenditures among the primary utilizations of capital in the U.S. petroleum industry.

Although total capital expenditures during the period increased 54.2% in the U.S., capital expenditures involving production, the investments requisite to develop and make operational the discovered reserves, increased only 30.1%. Of course, if the American companies are discovering less new oil within the U.S., they will not be compelled to increase their production capabilities. But, if total capital expenditures made by the American petroleum industry in the U.S. increased faster than those expenditures made for production purposes, it is imperative to ask how much and for what are these funds specifically being spent. The following chart provides the answers; the figures in parentheses after the 1969 figures are the percentage increases for that particular category of investment from 1958 to 1969.

CAPITAL EXPENDITURES IN THE UNITED STATES

[Dollar amounts in millions]

Type of capital expenditure:	1958	1969	
	amount	Amount	Percent
Production.....	\$3,650	\$4,750	30.1
Pipelines.....	225	300	33.3
Marine (tankers and tanker facilities).....	125	100	-20.0
Refineries.....	600	950	58.3
Marketing.....	400	850	212.5
Chemical plants.....	125	575	520.0
Other (possibly diversification into other fuels and industries).....	175	250	54.2

These figures show that the American petroleum industry has, since 1958, allocated an increasingly larger proportion of its domestic capital expenditures into assets and programs for marketing and chemical plants rather than apply these funds to such essential purposes as production, pipeline, marine and even refinery activities. Capital expenditures for "other" applications increased faster than those for production, pipelines, and marine expenditures, and almost equaled in its rate of growth that of refinery expenditures. From this review it would not seem unreasonable to suggest that the American petroleum companies are becoming less concerned with developing, producing, transporting and possibly even refining more oil *in the United States*; instead, they are more inclined to continue development of improved and expanded marketing facilities and programs as well as their production capabilities in chemicals at the expense of their domestic crude oil capabilities.

Another interesting observation is the decline in the investment in tankers and tanker facilities. Considering the observed fact that an increasingly greater portion of the petroleum companies' capital expenditures are being channeled to their foreign operations, it would seem justifiable expecting them to develop and increase their tanker capabilities necessary to transport foreign oil to the American taxpayer/consumer. However, the *decline* in domestic tanker investment by American petroleum companies suggests that perhaps, in their opinion, the American public should be increasingly dependent on the foreign tanker operators.

2. Trends in the allocation of capital expenditures among the primary utilizations of capital by American petroleum companies in foreign countries.

If the American petroleum companies are investing more of their capital expenditures in foreign countries at the expense of the domestic petroleum operations, how are they allocating their foreign investments and expenditures? Do their foreign capital expenditure policies reflect an obviation that eventually the United States will be dependent on foreign oil and therefore require development of increased foreign reserves and concessions by American companies? Although this objective is not consonant with the intentions of United States oil policies, even such an understandable but not acceptable policy appears not to be supported by the facts.

Remembering that the growth in free foreign exploration expenses and production capital expenditures from 1958 to 1969 was 63.8% and 44.9% respectively, compared to those for the United States of 11.5% and 30.1%, these increasing expenditures for the development of foreign oil are overshadowed by the tremendous increases in capital expenditures for foreign assets not directly employed in the production or transportation of oil.

FREE FOREIGN CAPITAL EXPENDITURES

[Dollar amounts in millions]

Type of capital expenditure:	1958 amount	1969	
		Amount	Percent
Production.....	\$1,925	\$2,790	44.9
Pipelines.....	335	610	82.1
Marine (tankers and tanker facilities).....	1,185	1,990	67.9
Refineries.....	960	2,260	135.4
Chemical plants.....	85	735	746.7
Marketing.....	745	1,555	108.7
Other.....	165	260	57.6
Total capital expenditures.....	5,400	10,200	88.9

As in the other table, the percentages indicate the increase for that particular type of capital expenditure. Like the production capital expenditures in the United States for the same period of time, the foreign production capital expenditures grew less than any other type. Capital investments in tankers and marine facilities was the second slowest growing type of free foreign investment. The immense increases in marketing, chemical plants, and foreign refinery construction again suggest that the oil companies of the United States are not directing their investment efforts to the production and discovery of new oil supplies as much as they did in 1958.

E. Comparisons of the amounts of various types of capital expenditures by function of the years 1958 and 1969 made in the U.S. by American petroleum companies.

In the United States in 1958 capital expenditures for production purposes, \$3,365 million, accounted for 68.9% of the total capital expenditures of \$5,300 million. In that same year, capital expenditures for refineries, chemical plants, and marketing facilities, totaling \$1,125 million, accounted for 21.1% of total U.S. capital expenditures by American oil companies in the U.S.

When one compares the above percentages and expenditures for 1958 to the following for 1969, the results are immediately apparent. In 1969 production capital expenditures of \$4,750 million accounted for 58.1% of total capital expenditures of \$8,175 million. Capital expenditures for refineries, chemical plants, and marketing equaled 29.1% of the \$8,175 million. Since 1958 an increasingly larger portion of total available capital has been invested in refining, chemical production, and marketing at the expense of production assets by U.S. petroleum companies in the U.S.

While efforts in the U.S. for petroleum source development have declined relative to other ventures by petroleum companies, so have exploration efforts compared to production efforts also declined in the U.S. since 1958. In that year, combined exploration expenses and capital expenditures for production totaled \$4,300 million, of which exploration accounted for 15.1%. In contrast, in 1969 the total combined capital production expenditures and exploration expenses was \$5,474 million, of which exploration expenses accounted for only 13.2%. In the U.S. even exploration for new sources of oil is declining relative to production expenditures.

F. Comparisons of the amounts of various types of capital expenditures by function of the years 1958 and 1969 made in foreign countries by American petroleum companies.

In 1958 total capital expenditures by American petroleum companies in the foreign free world totaled \$5,400 million, of which 35.6% (\$1,925 million) was for production capital expenditures, and 33.1% (\$1,790 million) allocated for refineries, chemical plants and marketing.

In 1969 capital expenditures in the free foreign world for production purposes totaled \$2,790 million, or 27.4% of the total capital expenditures of \$10,200 million. The capital expenditures for refineries, chemical plants, and marketing in the free foreign world were \$4,550 million, or 44.6% of the total capital expenditures. As in the U.S. the American oil companies are investing more in assets not directly involved in the production of more crude oil.

In 1958 the combined total of production and exploration expenses was \$2,325 million, of which exploration accounted for 17.2% (\$400 million). In 1969 the combined total was \$3,445 million, of which exploration expenses accounted

for 19.0% (\$655 million). Therefore, in the foreign countries more was spent by American petroleum companies for exploration in 1969 compared to production capital investment than in 1958.

These figures reflect trends manifest by the activities of the American petroleum companies de-emphasizing the development and exploration of United States petroleum supplies. They demonstrate an increasingly assiduous effort by these companies to develop foreign operations and foreign oil supplies. Although the total investment by the American oil companies has continued to grow, growth in activities not directly related to the exploration and development of domestic oil supplies has been at the expense of commensurately increasing the domestic oil production capabilities.

II. A review of the capital expenditures made by the American petroleum companies comprising the Chase Manhattan Bank "group"

A. The dimensions and composition of the Chase Manhattan Group.

It is necessary to analyze the composition of the American petroleum industry so that one may diagnose if the larger companies, those possessing the greatest financial resources and economic power, are primarily responsible for the trends exposed in Part I.

There are an estimated 10-12,000 oil producers in the United States. This includes any individual or firm having an operating interest in any producing property. About 30% of total domestic production is sold by independent producers. According to the Department of Interior, in 1966 the 20 largest domestic oil companies produced over 59% of the total domestic crude output.

The Chase Manhattan Bank annually publishes a financial analysis of a "Group" of 27 to 31 American petroleum companies. The composition of the Group has been altered slightly and the number of its members has decreased by a few, principally resulting from mergers. But it includes all the largest companies.

In 1969, the Group accounted for 69.7% of U.S. crude oil production. In that same year, the Group was responsible for 53% of free foreign country crude production, and 57.5% of all free world production of crude oil. According to the Chase Manhattan, in 1969 "approximately" one-third of the Groups production occurred in the United States while the Middle East accounted for another third with the "rest of the oil produced in widely scattered foreign sources."

Also in 1969 the Group accounted for 81.3% of all the capital and exploration expenditures by the American petroleum industry, and 53.1% of all capital and exploration expenditures in the Free World.

Five companies in the Group, Jersey Standard, Gulf, Texaco, Standard of California, and Mobil, produce over half of the production and almost half of the refinery runs in the Free World outside of the United States. These five companies, along with British Petroleum and Royal Dutch Shell, compose the "seven sisters" who control 58% of the giant oil fields in the Free World and 79% of the ultimate reserves.

The Office of Emergency Preparedness publication, *Report on Crude Oil and Gasoline Price Increases of November 1970*, reveals that—

From 1946 to 1955 the Chase Manhattan Group . . . averaged \$1.4 billion per year [in expenditures for exploration and development of oil and gas reserves] while all others, including literally thousands of independents, averaged \$1.3 billion.

After 1955, however, this relative situation changed materially. By 1969, the Chase Manhattan Group had increased its annual expenditures for exploration and development by 50%, but the other elements of the industry were expending 45% less than their 1956 level of investment.

Undoubtedly, the Group is the predominant collective of petroleum industry financial resources in the Free World.

DISTRIBUTION OF THE GROUP'S INCOME DOLLAR

[In cents]

	1963	1964	1965	1966	1967	1968	1969
Operating costs and expenses.....	74.6	74.7	73.7	73.2	73.4	73.2	73.5
Writeoffs and other charges.....	8.9	8.6	8.7	8.5	8.1	8.1	7.8
Income and other taxes.....	6.8	7.0	7.7	8.3	8.7	9.1	9.9
Income applicable to minority interests..	.2	.1	.2	.2	.2	.1	.2
Dividends to stockholders.....	4.6	4.9	5.0	4.9	4.7	4.8	4.7
Reinvested in business.....	4.9	4.7	4.7	4.9	4.9	4.7	3.9

B. Review of the Group's operating performance between 1963 and 1969.

The Group's gross income increased 52.1% from \$40,292 million to \$65,328 million while its operating costs and expenses increased 54.6% from \$29,806 million to \$47,088 million. The following chart, "Distribution of the Group's Income Dollar," shows that while operating costs and expenses decreased 1.1%, income and other taxes accounted for 3.1% more. However, dividends to stockholders increased, especially in 1964, 1965, and 1966, while the percentage reinvested decreased. As operating costs declined, taxes and dividend payments increased.

The Group's cash earnings, consisting of net income, write-offs (depreciation, depletion, amortization, and retirements), and "other non-cash charges (net)," increased 50.0% from \$7,492 million to \$11,238 million. Net income increased 47.5% while combined write-offs and other non-cash charges increased 57.3%. Net income earned in the U.S. increased 57.3% while net income earned in foreign countries increased 29.9%. The Group realized the following proportions of its net income in the U.S.: 1963-64%, 1964-65%, 1965-73%, 1966-71%, 1967-71%, 1968-70%, and 1969-68%, all averaging 68.9% throughout the period.

As mentioned earlier, a more detailed review of earning performance according to corporate function and geographical location is not available. But it is important to note that almost 70% of the Group's cash earnings have been generated in the United States.

Reviewing the Group's working capital sources and uses according to table "Source and Use of Working Capital-Per cent distribution," it is apparent that the decline in cash earnings' contribution to working capital has been replaced by increasing long-term debt. The Group's companies are no longer entirely self-sufficient in generating their desired levels of working capital.

SOURCE AND USE OF WORKING CAPITAL, PERCENT DISTRIBUTION

	1963	1964	1965	1966	1967	1968	1969
Funds available from—							
Cash earnings.....	86.8	86.8	85.3	76.7	74.8	71.6	76.4
Net income.....	51.0	52.0	52.0	53.0	54.0	52.0	50.0
Writeoffs.....	47.0	74.0	46.0	46.0	45.0	44.0	45.0
Other noncash charges (net).....	2.0	1.0	2.0	1.0	1.0	4.0	5.0
Long-term debt.....	7.3	6.4	11.0	15.3	17.3	23.7	18.6
Preferred and common stock issued.....	3.4	4.7	1.1	1.5	3.4	2.6	1.8
Sales of assets and other transactions.....	2.5	2.1	2.6	6.5	4.5	2.1	3.2
Funds used for—							
Capital expenditures.....	57.1	65.8	65.0	63.8	64.8	63.3	66.4
Investment and advances.....	5.5	4.1	2.8	4.3	3.4	4.7	4.4
Dividends to companies' shareholders.....	21.7	23.1	22.7	20.0	19.6	18.9	20.9
Dividends to minority interests.....	5	5	5	4	4	4	4
Long-term debt repaid.....	5.4	5.6	4.1	6.7	4.8	6.5	12.5
Preferred and common stock retired.....	2.5	3.3	3.1	1.9	7	7	1.0
Change in working capital.....	+7.3	-2.4	+1.8	+2.9	+6.3	+5.5	-5.6

With the assumption of more debt, repayment naturally begins to consume more working capital as shown. Capital expenditures consumed 9.3% more working capital whereas investments and advances decreased.

Returning to the sources of working capital, notice the relative continuity of cash earnings distribution among net income, write-offs, and non-cash charges. Because cash earnings and long-term debt during the period supplied 93-96% of working capital, one must consider how increasingly larger amounts of debt contributed to the Group's investment performance.

Comparing the Group's 1963 and 1969 consolidated balance sheets, long-term debt increased \$7,498 million from \$5,347 million (10.7% of 1963 total liabilities and net worth) to \$12,845 million (15.2% of 1969 total liabilities and net worth). This \$7.5 billion increase would not have completely provided for the \$9.35 billion the Group spent on marketing facilities and programs, between 1963 and 1969. The \$1.98 billion the Group invested in assets not pertaining to production, transportation, and refining and chemicals would have consumed about 26% of the \$7.5 billion.

More important is the perspective manifest by the following table, "Expenditures and Earnings." Notice that the figures in column F exceed their year's corresponding figures in columns B, C, and D; cash earnings minus all dividends were more than sufficient to fund all the capital and exploration expenditures in the U.S., let alone being twice as large as the funds allocated for exploration and development for their respective years.

EXPENDITURES AND EARNINGS

[In millions of dollars]

Year	A Total capital and exploration ex- penditures, worldwide	B Total explora- tion and develop- ment expendi- tures, worldwide	C Total capital and exploration ex- penditures in the United States	D Exploration and development ex- penditures in the United States	E Cash earnings	F Cash earnings minus share- holder and minority in- terest dividends
1963-----	5,528	3,401	3,895	2,612	7,492	5,572
1964-----	6,484	3,962	4,658	3,007	7,719	4,615
1965-----	7,079	4,128	5,001	2,923	8,425	6,136
1966-----	8,363	4,190	6,143	3,046	9,292	6,813
1967-----	9,327	4,456	6,581	3,247	10,080	7,381
1968-----	10,329	5,436	7,282	4,135	10,958	8,008
1969-----	10,485	5,346	7,222	3,918	11,238	8,198

A revealing comparison is obtained by dividing the annual amounts in column F (cash earnings minus all dividends) into the respective figures in Column D (exploration and development expenditures in the United States). The resulting figures of exploration and development financed in the U.S. as a percentage of cash earnings minus dividends are: 1963—46.9%, 1964—65.2%, 1965—47.7%, 1966—44.7%, 1967—43.9%, 1968—51.6%, and 1969—47.8%. The Alaskan tract sale in 1968 and the earnings growth decline in 1968 and 1969 account for the resurging percentage in those years. But these figures do not demonstrate any pervasive lack of funds which would restrict production and development expenditures in the U.S. unless augmented by debt.

It is evident that the Group's cash earnings minus dividends exceeded (1) total capital and exploration expenditures in the U.S., and (2) the total exploration and development expenditures allocated throughout the world, much less in the U.S. alone. Therefore, it is fair to say that the Group was not forced to supplement cash earnings with debt providing it funds required by the selected level of exploration and development activity either in the U.S. or world-wide. The Group's operations have been more than capable in generating the requisite funds to satisfy United States oil policies.

Although insufficient data precludes precise answers to the question how the Group's cash earnings have been allocated, trends are reflected by reviewing its total capital allocations.

C. Extent and Growth of the Group's total expenditures throughout the world, in the U.S., and in foreign countries between 1963 and 1969.

Total world-wide capital and exploration expenditures increased 89.9% from \$5,528 million to \$10,485 million. But, while world-wide exploration and development costs increased 57.2% from \$3,401 million to \$5,346 million, world-wide capital expenditures for other purposes increased 95.0% from \$2,127 million to \$5,139 million.

In the U.S. combined capital and exploration expenditures increased 85.4% from \$3,895 million to \$7,222 million. Exploration and development costs increased only 50.0% from \$2,612 million to \$3,918 million while capital expenditures for other purposes increased 158% from \$1,283 million to \$3,304 million.

In foreign countries combined capital and exploration expenditures increased 99.8% from \$1,633 million to \$3,263 million. Exploration and development costs increased 81.0%, \$789 million to \$1,428 million, while capital expenditures for other purposes increased 117.4% from \$844 million to \$1,835 million.

The U.S. has suffered lower growth rates in petroleum company investment except for that in "other" capital investments. Even with the slower growth of world-wide exploration and development costs, the U.S. was below the world-wide average. A more detailed review follows.

D. A review of the Group's capital expenditure allocation according to function and location between 1963 and 1969.

(1) Allocation by function of total world-wide capital expenditures made by the Group. (Chart G-1)

One immediately realizes that the only type of investment that experienced a decline is that for production purposes, falling from 59.2% of total capital expenditures to 50.9%. Refining and chemical facilities enjoyed the largest increase, rising from 14.9% to 21.0% of the total. However, it was impossible to segregate from the available data what were the respective shares for both refining and chemical plant Transportation Investments for marketing remained

relatively unchanged, falling from 17.0% to 16.4%. Transportation investments increased their share of the total by only .1%, while capital expenditures for "other" purposes increased from 1.8% to 4.1%. According to these figures, the Group's investments world-wide indicate declining efforts for the production and transportation of oil, and possibly little increase in its refining capabilities when compared to its increasing indulgence in "other" activities.

(2) Capital expenditures in the United States by function as a percentage of the total world-wide capital expenditures made by the Group. (Charts G-2 and G-3).

Since 1963 the companies in the Group have maintained a fairly constant percentage of total capital expenditures in the United States: this relationship hovered closely around 69%, moving from 69.8% to 68.9% (Chart G-2).

However, it is important to review what type of assets this capital was invested in. As a percentage of the Group's total capital spent world-wide for various purposes, the portion spent for production in the U.S. declined from 77.4% to 72.8% of the total world-wide production expenditures. But, marketing's share increased 3.2%, transportation's share increased 3%, and refining and chemical's share increased 1.6%. Once again, there is a demonstrable decline in the application of funds for production purposes in the United States.

(3) Capital expenditures in the United States by function as a percentage of the Group's capital expenditures in the U.S. (Chart G-3).

Of the Group's expenditures in the U.S., it is again startling to observe that expenditures made for production suffered the only decline, falling 11.4% from 65.6% of the total to 53.8%. But, all the other types of capital allocation, again, experienced increases in their shares of the total: refining and chemical facilities absorbed 7.7% more, "other" picked up 4.9% more of the total, marketing gained 2.7% while transportation gained only .4% more. This decline in production expenditures as a share of the total capital allocated by the Group for investments in the U.S. raises serious doubts about the companies in the Group obligingly responding to the intentions of the U.S. oil policy.

(4) Capital expenditures in foreign countries by function as a percentage of the Group's total capital expenditures made in foreign countries. (Chart G-5).

Perhaps it is significant that the companies in the Group actually increased production's share of the total capital expenditures in foreign countries by a minuscule .1%. Anyway, this is certainly an improvement over the 11.4% decrease in the total U.S. invested capital made by the Group in production assets in the U.S. While production expenditures in foreign countries by the Group moved in a zone about 44% of the total invested in those countries, transportation's share declined from 14.6% to 13.8%, marketing declined from 29.8% to 27.1%, and refining and chemicals increased its share from 20.3% to 22.6%, rising even higher in 1967. Even capital investments in "other" resources in foreign countries increased their share of the total, rising from 1.1% to 2.1%.

Also pertinent is the fact that the Group has increasingly devoted larger percentages of its expenditures to operations in the Eastern Hemisphere. (see Chart G-8) While the percentage of world-wide capital allocated to the United States by the Group moved from 69.8% to 68.9%, these American petroleum companies increased the proportion of the total invested in the Eastern Hemisphere from 16.9% to 19.1%, mainly at the expense of their expenditures in Western Europe.

In 1963, total net investment had the following distribution: U.S.—72.1%, Foreign countries—27.9%, of which was apportioned 51.2% in the Western Hemisphere and 48.8% in the Eastern Hemisphere. In 1969, this distribution had changed to the following: U.S.—70.1%, Foreign Countries—29.9% with the Western Hemisphere's share declining to 42.3% at the expense of the Eastern Hemisphere's 57.7%.

The Group is increasing its capital expenditures in the Eastern Hemisphere faster than in any other region of the world. Because there are restrictions presently in the United States on importing both crude and finished petroleum products from the Eastern Hemisphere, and because OPEC, whose membership consists almost entirely of major oil exporting nations in the Eastern Hemisphere and is constantly used as threatening justification for the necessity for the United States to be at least self-sufficient in oil (therefore necessitating the continuation of the present United States oil policies), it appears as if the oil companies of the Group are perhaps abrogating their responsibility under the intent of the Oil Import Program to provide the American taxpayer/consumer a return on the subsidy and protection programs given the oil industry so that domestic reserves and production will be increased.

E. The Group's performance in allocating exploration and development expenditures between 1963 and 1969.

In 1963 61.5% of the Group's total world capital and exploration expenditures was spent for exploration and development. By 1969 this proportion had declined to 51.0%, falling as low as 47.8% in 1967. One can observe that the companies in the Group are not concentrating their expenditures as much on exploration and development as they did in the beginning of the period.

(1) Exploration and development costs as a percentage of total capital and exploration expenditures made by the Group in the United States. (Charts G-2 and G-6)

The percentage of total world-wide capital and exploration expenditure made in the United States by the Group declined from 70.5% to 68.9%. The percentage of total exploration and development expenses made in the U.S. by the Group decreased from 76.8% to 72.8%. Finally, the percentage of total capital and exploration and development costs made in the United States declined from 67.1% to 54.3%. Therefore, from any perspective the efforts by the Group applied to exploration and development in the U.S. have declined, either in relation to its total expenditures throughout the world or as a proportion of the Group's exploration and development efforts in the U.S. of the total capital expenditures in the U.S.

This decrease suffered by exploration and development costs in the U.S. as a proportion of the total capital and exploration expenditures made in the U.S. is extremely important. First, the decline was not a smooth progression, falling from 67.1% to 54.3%; in 1967 and 1967 these costs fell to as low as 49.6% and 49.3% respectively, and never moved above the 1963 percentage of 67.1%.

To place the magnitude of this decline during the period in context, consider if the percentage of 67.1% was also operative in 1969. If it had been, the American petroleum companies in the Group would have spent an additional \$920.74 million in 1969 alone for exploration and development *in the U.S.* If this percentage had continued throughout the period, the Group would have spent another \$4,924.3 million on U.S. exploration and development. Considering these facts, one questions the probity of the American petroleum industry proclaiming that it needs increased inducements so that the requisite funds can be generated to finance more development and exploration of our national supplies. In light of the domestic earnings and cash earnings capabilities and apportionments mentioned earlier, this suspicion is reinforced.

Actually the amount of money being directly consumed by exploration activities in the U.S. is less than these figures indicate because they include lease rentals and acquisition costs, which detract from the exploration expenditures available. Since 1963 the leasing policies of the federal government have served to substantially deplete the available funds for exploration. These policies, in conjunction with the diminution in effort on the part of oil companies themselves, have seriously minimized the funds allocated for the discovery and exploration of new oil reserves in this country.

According to figures compiled by the Independent Petroleum Association of America for the years 1956 through 1962, lease acquisition costs accounted for an average 12.3% of total exploration expenditures by *all* companies in the United States. From 1963 to 1969 lease acquisition costs accounted for 18.3% of total exploration and development costs by all companies in the U.S. In other words, the American petroleum companies have encountered for the past seven years an average annual lease lost expense 68% more expensive than the average prevalent for the previous seven year period. The Federal government's policy of bonus bidding, rather than adopting a more reasonable and equitable policy of royalty percentage of income or production plan, is definitely responsible for this increase. In 1963 the \$900 million bonus sale in Alaska contributed to the \$2,150 million spent for lease acquisition. This \$2,150 million accounted for 31% of total exploration and development expenditures by all companies in the U.S. for 1968 alone.

The impact of these policies is perhaps best illustrated by comparing the difference between the cost per barrel of reserves in the U.S. with and without the additional cost of lease acquisition. Using the information found in Annex J of the Office of Emergency Preparedness' *Report on Crude Oil Price . . .*, since 1963 the cost per barrel of additions to U.S. reserves including lease acquisition costs averaged \$1.83 through 1969. This identical charge would have been \$1.44 without these additional lease acquisition costs. Therefore, the lease costs increased the price per barrel of reserves by almost 25%.

Because the giant domestic petroleum companies, which are all included in the Group, purchase the majority of these expensive bonuses and leases (simply

because they are the only companies which can afford them), their available funds for the exploration and development are more seriously depleted than are those of the smaller companies. Therefore, the impact of these policies is primarily on the Group. When one recalls that the Group is responsible for over 80% of all the exploration for new oil reserves in this country, these expensive policies pursued by the government appear to have an effect contrary to that desired as a result of the government's other oil policies supposedly inducing development of domestic oil supplies. Certainly, such dysfunctional and incompatible policies should be reconsidered.

(2) Exploration and development costs as a percentage of total capital and exploration expenditures made by the Group in foreign countries. (Chart G-7)

The percentage of total world-wide capital and exploration expenditures made in foreign countries by the Group actually increased from 29.5% to 31.1%. However, exploration and development costs in foreign countries as a percentage of total capital and exploration expenditures made in foreign countries by the Group declined from 48.3% to 43.8%. This decline in foreign proportion is definitely not as precipitous as that for the same important statistic of the U.S. activities, which experienced a decline of 12.8%. Also, while the foreign relationship fluctuated widely, moving from 48.3% to 58.0% in 1965 before dropping to 37.5% in 1967 and then recovering to the 1969 level of 43.8%, its United States counterpart suffered a severe drop to its 1967 low of 49.3%, 16.8 percentage points below its 1963 level, before recovering to the 1969 close of 54.3%. (see Chart G-9)

From this review of the Group's performance in allocating capital and exploration investments and expenditures, one must be inclined to say that, first the companies' operations generated sufficient capital to fulfill the intent of the national oil policies. But it is also evident that the American petroleum companies composing the Group are neglecting exploration and development programs compared to their other activities throughout the world, although to a much greater degree in the U.S. Furthermore, those areas which have benefited from increased capital spending for production, the Eastern Hemisphere countries, are not considered as readily accessible adjuncts to the United States' petroleum supply, not even by the American petroleum companies' standards.

III. The Group's income and cash flow performance relative to its capital and exploration expenditure allocation between 1963 and 1969

Cash flow is the amount of capital available to the firm for the expansion and refinement of its operations; it consists of net income plus depletion, depreciation, amortization, and retirements. On Charts I-1 and I-2 one can observe the overall income, expenditures, and cash flow performance of the Group. From Chart I-2 it is evident that *total capital and exploration expenses and expenditures* are consuming an increasingly larger share of the cash flow. This is in line with the trend witnessed in the earlier appraisal of "sources of working capital." This chart also depicts the growth in net income throughout the years 1963 to 1969 being a generally smoother and greater increase compared to the growth curve of capital and exploration expenditures for either domestic or foreign purposes. However, in the period when the Group's consolidated cash flow leveled-off and its net income declined its domestic capital and exploration expenditures also declined; but those same expenditures for foreign capital and exploration purposes continued to increase.

As mentioned in the definition of cash flow as it pertains to the oil companies, intangible expensing contributes to the available cash flows for all types of capital and exploration expenditures. It is decisively important to note the respective amounts and impacts of this intangible expensing made by both the foreign and domestic operations of the American petroleum companies in the Group. As found on Chart I-4, since 1962 the foreign intangible expenses increased 28.1% while domestic intangibles increased only 7.1%. Therefore, intangible deductions from their American taxes are increasingly being accounted for by foreign intangibles, which are experiencing a faster rate of growth than are domestic intangibles. This indicates U.S. oil policies are stimulating and subsidizing an increasingly greater amount of foreign development and exploration at the expense of such activity in the United States. This appears to be a contravention of the intent of these policies.

A. The relationship between cash flow and the Group's exploration efforts and production expenditures between 1963 and 1969.

Since 1963 the percentage of the Group's cash flow allocated to geological and geophysical expenses, lease rentals, and dry holes has steadily declined from 15.4% to 11.5%. These geological and geophysical expenses as well as the rentals and dry holes are the funds expended in search of new oil reserves.

Consider the following trends manifest by the figures below relating the Group's U.S. and foreign exploration and production costs and expenditures in millions of dollars:

Year	Exploration costs		Production expenditures	
	United States	Foreign	United States	Foreign
1963.....	827	305	1,785	484
1964.....	871	289	2,136	666
1965.....	887	349	2,036	856
1966.....	874	389	2,172	755
1967.....	864	377	2,383	832
1968.....	851	432	3,284	869
1969.....	836	483	2,938	945
Total.....	6,010	2,633	16,779	5,407
7-year average.....	859	376	2,397	772

The seven-year average of U.S. exploration costs increased only 3.9% more than the U.S. costs in 1963; the foreign seven-year average increased 22.9% over the foreign 1963 levels. Or, observe the following percentages comparing the cumulative growth of foreign and U.S. exploration costs: in 1963 305 over 827 equals 36.9%, but the seven year totals of 2,633 over 6,010 equals 42.1%. The Group's domestic exploration efforts have declined relative to its foreign exploration efforts.

Identical comparisons for production expenditures follow. The seven-year average of U.S. production expenditures increased 39.9% over U.S. production expenditures in 1963; the foreign seven-year average increased 59.5% over the foreign 1963 level. The 1963 percentage of U.S. to foreign production expenditures was 484 over 1,785 equals 27.1%; the cumulative percentage, 5,407 over 16,779 equals 32.2%, again demonstrates increased foreign production efforts at the expense of domestic operations.

B. The relationship between cash flow and the total exploration and development expenditures by the Group between 1963 and 1969. (Chart I-3)

The Group's expenditures for exploration and development as a percentage of cash flow have charted an erratic course from the 1963 figure of 46.2% to 49.9% in 1969, the intervening years accounting for figures ranging from 44.9% to 51%. To place these figures in the proper perspective one should remember that the oil companies' management contend that like any other business their investment performance is responsive significantly to changes in their corporations' cash flow and net income, and particularly to oil prices.

In 1963 and 1964, while the percentage of change in both cash flow and net income suffered declines, the percentage of change in total capital and exploration expenditures enjoyed a large increase, when the price per barrel of crude in the U.S. actually decreased from \$2.89 to \$2.88. These relationships are inverse to what is said to be one justification for the present United States oil policies.

Then from 1964 to 1965 the percentage of change in both cash flow and net income began to increase, while the percentage of change in total capital and exploration expenditures decreased and the price per barrel of crude in the U.S. decreased 2¢.

In the years 1965, 1966, 1967, 1968, and 1969 when the price per barrel of crude in the U.S. increased \$2.86, \$2.88, \$2.91, \$2.91, \$2.94, and \$3.04 respectively, the percentage of cash flow spent for exploration and development declined continuously from the 1964 high to a low in 1967, the percentage then recovered sharply in 1968 as a result of the expenditures in Alaska before declining again in 1969, when the price of U.S. crude hit \$3.04 per barrel and the cash flow performance deteriorated.

From this performance it is questionable if the companies in the Group adjust their capital and exploration expenditures primarily to changes in cash flow or net income, or even to changes in the price of crude oil in the United States.

C. The relationship between the rates of return on invested and total invested

and borrowed capital and the percentage of cash flow allocated for exploration and development by the Group between 1963 and 1969. (Chart I-3)

There appears to be an almost inverse relationship between the rates of return on both invested and total invested and borrowed capital to the percentage of cash flow allocated for exploration and development.

According to Chart I-3, when the rates of return decreased slightly, expenditures for exploration and development increased sharply. Then, from 1964 to 1967 as the rates of return on both invested and total invested and borrowed capital increased smoothly from 11.1% to 12.3% for invested capital and from 10.3% to 11.3% for total borrowed and invested capital, the expenditures for exploration and development as a percentage of cash flow decreased steadily. Therefore, while the rates of return reached their peaks the percentage allocated by the oil companies in the Group for exploration and development smoothly sunk to a new low. Only in the last two years, 1968 and 1969, did the return on investment curves move in the same direction as the percentage of cash flow curves depicting allocation for development and exploration.

IV. The entire American petroleum industry's profit and cash flow performance relative to its exploration and development expenditures and changes in the petroleum reserves of the United States

Now it is pertinent to consider the profit and cash flow performance of the entire American petroleum industry comparing such results to its activities in the development of new petroleum reserves in the U.S. The development of such reserves is, in the final analysis, the principle intention of U.S. oil policies. First, consider comparisons of profits and cash flow relative to the price of crude oil in the U.S. and to expenditures by the industry for exploration and development (both with an without lease acquisition costs). Chart P-1 is taken from the Office of Emergency Preparedness' *Report on Crude Oil and Gasoline Price Increases*. . . . Before additional information was included on the chart by this writer, it originally compared the cash flow and profits after taxes performance of "all manufacturing except petroleum refining" and those of "petroleum refining" as collected from the FTC-SEC Quarterly Financial Reports. Petroleum refining subsumes all the large integrated petroleum companies, those who are accountable for the preponderant share of all exploration and development.

The following information has been added to that originally presented by Annex N of the OEP *Report* . . . : the price of crude in the U.S. is included along the top, exploration and development costs (excluding natural gas plant costs) as reported by the OEP have been plotted in dollar amounts relative to those for petroleum company cash flow and profits which are read from the left side, and finally, exploration and development costs less lease acquisition costs are also plotted in dollar amounts for their respective years according to the scale on the left side of the chart.

A. Profit and cash flow performance relative to the U.S. crude price and to exploration and development costs. (Chart P-1)

When analyzing these relationships, probably the most startling observation is that while profits and cash flow plot smooth, continuous increases from 1963 to 1969, the price of crude and exploration and development costs both with and without lease acquisition costs fluctuate. Therefore, it would appear that the integrated petroleum producers/refiners have somehow insulated their profits and cash flow from the fluctuations in the price of U.S. crude. While profits are rising, the price of crude can move either up or down, but the oil companies will not necessarily adjust their exploration and development costs so that they react in the same direction of the price change.

These relationships immediately provoke the following question: "If the large integrated refiners responsible for most of the crude production seem to have protected their corporate financial performances from the fluctuations in crude prices, and if the American public's demand for petroleum products continues to increase, then why do the American petroleum companies' exploration and development expenditures experience such fluctuations, especially when the large refiners control the price of crude at the well-head in the U.S.?" Granted, for most of the companies whose financial performances are reported by the FTC-SEC, their operations include large positions in the international petroleum production and product markets. But the indisputable fact remains that the oil policies of the United States have given the American petroleum industry a virtually unchallenged market with a seemingly insatiable demand for petroleum products. This security would seem to be sufficient to induce continuous efforts by the large petroleum companies, the integrated refiners, to at least make their

exploration and development efforts in the U.S. grow commensurately with the increases in their profits and cash flow performances. Security should stimulate the performance desired if the companies are adequately fulfilling their obligations to the American public.

B. Exploration and development expenditures relative to the changes in the petroleum reserves of the United States. (Chart P-2)

It is an appropriate completion of this study to consider if there is a relationship between the change in the level of reported reserves either stimulating or diverting changes in the levels of exploration and development expenditures. This analysis will be confined to the period following 1959 when the Mandatory Oil Import Program was instituted.

The level of proved reserves, as depicted on Chart P-2 (also taken from the OEP Report . . . , but supplemented with the price information), is computed by the reserve committees of the American Petroleum Institute, an organization of petroleum companies whose employees constitute the reserve committees; the reserve committees are responsible for the estimation of the reserves available in the U.S. according to individual company information to which the committee members have access.

From the implementation of the Quota system in 1959 the level of proved reserves determined by the petroleum industry has only increased once above the 1959 level of 31,450 million barrels. This was the 1961 level of 31,540 million barrels. In 1961 expenditures for total exploration and development increased sharply, but then declined in 1962 as did the level of proved reserves stabilizing in 1963 at a level of about 31,000 million barrels enduring until 1964. However, in 1963 the total expenditures for exploration and development again increased sharply, but it declined again from 1964 to 1965. Apparently the sharp but temporary increase in total exploration and development expenditures in 1962 produced additional reserves which were added to the proved reserve level beginning in 1964, pushing the reserve total up to about 31,450 million barrels in 1966 with the possible augmentation of supplementary discoveries resulting from the suddenly increased total exploration and development expenditures in 1964. But, from the 1966 level of 31,450 million barrels the proven reserve level has declined continuously (computed without any inclusion of reserves discovered on the Alaskan North Slope). As the reserve level began to decline from its 1966 level, the American petroleum industry again suddenly increased its total exploration and development expenditures, apparently again in response to the reserve decline.

From these empirical trends, it appears that the oil companies made particular responses to changes in the reserve level. First, it would seem to reflect the facts to state that early in the sixties the American oil companies attempted to maintain, or were satisfied with, the reserve level at a figure of close to 31,500 million barrels. Whenever it achieved a figure near that level, the total expenditures for exploration and development decreased. When the level dropped substantially below 31,500 million barrels, the oil companies seem to suddenly have spent more in the form of exploration and development expenses in an attempt to reclaim that level. These expenditures can either be lease purchases, such as occurred in 1962 and the period of slight increase in expenditure beginning in 1965 and continuing until 1967, or in the form of increased expenditures primarily for the increased development and exploration of existing leases, as occurred in 1964. But, *there appears to be no sustained general increase of expenditures for the increased exploration and development of already leased properties, regardless of the level of proved reserves.*

If this reaction by the oil companies to the level of proved reserves has been the basic stimulus for either increasing or contracting the amount of funds provided for exploration and development purposes, then it is inferred from the industry's performance since the inception of the Mandatory Oil Program in 1959 that the industry has been content with maintaining U.S. reserves at a level of about 31.5 billion barrels, at least for the first seven years of the program.

When the calculated reserves achieved the desired level, the petroleum companies have generally not continued to increase their efforts to expand the amount of proved reserves. From these facts and inferences the question which immediately comes to mind is "Who selected this level as constituting a sufficient supply of proved reserves?" If indeed the reactions of the American petroleum companies have been to respond to a decrease from this accepted reserve figure with an infusion of more exploration and development money, but to allocate their capital to other types of assets and activities whenever the desired reserve

figure was reached, is this to be considered acceptable and compatible with the intentions of the presently operative United States oil policies?

For it must be remembered that the Group has allocated a fairly constant proportion of its total combined world-wide capital and exploration expenditures to its operations in the U.S. Therefore, considering that the Group represents all the major oil companies in the U.S. responsible for over 80% of all exploration and development in the United States, these companies are making increased capital expenditures for other assets not directly related to the discovery and development of new petroleum reserves whenever they choose not to make expenditures for exploration and development. In other words, the total capital available for exploration and development has continued to grow even without assuming additional long-term debt, but the expenditures for domestic exploration and development have not consistently been increased, abreast with those for foreign expenditures or for activities not related to either exploration or production.

It was only after the desired levels of reserves deteriorated so severely resulting from a constantly expanding demand for petroleum products that the American oil companies began to reallocate more capital to exploration and development in an attempt to arrest this decline. But, in those happy days prior to the steep decline of reserves, the American oil companies were allocating capital for purposes other than those requisite for the continued increase of American reserves. These expenditures were made for assets not directly responsive to the intentions of national oil policies; they were spent for assets in foreign countries to an alarmingly increasing degree and in other non-crude supplying assets in the United States. According to the facts presented in this paper, the American oil companies have, since the commencement of the Mandatory Oil Import Program, been allocating larger shares of their total capital and exploration expenses to assets and programs not directly related to the discovery and development of new oil reserves in the United States.

V. Conclusions and assessments

This paper is premised by the belief that industries should either be regulated by the challenges of the *competitive* market or, if subsidized and vested with protective supports and markets, that they should be diligently regulated to insure maximization of the public's investment and welfare. The American oil industry satisfies neither of these standards because a protective shield of questionable political propriety insulates it from regulation by either competition or formal government supervision. Its performance exemplifies this lack of responsiveness to either the public's market or the public's government by its conduct exploiting the unique opportunities afforded it by the public subsidies to indulge in investments incompatible with the shibboleths of policy. Investment is increasingly diverted to foreign countries.

It appears that investment in domestic production and exploration responds inversely to prices, rates of earned return, and cash flow. One question, therefore, if the price of U.S. crude is not manipulated in conjunction with foreign crude prices fashioning a politically cogent vehicle in support of the present national oil policies rather than serving as a legitimate economic factor controlling the industry's performance in the exploration and development of new U.S. oil reserves.

A review of the domestic petroleum industry's inefficiency attributable to existing U.S. oil policies is not within the purview of this study. One is referred to *Government Intervention in the Market Mechanism, The Petroleum Industry, Part I*, Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, United States Senate, and particularly to the testimony of professors Adelman, Kahn, Erickson, Dirlam, Engler, Steele and Adams. The 1969 study *Economic Factors Affecting the Level of Domestic Petroleum Reserves* prepared for the Office of Tax Analysis of the U.S. Treasury Department concluded that "Percentage depletion is a relatively inefficient method of encouraging exploration and the resultant discovery of new domestic reserves of liquid petroleum" (p. 2.2), reinforcing the contentions of the adumbrated reputable economists explaining the inefficiencies and inequities inherent in the domestic industry resulting from the present tax, import and state prorationing policies. These findings challenge the continuation of the present policies.

Since 1959 the Congress has not comprehensively resolved quantitative and qualitative goals which would and should dictate policy prescription governing the American petroleum industry.

Instead, the petroleum industry has impressed policy favorable exclusively to its welfare rather than considering the public conceiving policy maximizing its concerns. Therefore, first national goals involving petroleum policy must be deliberately and publically explored and evaluated before responsible national petroleum policies can be designed. Unfortunately, this has been expensively ignored to date. The American public can afford no more feckless apologies for the present conduct of the petroleum industry such as that found in the OEP's *Report on Crude Oil and Gasoline Price Increases on November 1970*, its specious rationalizations exposed in a November 1971 "Background Study" prepared for the Joint Economic Committee.

This paper's findings support the belief that the American oil companies have failed to deliver to the American public what it believes it has been paying for: a continuously increasing domestic supply and hopefully an increasing, but at least stable, level of reserves. Instead, it may be inferred from the facts that the price of crude is manipulated primarily to reinforce support for the present policies. The American public is being deceived into believing that the present policies subsidizing and regulating the American petroleum industry are providing the desired results. The oil companies have capitalized on these beneficent policies by expanding their operations in activities not related to providing the American public with a secure supply of petroleum products at the lowest possible prices.

If sufficient opportunities do not exist in the United States to justify continuous development and exploration efforts in the U.S., then the present policies should at least be modified so that intentions and abilities are more consonant with realities. But the present hoax foisted on the American public must be terminated. Either the American oil industry satisfactorily begins to do the job it has been *paid* to do, or else policy and expectations must be changed so to discontinue this charade and permit development of a more responsible, productive, efficient, realistic, and honest national oil policy.

But even more important is the call for a comprehensive public determination by the Congress of national petroleum goals which is most necessary to precede any policy revisions. Only after such goals are specified will the public be capable of evaluating that which it has not received and understand what and by which means it can expect to receive in the future.

V. *Restatement of the facts and conclusions*

1. Between 1964 and 1969, the American petroleum industry increased its total foreign capital investment in foreign countries 76.3% against increases of 22.9% in the United States and 38.3% world-wide.

2. Between 1964 and 1969, the amount of total world-wide capital expenditures by the American petroleum industry in foreign countries increased from 29.7% to 37.6%

3. Between 1958 and 1969, the American petroleum industry increased its *exploration expenses* in foreign countries 63.8% while it increased exploration expenses in the United States only 11.5% and total world-wide exploration expenses only 31.4%.

4. According to the growth rates for various types of capital investments in the United States by the American petroleum industry between 1958 and 1969, the companies are investing increasingly larger amounts of capital in assets not related to either the production or transportation of petroleum. Ranked according to the type with the highest rate of growth, "chemical plants" was the first followed by "marketing," "refineries," "other," "pipelines," "production," and "marine."

5. As in the U.S. during the period from 1958 to 1969, the American petroleum industry in foreign countries invested increasingly larger amounts of capital in assets not directly involving the production of more crude. Ranked according to the type of investment with the greatest increase, "chemical plants" was again first followed by "refineries," "marketing," "pipelines," "marine," "other," and finally "production."

6. In the U.S. from 1958 to 1969, the share of total capital investment allocated to production declined from 68.9% to 58.1%. Not only has production's share declined, but, over the same period in the U.S. so has exploration declined. Since 1959, exploration's share of total capital allocated for production and exploration decreased from 15.1% to 13.2%.

7. In foreign countries, production's share of total capital investment fell from 35.6% in 1958 to 27.4% in 1969. But, in these foreign countries exploration expenses as a proportion of combined capital production and exploration expenditures increased from 17.2% in 1958 to 19.0% in 1969.

THE PERFORMANCE OF THE GROUP

1. Between 1963 and 1969, the Group's total capital and exploration expenditures in foreign countries increased 148.8%, while in the U.S. they grew only 85.4% and world-wide only 89.9%.

2. Between 1963 and 1969, the Group increased expenditures for exploration and development of new reserves in foreign countries 80.7% ; in the United States these identical expenditures increased only 50.0% and world-wide they increased 57.2%.

3. Between 1963 and 1969, the only type of capital investment whose share of the total capital investment throughout the world by the Group declined was "production," falling from 59.2% to 50.9%. Of the total capital invested in the U.S. by the Group, production's share also declined, falling from 65.6% to 53.8%. In foreign countries, the Group increased "production's" share by .1% during the period. Therefore, the Group's efforts in producing petroleum throughout the world, but particularly in the United States, have declined relative to its efforts in marketing, chemicals, "other," and possibly in refining.

4. The Eastern Hemisphere is the area in the world with the largest rate of increase in capital expenditures by the Group. The U.S. share decreased slightly, while the Western European share dropped slightly more.

5. Between 1963 and 1969, the proportion of the Group's total world capital expenditures spent for exploration and development of new reserves decreased from 61.5% to 51.0%. Such exploration and development expenditures as a percentage of the total capital allocated in the U.S. also dropped, from 67.1% to 54.3%, equalling \$4,924.3 million diverted from exploration and development purposes in the U.S. during this period. Federal Government leasing policies further detracted from the amount available for *applied* exploration and development by the Group.

6. Although the Group increased foreign capital and exploration expenditures at the expense of those allocated to the U.S., these foreign allocations for exploration and development also declined from 48.3% in 1963 to 43.8% in 1969. Therefore, although not as severe as in the U.S., even foreign expenditures for exploration and development have declined relative to total capital expenditures by the Group. It is obvious that the Group has been throughout the period increasingly less concerned with the search and development of new reserves world-wide, but particularly in the United States.

There are several possible explanations for this decrease in exploration and production expenditures, and here we will consider two of them. First, the major oil companies have deliberately understated their discoveries and reserves in the past, therefore continuing to have access to all the crude that they consider necessary while they scare the public, and the government, with the fictitious contention that the production/reserve ratio is decreasing, justifying a price increase. Second, if the American petroleum companies deliberately understate their reserves in foreign countries, the host governments do not realize the extent of the wealth discovered by these major foreign companies, and will therefore not be as adverse to the companies as they might otherwise be.

GROUP'S INCOME AND CASH FLOW PERFORMANCE

1. The growth curve of *total capital and exploration* expenditures by the Group shows a faster increase than the Group's net income and cash flow curves. But, the net income and cash flow curves exhibit a smoother and larger increase than the group's exploration and development expenditures curve.

2. The proportion of the Group's cash flow allocated for geological and geophysical expenses has declined since 1963.

3. Foreign intangibles have increased faster than domestic intangibles.

4. There appears to be an almost inverse relationship between the Group's rates of return and its expenditures for exploration and development. Also, the claimed relationships between the price of crude, which is controlled by the majors, and the level of exploration and development expenditures, or the rates of return, is not clearly manifest. One question is if the price is not therefore arbitrarily manipulated in conjunction with foreign crude prices so to be more of a vehicle of political importance, i.e. support to maintain the present oil policies, rather than an economic factor significantly influencing the industry's performance in the exploration and development of new reserves.

THE AMERICAN PETROLEUM INDUSTRY AND THE RESERVE LEVELS

1. Since the 1959 imposition of the Import Program, it appears as if the major oil companies have insulated their profits from changes in United States crude prices, primarily because they can collectively control these prices. But, their profits demonstrate smooth, continuous increases while exploration and development expenditures fluctuate.

2. Since 1959, there appears to be a relationship between the level of reserve and the amount of capital allocated for exploration and development of new reserves. The oil companies seem to have considered 31,500 million barrels as a sufficient reserve level. They increased their exploration and development expenditures only in response to a declination from the desired level. Otherwise, they allocated their capital expenditures for purposes not associated with either production or exploration. This complacency was destroyed by the constantly increasing demand for petroleum products throughout the 1960's in the United States.

From these facts, it is evident that the American petroleum industry has not been fulfilling its intended obligation according to the United States oil policies. The American companies have continually spent larger amounts of capital for both foreign and domestic non-oil discovering and non-oil developing purposes. The American petroleum companies have not maintained a constantly increasing effort concomitted with their rising cash flows and total capital expenditures so that they could continuously supplement the American petroleum supplies and reserves. Instead, the companies have only spent for exploration and development to sustain a reserve level which they considered sufficient.

Therefore, the efficacy of the present United States oil policies appears incapable to satisfy the desired results. The oil companies have failed to deliver to the American public what it believes it has been *paying* for: a continuously increasing domestic supply and hopefully, an increasing, but at least stable level of reserves. Instead, it may be inferred from the facts that the price of crude is manipulated primarily to reinforce support for the present policies. The American public is being deceived into believing that the present policies subsidizing and regulating the American petroleum industry are providing the desired results. The oil companies have capitalized on these beneficent policies by expanding their operations in activities not related to providing the American public with a secure supply of petroleum products at the lowest possible price.

If there are not sufficient opportunities in the United States to justify continuous development and exploration efforts *in the United States*, then the present policies should, at least, be modified so that intentions and abilities are more consonant with realities. But the present hoax foisted on the American public must be terminated. Either the American oil industry satisfactorily starts to do the job it has been *paid* to do, or else policy and expectations must be changed so to discontinue this charade and permit the development of a more responsible, productive, realistic and honest national oil policy.

A GRAPHIC PRESENTATION OF GROUP'S INCOME STATEMENTS (CHART I-1)

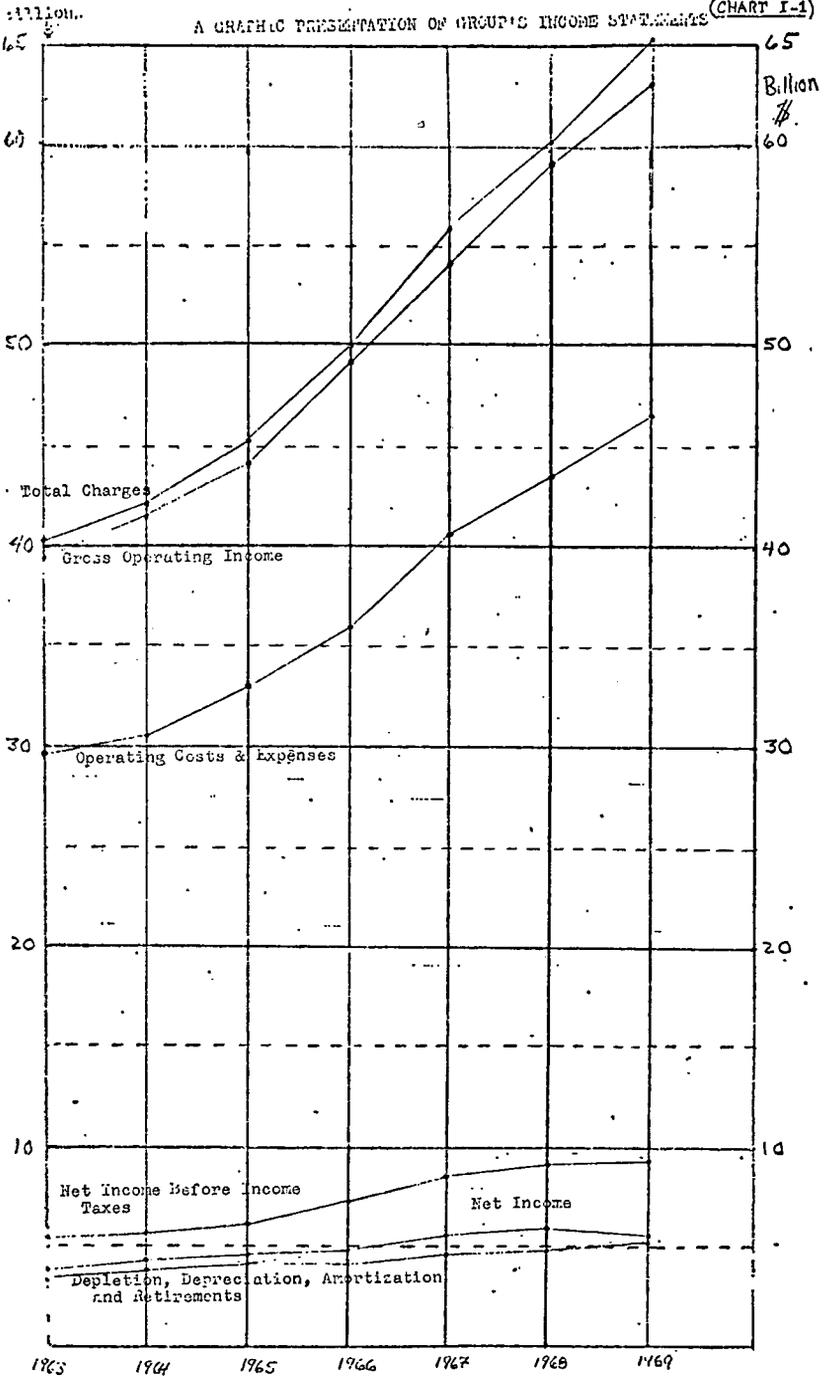
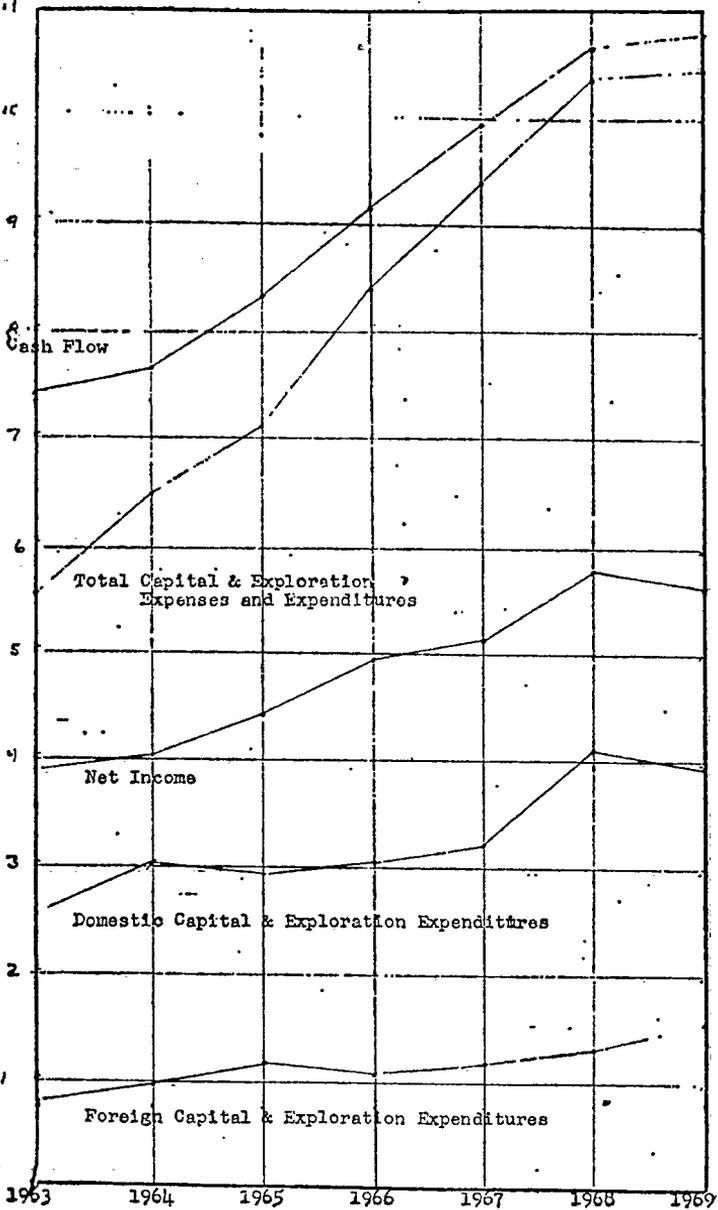


CHART I-2...

Billions

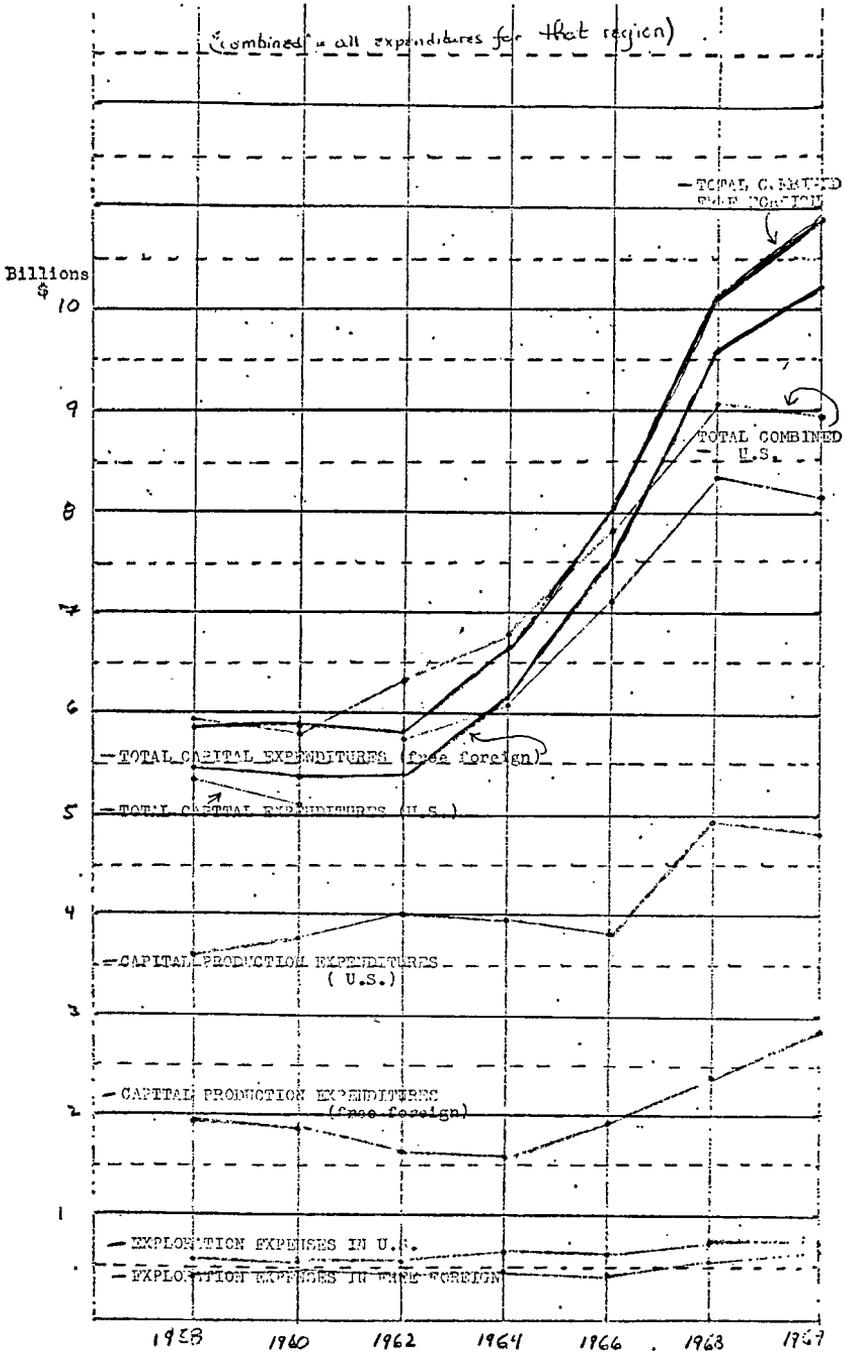
EXPENDITURES, CASH FLOW, AND NET INCOME OF "THE GROUP"



Billions
\$

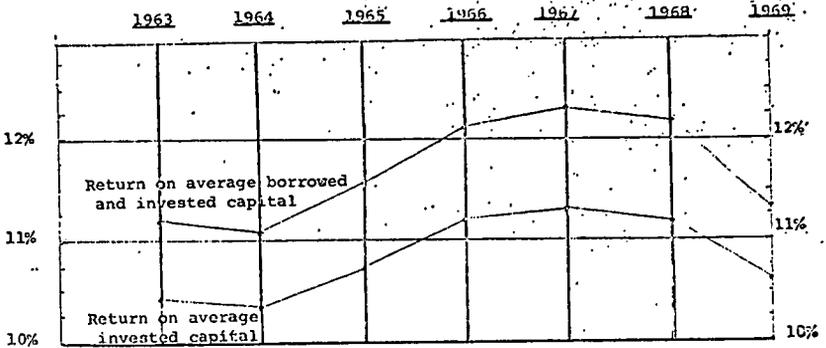
THE GROUP

	1963		1964		1965		1966		1967		1968		1969	
	Amount	Percent												
Gross operating income.....	\$39,197	+7.2	\$41,117	+4.9	\$44,147	+7.4	\$48,759	+10.4	\$54,608	+12.0	\$58,728	+7.5	\$63,362	+7.9
Nonoperating income.....	1,095	+20.1	1,007	-8.0	1,066	+5.9	1,239	+16.2	1,313	+6.0	1,583	+20.6	1,966	+24.2
Total income.....	40,292	+7.5	42,124	+4.5	45,212	+7.3	49,998	+10.6	55,921	+11.8	60,311	+7.9	65,328	+8.3
Operating costs and expenses.....	29,806	+6.4	31,166	+4.6	32,995	+5.9	36,194	+9.7	40,516	+11.9	43,427	+7.2	47,088	+8.4
Taxes, excluding income taxes.....	1,417	+8.4	1,606	+13.3	1,784	+11.1	2,001	+12.2	2,419	+20.9	2,686	+11.0	3,442	+28.2
Depletion, depreciation, amortization, and retirements.....	3,528	+2.9	3,602	+2.1	3,911	+8.6	4,253	+8.7	4,517	+6.2	4,853	+7.4	5,054	+4.1
Interest.....	271	+5.4	290	+7.0	336	+15.9	405	+20.5	525	+29.6	711	+35.4	945	+32.9
Other charges.....	45	+221.4	5	-88.9	28	+460.0	11	-60.7	2	-----	13	-----	15	-----
Total deductions.....	35,067	+6.3	36,669	+4.6	39,054	+6.5	42,864	+9.8	47,979	+11.9	51,690	+7.7	56,544	+9.4
Net income before taxes.....	5,225	+17.4	5,455	+4.4	6,158	+12.9	7,134	+15.8	7,942	+11.3	8,621	+8.5	8,784	+1.9
Estimated income taxes.....	1,323	+27.0	1,359	+2.7	1,693	+24.6	2,134	+26.0	2,461	+15.3	2,808	+14.1	3,031	+7.9
Income applicable to minority interest.....	72	+10.8	65	-9.7	74	+13.8	79	+6.8	79	-----	74	-6.3	105	+41.9
Net income.....	3,830	+14.5	4,031	+5.2	4,391	+8.9	4,921	+12.2	5,402	+9.8	5,739	+6.2	5,648	-1.6
Total capital and exploration expenditures.....	5,529	-5.3	6,484	+17.2	4,391	+9.1	8,363	+18.1	9,327	+11.5	10,329	+10.7	10,485	+1.1
Domestic.....	3,895	-10.9	4,658	+19.6	5,001	+7.4	6,143	+22.8	6,581	+7.1	7,282	+10.7	7,222	-8.2
Foreign.....	1,633	+9.9	1,826	+11.8	2,078	+13.8	2,220	+6.8	2,746	+23.7	3,047	+11.0	3,263	+7.1



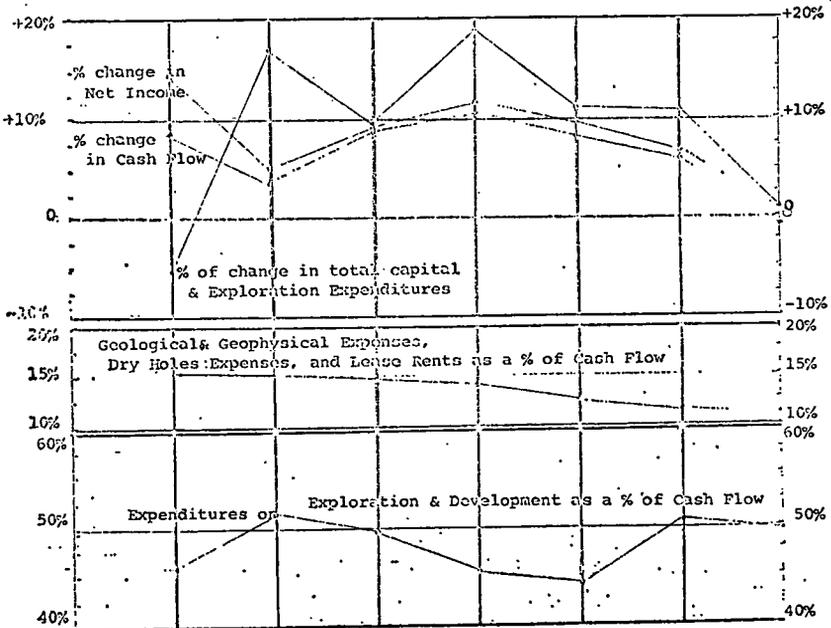
(CHART I-3) In Percent, RATES OF RETURN for THE GROUP (and % of increase or decrease)

	1963	1964	1965	1966	1967	1968	1969
Return on Average Borrowed and Invested Capital	10.4	10.3	10.7	11.2	11.3	11.2	10.6
	+7.7	-1.4	+3.9	+4.5	+9	+9	-11
Return on Average Invested Capital	11.2	11.1	11.6	12.1	12.3	12.2	11.3
	+8.0	-9	+4.3	+4.1	+1.6	+8	-8.0



Price of Crude in U.S.

Year	1963	1964	1965	1966	1967	1968	1969
Price	\$2.89	\$2.88	\$2.86	\$2.88	\$2.91	\$2.94	\$3.06



[Dollar amounts in millions]

Type of expenditure	1963			1964			1965			1966		
	United States	Foreign	Combined									
No. 1 Production expenditures.....	\$1,785	\$484	\$2,269	\$2,136	\$666	\$2,802	\$2,036	\$856	\$2,892	\$2,172	\$755	\$2,927
No. 2 Dry holes costs.....	372	158	530	390	133	525	408	170	578	428	203	631
Total No. 1 plus No. 2.....	2,157	642	2,799	2,526	801	3,327	2,444	1,026	3,470	2,600	958	3,558
No. 3 Geological, geophysical expenses and lease rentals.....	455	147	602	481	154	6,353	479	179	658	446	186	632
Total No. 2 plus No. 3.....	827	305	1,132	871	289	1,160	887	349	1,236	874	389	1,263
Total exploration and development costs and expenditures.....	2,612	789	3,401	3,007	955	3,962	2,923	1,205	4,128	3,046	1,144	4,190
Other capital expenditures.....	1,283	844	2,127	1,651	871	2,522	2,078	873	2,951	3,097	1,076	4,173
Total capital and exploration expenses and expenditures.....	3,895	1,633	5,528	4,658	1,826	6,484	5,001	2,078	7,079	6,143	2,220	8,363
Net income.....	8,830			4,031			4,391			4,921		
Cash flow t.....	7,358	(+14.5)		7,633	(+5.2)		8,302	(+8.9)		9,174	(+12.1)	
Percent.....		(+8.6)			(+3.7)			(+8.8)			(+10.5)	
Total capital and exploration as a percent of cash flow.....		75.1			84.9			85.2			91.2	
Exploration and development as a percent of cash flow.....		46.2			51.9			49.7			45.7	
Geological, geophysical, and lease rents as a percent of cash flow.....		8.2			8.3			7.9			6.9	
Geological, geophysical, lease rents, and dry holes as a percent of cash flow.....		15.4			15.1			14.9			13.8	

[Dollar amounts in millions]

Type of expenditure	1967			1968			1969		
	United States	Foreign	Combined	United States	Foreign	Combined	United States	Foreign	Combined
No. 1 production expenditures.....	2,383	832	3,215	3,284	869	4,153	2,983	945	3,928
No. 2 dry holes.....	446	202	648	417	227	644	438	257	659
Total, No. 1 plus No. 2.....	2,829	1,034	3,863	3,701	1,096	4,797	3,421	1,202	4,623
No. 3 geological, geophysical, and lease rents.....	418	175	593	434	205	639	497	226	723
Total, No. 2 plus No. 3.....	864	377	1,241	851	432	1,283	935	438	1,418
Total exploration and capital expenditures.....	3,247	1,209	4,456	4,135	1,301	5,436	3,918	1,428	5,346
Other capital expenditures.....	3,334	1,537	4,871	3,147	1,746	4,839	3,304	1,835	5,139
Total capital and exploration expenditures.....	6,581	2,746	9,327	7,282	3,047	10,329	7,222	3,263	10,485
Net income.....	\$5,402			\$5,739			\$5,648		
Percent.....		(+9.8)			(+6.2)			(±1.6)	
Cash flow ¹	\$9,919			\$10,592			\$10,702		
Percent.....		(+8.1)			(+6.8)			(+1.0)	
Total capital and exploration as a percentage of cash flow.....		94.0			97.5			97.9	
Exploration and development as a percentage of cash flow.....		44.9			51.3			49.9	
Geological, geophysical, and lease rents as a percentage of cash flow.....		6.0			6.0			6.8	
Geological, geophysical, lease rents, and dry holes as a percentage of cash flow.....		12.5			12.1			11.5	

¹ Cash flow is net income plus depletion, depreciation, amortization, and retirements.

OIL PRICES AND PHASE II

TUESDAY, JANUARY 11, 1972

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON PRIORITIES AND
ECONOMY IN GOVERNMENT OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m., in room 1202, New Senate Office Building, Hon. William Proxmire (chairman of the subcommittee) presiding.

Also present: Courtenay M. Slater, economist; and Walter B. Laessig and Leslie J. Bander, economists for the minority.

OPENING STATEMENT OF CHAIRMAN PROXMIRE

Chairman PROXMIRE. This morning the subcommittee will continue its examination of oil prices and phase II by hearing testimony from representatives of independent oil producers, refiners, and marketers. Following that, we will hear from Beverly Moore of the Corporate Accountability Research Group concerning antitrust policy and the oil industry.

Independent oil producers, refiners, and marketers make an essential contribution to the competitive strength of the oil industry. Competition in the oil industry certainly needs to be strengthened, not diminished. Yet it has been charged that present Federal policies, including the import quotas, the weak antitrust policy, the bonus bid system of offshore leasing and the tax treatment of foreign royalty payments, are making it increasingly difficult for the independents to survive. We want to examine this contention closely this morning and discuss what actions may be needed to correct this situation.

Yesterday we heard most persuasive evidence that both the import quotas and the tax treatment of oil not only raise prices to the consumer but totally fail to meet their supposed objective of providing us with a secure supply of oil. In fact, these policies are resulting in fuel shortages and depletion of our irreplaceable domestic resources. Neither the consumer interest nor the national security interest is well served by present policies. What we want to explore this morning is how independent oil companies are affected by present policies and how they would be affected by changes. Can our policies be altered in ways which will preserve and enhance competition?

Our first witness is Ronald J. Peterson, chairman of Martin Oil Service, Inc. He will speak this morning not only for his own company but also for the Society of Independent Gasoline Marketers of America and for the Independent Terminal Operators Association. Mr. Peterson is accompanied by Prof. Alfred Allvine of the Business School

at Northwestern University and by Prof. James Patterson of the School of Business at the University of Indiana.

Following Mr. Peterson and Mr. Allvine, we will hear from Mr. E. Jason Dryer, representing the Independent Refiners Association of America, and then from Mr. Alfred James III, an independent oil producer and petroleum geologist.

I know Mr. Peterson—is that correct, sir—is here, and Mr. Allvine, I take it, is here, and Mr. Dyer. Fine. I take it Mr. James has not arrived yet.

Will you come forward, Mr. James, in the center there by that microphone?

Because of the number of witnesses this morning, I will have to ask all the witnesses to hold their opening statements to no more than 10 minutes, if they would do that I would very much appreciate it.

Mr. Peterson, please go ahead.

STATEMENT OF RONALD J. PETERSON, CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER, MARTIN OIL SERVICE, INC., CHICAGO, ILL.; PRESIDENT, SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA; AND DIRECTOR, INDEPENDENT TERMINAL OPERATORS ASSOCIATION

Mr. PETERSON. Mr. Chairman and members of the committee, my name is Ronald J. Peterson. I appreciate very much the opportunity to appear before this committee. I am here today in several capacities, as the Senator has mentioned.

I represent SIGMA, the Society of Independent Gasoline Marketers of America, of which I am the current president.

Chairman PROXMIRE. May I say, Mr. Peterson, we will be happy to print your entire prepared statement in full in the record and I would appreciate it if you could abbreviate it as you go along.

Mr. PETERSON. Senator, I can abbreviate this prepared statement.

Chairman PROXMIRE. Fine.

Mr. PETERSON. If I abbreviate it I will have left unsaid what I have made strong efforts to prepare to be here. I know that you are competent to read it. I am reasonably sure that you are acquainted with the context of what I have to say. It would take me 20 minutes to read it. If it, therefore, is agreeable to you, Senator, I will submit it and await questions from you.

Chairman PROXMIRE. Why don't you hit the highlights, if you could do that? Is that possible?

Mr. PETERSON. It is not a very logical thing for me to do.

Chairman PROXMIRE. Well, take 15 minutes and we will cut you off after 15 minutes.

Mr. PETERSON. I will submit the prepared statement to you, Senator.

Chairman PROXMIRE. All right.

(The prepared statement of Mr. Peterson follows:)

PREPARED STATEMENT OF RONALD J. PETERSON

Mr. Chairman and members of the committee, my name is Ronald J. Peterson. I appreciate very much the opportunity to appear before this Committee. I am here today in several capacities.

I represent SIGMA, the Society of Independent Gasoline Marketers of America, of which I am the current President.

I also represent ITOA, the Independent Terminal Operators Association, of which I am a Director.

I also speak for my own company, Martin Oil Service, Inc., Chicago, Illinois, of which I am the Chairman of the Board and Chief Executive Officer.

I would like to direct my brief comments today to what I regard as the basic problem of the oil industry.

Let me state my bottom-line conclusion at the outset.

The basic problem of the oil industry, at this time in history, is the problem of increasing concentration of economic power in the hands of fewer and fewer companies, and the use of that power to take unfair advantage of independent competitors who, because of governmental policies, do not enjoy the same economic privileges.

In my view, the structure of the industry and the behavioral practices to which I refer—namely, increasing concentration in the ownership and control of the materials and means of producing and distributing petroleum products, and the use of unfair competitive methods in the distribution and marketing of petroleum products—are the direct result of the failure of national oil policy.

For this reason, among others, the ills and remedies affecting this great industry should be recognized by the policy makers as important issues affecting the health of our total economy today and in the foreseeable future.

What does the problem of concentration and unfair competition mean?

It means that the fully integrated international oil companies grow larger and stronger while the independents at all levels of the industry grow relatively weaker and fewer in number.

It may be said that our total economy is an oil economy. Seven out of the top twenty industrial corporations of America are oil companies. No other industry can say this. But, it is also true that those seven companies represent the potentiality of noncompetitive pricing for all petroleum products in every domestic marketplace.

It means that the markets for crude oil and for finished products have become, and will more-so become, noncompetitive or wastefully competitive.

At the present time, there is no free market for crude oil. There is almost no free market for petroleum products at the wholesale level. And, the retail market, particularly for gasoline, is subject to such a variety of restraining influences and unfair economic advantages that the result is obviously wasteful competition. There are too many service stations and widespread price wars.

The problems which I commend for your consideration do not signify that the officers and directors of the dominant oil companies are evil men, or that they have no concern for the public interest, or that they have not done a good job of managing the capital entrusted to them.

It does mean, however, that if our national policy allows the members of an industry to pursue an oligopolistic path, then the traditional motivations of corporate management will respond predictably.

First, the independents will be squeezed out. This has and will continue to occur. In the end, oligopoly or monopoly will characterize the structure of the industry.

Second, along with this evolutionary development, fair competition will fade from the marketplaces as the pricing mechanism. This has and will continue to occur. In the end, the marketing behavior of the surviving companies will be based entirely upon administered prices, and the consumer will pay more for petroleum products than would have been paid if the competitive environment had been preserved.

In the oil industry, this is the pattern of history to date. And, it will be the pattern of the future, unless our national oil policies are reviewed and reformed.

In my view, it is not now too late. But, it will be too late sometime during this decade.

I assume that an ideal oil industry, in our free enterprise tradition, would consist of multiple entities at every level. There would be many crude explorers and producers, many refiners of petroleum products, many distributors and wholesale terminal operators, and many retail marketers. Between each of these four levels there would be a free market in which competitive sellers would seek to be more efficient in the performance of their economic functions and more responsive to the changing needs of our economy.

I assume that it is the duty of government to preserve the competitive environment of our economy, and to avoid policies which themselves cause conditions and practices which put the consumer at the mercy of the supplier.

Let me be more specific.

In terms of structure, vertical integration is the first step toward the achievement of economic power.

This broad trend in the oil industry has virtually eliminated the independent crude producer and the independent product refiner. It has reduced the number of independent terminal operators in the Midwest from 88 to 15 in the last twelve years, since import quotas became mandatory. It is currently forcing many independent jobbers and service station operators into the shelter of ownership or control by a fully integrated company.

In terms of behavior, the practice of price protection is the most serious misuse of the economic power of vertical integration.

This practice takes many forms. But, in any form, it means that the major brand supplier of petroleum products promises to protect the minimum profit margins of the jobber and retailer who are willing to commit themselves solely to the supplier's brand.

Thus, the consumer and the independent marketer, both wholesale and retail, find themselves increasingly at the mercy of the fully integrated major oil company, which is able and willing to market its products at uneconomic prices, so long as those prices can be supported by profitable crude oil ownership.

The first question is, Why is this so?

There are three areas of governmental policy, which collectively cause the problem of concentration and the problem of anticompetitive practices.

I refer, first, to the long-standing policies with regard to crude oil production and foreign oil importation.

Second, I refer to the long-standing tax privileges associated with crude oil production.

Third, I refer to the persistent failure of the antitrust laws to preserve the conditions of fair competition in the oil industry.

Let me say just a sentence or two about each of these three areas of public policy.

With regard to crude production, the Connolly Hot Oil Act allows the oil producing states to control domestic production, and the Trade Expansion Act allows the President to control imports of foreign oil. The implementation of these policies has enabled the dominant oil companies to control the total supply of crude oil, out of which our total domestic demands for petroleum products must be met. To control the supply of crude is to control the price of crude. It follows that the best possible basis is secured for administered product pricing and for percentage depletion tax savings.

With regard to taxing policies, percentage depletion and foreign tax credits have allowed the dominant companies to maximize their profits from crude oil. The consequent economic power is employed to curtail or eliminate competition from independents, and to increase the volume of crude that flows from their own wells, through their own refineries, by any means which will preserve their volumetric share of the market. Forward integration, through the ownership or control of pipelines, terminals and service stations, is the best means known to management for the preservation or achievement of a target market share.

With regard to the antitrust laws, vertical integration has been permitted to the point of peril for all independents. Not merely their growth, but their continued existence, as independent competitors, is at stake. This includes crude explorers, crude producers, crude refiners and, farther downstream, independent product transporters, wholesale terminal operators and retail marketers. The fully integrated, crude-sufficient oil companies appear to be immune from the antitrust laws, insofar as their relationships to independent, non-integrated competitors is concerned. The latter appear to be fair game for the former.

The next question is, What should be done about it?

To my mind, one of the most important areas of policy to be reviewed and reformed is the area of oil import controls.

For twelve years we have been faced with a system of quotas which has selectively allocated import privileges, each year, in a way which disproportionately benefits the larger companies.

The heart of the problem is the narrowly selective eligibility requirements. Independent terminal operators are not allowed to import petroleum products, and the benefits of competition from this source have been denied to the consumer.

The Presidential Task Force recognized the inequities and structural distortions that are created because of this system.

It follows that a more even-handed method of distributing these valuable privileges should be devised. The express objective should be to strengthen the position of the independent wholesaler in the marketplace. Quotas have been given to refiners because they can use them. But, terminal operators, with their substantial storage and handling facilities can use them just as well. Moreover, they could be counted on to pass the price benefits on to the consumer, through independent jobbers and independent service station operators.

Also because of the quota system, the industry has become less responsive to the demands of our economy.

Consider the problem of low sulphur residual fuel oil. The enormous and growing demand for low sulphur resid is being met by the integrated refining interests only on the basis of administered pricing. The price for low sulphur domestic resid has been pressured upward from under \$3.00 per barrel to over \$4.00 per barrel in the last four years.

Residual fuel oil has traditionally been a byproduct of gasoline refining. But, to alleviate air pollution, among other reasons, low sulphur resid is rapidly becoming a first-line product.

If my Company were not precluded by law from importing crude oil, we would be joining with other interested parties to create a new independent refining facility to produce substantial quantities of low sulphur residual fuel oil, so badly needed by electric utilities, and to produce substantial quantities of lighter distillates, so badly needed by gas utilities for reforming into synthetic natural gas, and to produce modest quantities of gasoline, so badly needed by the independent sector of the gasoline marketing industry.

If the oil import control program allowed independent newcomers to develop facilities for these purposes, among others, the flood of capital overseas for refining facilities would be slowed down, and capital expenditures for such domestic facilities, including the creation of new jobs, would be accelerated.

Consider the problem of unleaded gasoline. The small independent refiner is not financially able to modify its manufacturing facilities to make this product. The independent terminal operator is not able to supply its customers, not to mention would-be customers, with unleaded gasoline from foreign sources because of import restrictions.

As a matter of fact, the public policy in favor of unleaded gasoline may predictably eliminate all independent refiners and independent terminal operators and independent retail marketers, who do not have a domestic source of supply, unless relief is obtained from other sources in the foreseeable future.

The majors may be expected to manufacture just so much unleaded gasoline as they are able to market through their own distribution facilities. As the public acceptance of this product increases, the majors will become sole-source suppliers.

This situation might be remedied by allowing substantial importations of unleaded gasoline by independent terminal operators for distribution at wholesale to independent jobbers and retailers.

To my mind, the second most important area of policy to be reviewed and reformed involves the antitrust laws.

Price protection should be outlawed as an unfair competitive practice.

It is not possible under the present antitrust laws for this matter to be resolved by private litigation. The nature of the problem requires either legislative action or administrative action by the government. This Congress might enact a statute forbidding any and all techniques of price protection and predatory pricing. Otherwise, the Federal Trade Commission has the exclusive authority to enforce Section 5 of the Federal Trade Act, which forbids "unfair competitive methods."

Action of this character by the government would not be universally opposed by all of the fully integrated oil companies. Many of those companies that are substantially less than self-sufficient in crude ownership have publicly recognized the evils of price protection and urged the abandonment of the practice. It is obvious, however, that no one company can go it alone. It, therefore, becomes the exclusive domain of government to recognize the problem and to do something about it.

Many other specific remedies for the recognized ills of the oil industry have been suggested. But, my allotted time here only allows me to mention two of them in passing.

Divestiture is one. The proponents of this remedy have recently advocated a separation of retail operations from the crude, refining, and terminal operations

of the industry. The object, presumably, is to put all retailers on a buy-sell basis, to establish a simpler and more uniform pricing system at the wholesale level, and to eliminate the possibility of internal subsidies, such as, price protection, which tend to result in overbuilt retail facilities and wasteful forms of competition.

If the surgery is performed with sufficient skill, the objectives in mind may be worth the pain and suffering. But, it cannot be said that surgery of this kind is a complete cure. The arguments are strong that another form of surgery would have a more salutary effect upon the industrial environment, if the aim is to avoid the wastefulness of vertical integration.

I refer to the divestiture of crude ownership from refining, terminaling and marketing. If there were an independent crude industry, there could be a free market in crude. All refiners and all crude producers would buy and sell at arm's length in that market. The forces of competition would then result in a realistic price for crude, rather than an artificial policy-supported price.

With divestiture at the crude level, refining would be forced to become profitable in its own right, as would terminaling and marketing. If it is argued that this would result in higher prices for gasoline, it may also be argued that the savings in crude would more than offset the cost of subsidizing marketing with crude profits. In either case, the significant achievement of this remedy would be the elimination of the possibility that crude profits and related tax benefits could be used to finance the further concentration of economic power in the hands of fewer and fewer companies.

Another remedy that has been suggested for some of the ills of the oil industry concerns the ownership of transportation facilities.

Competitive relationships directly affecting the consumer are themselves directly affected by pipeline ownership and ocean-going tanker ownership. Not only the operation of these facilities, but also the conception of them is predicated upon the service requirements of the owners, rather than upon performing a common carrier service to the oil industry as a whole.

In the light of the foregoing, I submit that the ownership of tankers and the ownership of pipelines, particularly the latter, should be required by law to be independent. I emphasize the point that no petroleum product shipper should be allowed to own all or any part of a product pipeline. On this basis, one might expect the pipeline operators to be responsive to the interests of the economy as a whole, rather than subservient to the special interests of the shippers who own the line.

The last question is, Why should these remedies be considered by the sovereign?

If we value our tradition of free enterprise, the instruments of government should protect it. The essence of that tradition is the free market. In such a market the independent businessman can initiate a new venture. The established small business can survive. If either of them offers a better price or a better service, or both, the newcomer or the independent can grow with the economy.

But, from the point of view of public policy, another point is more important. If the sovereign prevents Goliath from killing David, then David will not kill Goliath, as the story goes, but rather he will keep the pressure of competition on him. The giant will thus be obliged to serve the public as efficiently and as responsively as his smaller, tight-belted competitor.

The public interest in free enterprise, free markets, and fair competition is protected by the small, independent entrepreneur. Yet, public policy in oil has failed to protect the independent competitor.

Chairman PROXMIRE. Our next witness is Mr. Dryer.

**STATEMENT OF EDWIN JASON DRYER, GENERAL COUNSEL,
INDEPENDENT REFINERS ASSOCIATION OF AMERICA**

Mr. DRYER. Mr. Chairman, I will try to abbreviate my prepared statement and highlight the points which I especially want to call to your attention and stay within the 10-minute figure; and I ask that my full prepared statement be put in the record.

Chairman PROXMIRE. Without objection, the full prepared statement will be printed in the record.

Mr. DRYER. My name is Edwin Jason Dryer and I appear here on behalf of the Independent Refiners Association of America, of which I am general counsel.

We are happy to respond to your invitation to testify in these hearings with their emphasis upon problems of competition in the oil industry and the impact upon consumers. This is because the independent refiner occupies a special role in maintaining competition in the oil industry and in serving the interests of the consumer through low prices.

I need not elaborate on the competitive role of the independent refiner because it has been well documented heretofore. The Senate Select Committee on Small Business, for example, summed it up in these words: "The independent refiner is thus the mainspring of competition within the oil industry."

We can add, however, something to these general conclusions. While these and similar statements over the years have recognized the competitive role of the independent refiner, they did not actually quantify the benefits to consumers which are due to the independent refiner and which will be lost if the independent refiner disappears. We have done so in a study which is directly germane to the subject of the committee's present hearings. We submit a copy of that study for the record.

(The study follows:)

PRESENT SAVINGS TO CONSUMERS DUE TO THE INDEPENDENT REFINER—LOST IF THE INDEPENDENT REFINER DISAPPEARS

(By the Independent Refiners Association of America)

1. The consumer's interest served by the independent refiner—gasoline at 2¢ under major brands.
 - a. The independent refiner and marketer traditionally sell gasoline at an average of 2¢ under major brands. See Item I in Appendix A hereto, Excerpts from FTC Report on Anticompetitive Practices in the Marketing of Gasoline.
 - b. Applying this typical price differential to gasoline produced by independent refiners, the annual saving to consumers is \$294,888,190. (See Appendix B, line 6.)
2. The consumer's interest served by the independent refiner—holding the general level of gasoline prices, both major brand and independent, below levels which would apply absent the independent refiner.
 - a. The independent refiner and marketer play a role which is "entirely disproportionate" to their size "in keeping markets competitive, flexible and dynamic . . .". See Item II in Appendix A hereto, Excerpts from FTC Report.
 - b. For each 1¢ difference in the general price level of gasoline due to the independent, the annual saving to consumers is \$819,133,870. (See Appendix B, lines 8, 9.)
3. The consumer's interest served by the independent refiner—providing other petroleum products at lower prices.
 - a. The independent refiner plays a similar competitive role in respect to other petroleum products: jet fuel, heating oils, asphalt, etc. If the independent refiner disappears, his present supply of these other products to inland areas will have to be replaced. In the case of residual fuel oil and asphalt the extra transportation costs from alternative coastal sources would average 4-5¢ per gallon, and even for lighter oils which could be moved by pipeline the cost may range from ½ to 2¢ per gallon.
 - b. Applying assumptions of ½¢, 1¢ and 2¢ as the extra transportation cost of replacing the independent's present supply of other products, the annual cost to consumers will be: at ½¢ \$45,052,363, at 1¢ \$90,104,725, at 2¢ \$180,209,450. (See Appendix B, line 13.)
4. Consumer benefits vs. costs of independent refiner quotas.

a. The survival of the independent refiner and the annual savings to consumers due to the independent refiner are made possible by a modest share, allocated on a sliding scale basis, of import quotas. The quotas of 113 companies with under 100,000 B/D capacity amount to only 25% of total finished product and crude oil quotas; only 17% of total restricted imports. (See Appendix C, line 6.)

b. In dollars, the cost-benefit comparison is:

(1) Quotas to 113 companies with under 100,000 B/D (Appendix C) @ 1.25 per barrel; *Cost*: \$90,467,075.

(2) Combined savings to consumers due to independent refiners (Appendix B, line 14); *Consumers Savings*: From 1,159,074,423; to \$2,113,365,380.

5. The U.S. Government, as world's largest consumer of petroleum products, benefits from the independent refiner's competitive role. A very substantial portion of domestic military oil procurement is from the independents. (See Appendix E.) The independent refiner reduces the cost of government oil purchases a) by actually lower prices on contracts awarded to independents and b) by holding the general level of all bids down.

APPENDIX A

EXCERPTS FROM THE FEDERAL TRADE COMMISSION'S REPORT ON ANTICOMPETITIVE PRACTICES IN THE MARKETING OF GASOLINE

I. Re Historical 2¢ Differential Between Independent and Major Brands.—Historically, the independent refiner and marketer has sold gasoline at lower prices than his major competitors. Ordinarily the price spread reflects differences in the degree of consumer acceptance of private brands and major brands. The price differential tends to offset major brand advantages flowing from national advertising, location, tourist services, credit cards and other services and promotions. Although a number of independents assert that the price differential between private brands and major brands has traditionally amounted to two cents on a gallon, there is evidence that the amount differs from market to market. Moreover, it is also clear that some private brands must sell at a greater differential than others to be competitive with the major brands. (p. X-8)

II. Re Tendencies in the Oil Industry For Limited Competition Among Major Companies.—Business realities discourage vigorous price competition between sellers of relatively equal strength in such a concentrated market. Accordingly, it is not surprising that the record before the Commission shows that price competition within the industry pits the large refiners more often against the small rather than against each other. (p. X-4)

Equally important as size and degree of integration in identifying a major is a company's attitude toward competition. The major prefers not to engage in price competition. (p. X-5)

The great disparity in size, differences in degree of vertical integration, and differences in self-sufficiency in raw material production, argue that such industry rivalry can end in the "soft" competition of a functioning oligopoly. Industrial history and economic doctrine indicate that such differences naturally lead to fierce conflict which disappears when competitors become similarly structured. The merger movement evident in today's gasoline industry, and the marketing conduct which has been employed, argue persuasively that in the absence of strong antitrust enforcement, structural similarity is inevitable. (p. X-11)

III. Re Independent Refiner As the Key to Effective Competition in the Oil Industry.—The record is clear that independent refiners and marketers exert a beneficial influence upon competition that is disproportionate to their actual representation within the petroleum industry: they have long been innovators of marketing methods and have been the primary agents in translating efficiencies at the production and distribution levels into lower prices at the retail level.

The play a part in the industrial pattern that is "entirely disproportionate" to their size "in keeping markets competitive, flexible, and dynamic and in preventing a recognition of interdependence and the possible bureaucratic conservatism that go with size and quasi-permanent life from stultifying competition." [footnote cites: De Chazeau and Kahn, *Integration and Competition in the Petroleum Industry*, 383 (Yale Univ. Press 1959).]

Any substantial reduction of sellers in a market is likely to result in a diminution of competitive vigor. The public interest implicit in the statutes admin-

istered by this Commission is the fostering and preservation of competition between business entities that will benefit the consumer and contribute to the nation's economic well being in both the short and the long run. In fulfillment of its public trust, the Federal Trade Commission is committed to the preservation of an industrial pattern with as many sellers as is consistent with technological progress; an industrial pattern that enables the consumer to make rational selection of product on the basis of price, quality and service; and an industrial pattern that is not shaped through competition waged on the basis of ability to withstand losses, but rather one shaped through competition resulting from efficiencies. (p. X-11)

NOTE.—Page references are to the Report as printed in Antitrust & Trade Regulation Report, Number 312, July 4, 1967.

APPENDIX B

Derivation of certain data—Annual savings to consumers attributable to the independent refiner

1. Total U.S. refinery inputs ¹ -----	10,686,678 barrels per day.
2. Per year (times 365)-----	3,900,637,490 barrels per year.
3. In gallons (times 42)-----	163,826,774,000 gallons per year.
4. Independent refiner portion (18 percent) ² -----	29,488,819,000 gallons per year.
5. Gasoline yield—-independent refiner (50 percent)-----	14,744,409,330 gallons per year.
6. Annual consumer saving (line 5 times \$0.02)---	\$294,888,190.
7. Total gasoline yield, both major and independent (50 percent of line 3)-----	81,913,387,000 gallons per year.
8. Annual consumer saving if 1 cent per gallon difference in general price level (line 7 times \$0.01)-----	\$819,133,870.
9. Annual consumer saving if 2 cents per gallon difference in general price level (line 7 times \$0.02)-----	\$1,638,267,740.
10. Portion of U.S. refinery capacity represented by independent refiner at inland points (appendix D) ³ -----	11 percent.
11. Total production by inland independent refiner (12 percent of line 3)-----	18,020,945,000 gallons per year.
12. Products, other than gasoline, from inland independent refiner (50 percent of line 11)---	9,010,472,500 gallons per year.
13. Annual consumer cost if inland independent refiners' production of other products must be supplied from seaboard at extra cost of:	
(a) ½-cent per gallon (line 12 times \$0.005)-----	\$45,052,363.
(b) 1 cent per gallon (line 12 times \$0.01)-----	\$90,104,725.
(c) 2 cents per gallon (line 12 times \$0.02)-----	\$180,209,450.
14. Combined annual savings to consumer attributable to independent refiner (lines 6, 8, or 9 and 13 a or c)	
From-----	\$1,159,074,423.
To-----	\$2,113,365,380.

¹ Interior release March 17, 1969.

² Percent of refinery capacity owned by companies with under 100,000 B/D, Bureau of Mines Data for 1968, and average 1967-69.

³ Independents, at 113 inland plants, account for 29 percent of total inland capacity. (Appendix D.)

APPENDIX C

1969 QUOTAS—DISTRICT I-IV

	Number of companies	Quotas (barrels per day)
1. Refining companies with total inputs under 100,000 barrels per day.....	113	198,284.0
2. Refining companies with total inputs exceeding 100,000 barrels per day..... Earned on 1st 100,000 barrels per day: 171,950. Earned on excess: 197,233.	19	369,183.0
3. Total refiner quotas.....	132	567,467.2
4. Total of finished product and crude oil quotas available for allocation after commitments and overland.....		781,612.0
5. Total allowable imports—at 12.2 percent of U.S. production restriction.....		1,152,412.0
6. Independent refiner quotas as a percentage of—		
a. Total finished product and crude oil quotas excluding commitments and overland (line 1 over line 4).....		25.0
b. Total restricted imports (line 1 over line 5).....		17.0

MR. DRYER. The savings enjoyed by consumers due to the independent refiner are staggering. They have been calculated in dollars and cents under three headings, as follows:

First, savings to consumers due to lower prices for gasoline produced by independent refiners and typically sold at a differential below major brand gasoline, at a typical figure of 2 cents per gallon, this worked out to \$294 million annually.

Second, savings to consumers due to the lower prices for all gasoline, both major brand and independent, which is held below the levels which would apply in the absence of the independent refiner, and based on various varying assumptions the calculated savings range from \$819 million annually to \$1.6 billion annually.

Third, savings to consumers due to the lower prices on other petroleum products due to the independent refiner, which we calculated at \$45 million to \$180 million annually, for total savings to consumers due to the independent refiner of from \$1 billion to \$2 billion annually.

Let me turn now to a discussion of the oil import program and the aspects of that program which are essential to the survival of the independent refiner, because without the oil import program most of the independent refiners, whose numbers were sharply reduced in the decade before that program started, would long since have disappeared. With them, of course, would have disappeared also all the aforementioned benefits to consumers.

The oil import program is vital to independent refiners because it provides, in addition to its support for the domestic producing industry, a basis for the fair sharing among all refiners of the cost advantage of foreign oil. Without a fair share in the cost advantage of foreign oil, the inland refiner, and especially the independent refiner, would be in the hopeless position of refining high priced domestic crude oil and marketing his products in competition with companies enjoying exclusively the lower price of foreign oil.

It follows that any steps to distort or undermine the features of the import program by which this fair share is calculated and distributed will injure the independent refiner. Such proposals recur year after year and we regret to note that some of these proposals, which would seriously injure the independent refiner, have won the endorsement, tentatively, at least, of this committee and its staff. Since this com-

mittee and its staff are really concerned with the preservation of competition in the oil industry and the interest of the consumer, we hope that our comments may lead at least to your reappraisal of, and your affirmative endorsement of, those particular features of the oil import program which are of critical importance to the independent refiner and the long-term interest of consumers.

At the outset, without restating their arguments we wish to add our endorsement of the general oil industry view which will be expressed to you by others, that oil import controls are necessary and the quota system as originally designed in 1959 is the best method of control. We are convinced, on the basis of 13 years in actual operation, that the system of quotas to refiners, as distinct from tariffs, quota auctions, quotas to nonrefiners, et cetera, is (a) the most effective method in practice, (b) the most fair method in terms of even competitive impact within the industry, and (c) the method which, to the maximum extent, will permit the price advantage of foreign oil to be passed through to consumers.

The single, most important feature of the import control system for independent refiners is the sliding scale. Yet it has been threatened as recently as the fall of 1971, at which time the Office of Emergency Preparedness published a proposal for a two-step scale with limitations which clearly contemplated that in a couple of more years it would become a one-step, uniform scale.

Faced with the numerous objections by or on behalf of concerned and desperate independent refiners, 68 in all, OEP has temporarily shelved this proposal. We have been advised, however, that the sliding scale concept will be subject to critical scrutiny and reevaluation by OEP early this year so that a decision can be reached in time for implementation in the 1973 program.

The sliding scale has been a necessary and integral part of the quota system from its inception and it should be continued in the future. OEP's renewed study in 1972 should confirm this fact and validate this feature of the program once and for all against these perennial attacks. Here is why:

While the sliding scale confers proportionately higher quotas to refiners of smaller size, it is not in fact a special privilege, a giveaway or a windfall to this group. It creates a difference, yes, but a difference which is necessary to offset differences and avoid inequality in actual competitive impact which would result from import controls if quotas were merely passed out equally to all refiners.

Such unequal impact would result because the control system creates extra benefits for integrated oil companies owning domestic crude oil which are not enjoyed by independent refiners. The integrated majors receive (1) the higher price resulting from the control system for the domestic crude oil which they own and, in addition, (2) the value of their quota rights to import foreign oil.

The nonintegrated refiner enjoys only the latter benefit from the control system, yet he competes with the integrated major.

The question which the Government faced at the outset of controls in 1959 was this: It is fair to give an independent refiner merely the same quota as the integrated major company with whom he competes when this same Government program also gives the integrated major the very substantial advantage of a higher price on the domestic crude

oil owned by it, an extra profit with which to bolster its force in the marketplace?

The answer in 1959 was, and the answer today should be, emphatically "No."

It is clear from prior reports from your committee that your committee is quite conversant with these key features of oil industry structure, the differences between the integrated major with its crude oil ownership and the independent refiner with its need to buy its crude oil, and the problems which these differences present.

We would urge you to carry your recognition of these problems one step further by noting the impact of these differences upon those subject to oil import controls. We would urge you to affirmatively endorse the sliding scale and lend your support to the independent refiner in defending this feature of the program when it is under review by Government, and attack by the integrated majors, in the year ahead.

Mr. Chairman, I am willing to submit my prepared statement because this sliding scale feature is the most critically important feature of the import program for refiners and we need everybody's help in preserving it.

OTHER PROBLEMS: OTHER GOVERNMENT ACTION

Many other Government actions and inaction have impact on the independent refiner. We mention one by way of illustration and because it is current: the Government's precipitate action on lead in gasoline.

Five years before an unleaded gasoline is needed, if needed at all, and before the conclusion of studies as to whether the need existed, the Government made headlines by requiring that all Federal vehicles use unleaded or low-leaded gasoline. There were two clear, foreseeable and inevitable results. First, the cost to the Federal Government went up. Second, only a few major companies already making unleaded gasoline by reason of crude supply and plant design (or willing to adapt thereto) could benefit. The independent refiner has now been cut out of this market. We wonder: why?

Of particular interest to the purpose of this hearing is the corollary action by certain major companies in promoting the sale to ordinary consumers of unleaded or low-leaded gasoline—at higher prices, of course, and prior to any presently demonstrated need. We wonder why this new turn in major company marketing strategy has not yet aroused the Federal Trade Commission in terms of its potential for consumer deception.

In conclusion, we very much hope that your committee will help us on the points we have raised. They are important to the survival of the independent refiner upon whom the long-term interest of all oil consumers depends.

(The prepared statement of Mr. Dryer follows:)

PREPARED STATEMENT OF EDWIN JASON DRYER

Mr. Chairman and members of the committee, my name is Edwin Jason Dryer and I appear here on behalf of the Independent Refiners Association of America, of which I am general counsel.

We are happy to respond to your invitation to testify in these hearings with their emphasis upon problems of competition in the oil industry and the impact

upon consumers. This is because the independent refiner occupies a special role in maintaining competition in the oil industry and in serving the interests of the consumer through low prices.

I need not elaborate on the competitive role of the independent refiner because it has been well documented heretofore. The Senate Select Committee on Small Business, for example, summed it up in these words: "The independent refiner is thus the mainspring of competition within the oil industry." (14th Annual Report, p. 74.) The Federal Trade Commission reached a similar conclusion after extensive industry-wide hearings in 1965. Excerpts on this point from the Federal Trade Commission's Report on Anticompetitive Practices in the Marketing of Gasoline are submitted with this statement.

CONSUMER'S SAVINGS DUE TO THE INDEPENDENT REFINER

We can add, however, something to those general conclusions. While these and similar statements over the years have recognized the competitive role of the independent refiner, they did not actually quantify the benefits to consumers which are due to the independent refiner and which will be lost if the independent refiner disappears. We have done so in a study which is directly germane to the subject of the Committee's present hearings. We submit with this statement a copy of that study.¹

The savings enjoyed by consumers due to the independent refiner are staggering. They have been calculated, in dollars and cents, under three headings, as follows:

ITEM AND ANNUAL AMOUNT

1. Savings to consumers due to lower prices for gasoline produced by independent refiners and typically sold at a differential below major brand gasoline: \$294,888,190.

2. Savings to consumers due to the lower prices for all gasoline, both major brand and independent, which is held below the levels which would apply in the absence of the independent refiner: From \$819,133,870 to \$1,638,267,740.

3. Savings to consumers due to the lower prices on other petroleum products due to the independent refiner: From \$45,052,363 to \$180,209,450.

Total savings to consumers due to the independent refiner: From \$1,159,074,423 to \$2,113,365,380.²

OIL IMPORT PROGRAM VITAL TO THE INDEPENDENT REFINER

Let me turn now to a discussion of the oil import program and the aspects of that program which are essential to the survival of the independent refiner—because without the oil import program most of the independent refiners, whose numbers were sharply reduced in the decade before the program started,³ would long since have disappeared. With them, of course, would have disappeared also all the aforementioned benefits to consumers. The oil import program is vital to independent refiners because it provides, in addition to its support for the domestic producing industry, a basis for the *fair sharing among all refiners of the cost advantage of foreign oil*. Without a fair share in the cost advantage of foreign oil, the inland refiner, and especially the independent refiner, would be in the hopeless position of refining high priced domestic crude oil and marketing his products in competition with companies enjoying exclusively the lower price of foreign oil.

It follows that any steps to distort or undermine the features of the import program by which this fair share is calculated and distributed will injure the independent refiner. Such proposals recur year after year and we regret to note that some of these proposals, which would seriously injure the independent refiner, have won the endorsement, tentatively at least, of this Committee and its staff. Since this Committee and its staff are really concerned with the preservation of competition in the oil industry and the interest of the consumer, we hope that our comments may lead at least to your reappraisal of, and your affirmative endorsement of, those particular features of the oil import program which are of critical importance to the independent refiner and the long-term interest of consumers.

¹ IRAA Memorandum, January 27, 1970: "Present Savings to Consumers Due to the Independent Refiner—Lost If the Independent Refiner Disappears."

² The savings to the Government as a petroleum consumer due to the competitive role of the independent refiner are not included in, but should be added to, these figures.

³ See figures in footnote 7 on p. 121.

At the outset, without restating their arguments, we wish to add our endorsement of the general oil industry view which will be expressed to you by others, that oil import controls are necessary and the quota system as originally designed in 1959 is the best method of control. We are convinced, on the basis of thirteen years in actual operation, that the system of quotas to refiners (as distinct from tariffs, quota auctions, quotas to non-refiners, etc.) is a) the most effective method in practice, b) the most fair method in terms of even competitive impact within the industry and c) the method which, to the maximum extent, will permit the price advantage of foreign oil to be passed through to consumers.

TARIFF, AUCTION, ETC., SCHEMES WILL HURT THE CONSUMER

Beyond that, and having regard for the consumer-oriented purpose of these hearings, let us make two points with respect to two alternatives to the quota system often suggested: tariffs and quota auctions. First, tariff and quota auction plans will hurt the consumer. They will hurt because the tariff or auction price paid to the government must be added to the cost of the ultimate refined product. Under the present quota system, by contrast, the lower cost of foreign oil is distributed to all refiners, thus reducing their average feedstock cost and permitting the pass-through of these savings to consumers—a pass-through insured if the independent refiner survives.

Second, the tariff or quota auction plans can do nothing to offset or even-out the multiple benefits which the integrated major companies enjoy in *any* import control system—by reason of their domestic crude oil ownership. Thus, the result of the tariff and auction plans is to discriminate against the independent refiner. We will explain this further in a moment in discussing the sliding scale but at this point we merely wish to note that the tariff and auction plans cannot possibly accomplish the same results of equating program impact. By hurting the independent refiner, they will hurt the consumer.

THE SLIDING SCALE

The single, most important feature of the import control system for independent refiners is the sliding scale. Yet it has been threatened as recently as the fall of 1971, at which time the Office of Emergency Preparedness published a proposal for a 2-step scale with limitations which clearly contemplated that in a couple of more years it would become a one-step, uniform scale.

Faced with the numerous objections by or on behalf of concerned and desperate independent refiners (68 in all) OEP has temporarily shelved this proposal. We have been advised, however, that the sliding scale concept will be subject to critical scrutiny and reevaluation by OEP early this year so that a decision can be reached in time for implementation in the 1973 program. And some of the integrated majors will avail themselves of this renewed opportunity to attack this long-established feature of the program. They will employ superficially appealing arguments and epithets (such as "equality" versus "special privilege"). It is therefore imperative that those responsible for decision examine carefully the *actual* and *aggregate* impact of controls so that fact rather than epithet will decide this issue so important to independent refiners.

The sliding scale has been a necessary and integral part of the quota system from its inception and it should be continued in the future. OEP's renewed study in 1972 should confirm this fact and validate this feature of the program, once and for all, against these perennial attacks. Here is why.

While the sliding scale confers proportionately higher quotas to refiners of small size, it is not in fact a "special privilege," a giveaway or a windfall to this group. It creates a difference, yes; but a difference which is *necessary to offset differences and avoid inequality* in actual competitive impact which would result from import controls if quotas were merely passed out equally to all refiners. Such unequal impact would result because the control system creates extra benefits for integrated oil companies owning domestic crude oil which are not enjoyed by independent refiners. The integrated majors receive 1) the higher price resulting from the control system for the domestic crude oil which they own, and, in addition, 2) the value of their quota rights to import foreign oil. The non-integrated refiner enjoys only the latter benefit from the control system. Yet he competes with the integrated major.

The question which the Government faced at the outset of controls in 1959 was this: Is it fair to give an independent refiner merely the same quota as the integrated major company with whom he competes when this same government

program also gives the integrated major the very substantial advantage if a higher price on the domestic crude oil owned by it, an extra profit with which to bolster its force in the marketplace? The answer in 1959 was, and the answer today should be, emphatically "no."

Even if some other import control mechanism were adopted, it would be necessary to accomplish in that other system the same objectives which are now accomplished by the sliding scale. This was specifically recognized by the Department of Justice.

In its separate comments to the Task Force, the Department of Justice noted the different impact which *any* control method would have upon integrated and non-integrated companies and it suggested that *any* control system should provide some offset for this difference. It referred to "the over-all effect oil import controls have in contributing to the disadvantage of non-integrated refiners" and said:

"By protecting domestic crude oil prices, limitations on oil imports permit a disproportionate amount of the total profit available to the petroleum industry to be taken at the crude oil production level. Refiners integrated into crude production share in these profits; non-integrated refiners do not.

"Consideration must therefore be given to *compensating* for this by measures to make available to independent refiners a substantial portion of the total oil imports, perhaps as much as the total independent refining capacity, *on a preferred basis.*" (Italic supplied).

Justice made this suggestion with respect to an auction plan. Within a system of quotas to refiners, this difference in impact, which the Department of Justice recognizes, is offset and evened out through the sliding scale. The sliding scale is necessary to a fair and equitable oil import program.

It is clear, from prior reports from your Committee, that your Committee is quite conversant with these key features of oil industry structure, the differences between the integrated major with its crude oil ownership and the independent refiner with its need to buy its crude oil, and the problems which these differences present. We would urge you to carry your recognition of these problems one step further by noting the impact of these differences upon those subject to oil import controls. We would urge you to affirmatively endorse the sliding scale and lend your support to the independent refiner in defending this feature of the program when it is under review by government (and attack by the integrated majors) in the year ahead.

QUOTA SALES

Another recurring proposal is the idea that import quotas be permitted to be sold directly in the open market rather than limited to direct use or exchanges for domestic oil. This proposal received a nod from the Cabinet Task Force and then it was published by OEP for comment in 1970, and again published for comment by OEP, in September 1971. We note with some concern that the idea has received at least initial support from your Committee. We hope that our comments today will be sufficiently informative so that you will support us in rejecting the quota sale idea.

We recognize that the quota sale idea appears reasonable on the surface—as a logical extension of the rule which permits inland refiners to realize their quota values through exchanges. *Under* the surface, however, the subject is somewhat more complicated.

The basic fact is that the inland independent refiner depends upon domestic crude oil for his operation and his oil import quota provides, beyond its value in monetary equivalents, an effective means to obtain some of the domestic crude oil which he needs. If the sale of import quotas were freely permitted and an exchange of domestic crude oil no longer required, the inland independent refiner would be offered monetary values for his import quota rather than a physical supply of domestic crude oil which he now obtains with his import quota. But the workings of the marketplace are such that he will not be able to translate these monetary values into an additional supply of domestic crude oil: an improved ability to bid higher prices for domestic crude oil will not alone suffice. On the other hand, as long as the independent refiner's potential exchange partner (typically an integrated international major oil company) must provide domestic crude oil on an exchange basis, his exchange partner will find the domestic crude oil to supply to the inland independent refiner; his exchange partner has means to this end beyond, and more effective than, monetary values alone.

These views may not be easily understood by persons not faced with the problems of obtaining crude oil for an inland independent refinery. A superficial glance at the problem would suggest that an "open market" in quotas should theoretically produce values to the quota holder equivalent to those he now receives. And traditional thinking with respect to the operation of freely competitive forces would suggest that these values in turn could be translated into additional domestic crude supply. The trouble with this thinking applied to the present problem is that the assumption as to freely operating competitive forces must extend beyond the quotas themselves—to other areas of the oil industry structure concerned with the supply of domestic crude oil. Here there are rigidities, with the result that an open market in "quotas" will give the inland refiner a theoretical monetary equivalent but one which will be ineffective actually to obtain the oil he needs.

The present exchange requirement, by contrast, cuts through some of the rigidities in domestic crude oil supply and insures some domestic oil to inland independent refiners, in addition to the quota's monetary values.

Our position on this is not theoretical.—It is the conclusion of our members facing the practical problems of domestic oil supply to their refining plants. If they thought that an open market in import quotas would help them overall, they would say so. Instead they say most strenuously the contrary.

It should be emphasized that the problem which the inland independent refiner has faced in obtaining crude oil in the last decade is even more acute today with the pressure on domestic crude oil supplies. Accordingly, it is today *least* appropriate to remove this aspect of the present import program which helps inland refiners to obtain domestic crude oil.

QUOTAS TO NONREFINERS

We face each year the urgent pleas from nonrefiners for a share in these valuable import rights. Petroleum marketers seek crude oil quotas and, in a few special cases, they have won awards from the Oil Import Appeals Board as a direct and obvious subsidy to financially troubled businesses. The producers also seek crude oil quotas. And in the wings is lined up every conceivable person who could use a subsidy.

In the case of persons who do not themselves process crude oil, it should be recognized that the grant of a quota is simply a subsidy. It is, in net effect, a grant of monetary value to certain favored elements only; it is not, as in the case of refiners, a method of redistributing the cost advantages of foreign oil among *all* persons in the class of oil processors—and thus of distributing this cost advantage among *all* their customers.

The nub of this issue is this: *If* the cost advantage of foreign oil is made available fairly to all *refiners*, then the *customers* of those refiners cannot complain of any adverse impact of *the program* upon them. While some refiner customers may have financial and competitive difficulties for one reason or another, these are not (on the stated assumptions) attributable in any way to the oil import program. Accordingly, the use of oil import quotas to alleviate these hardships, while attractive as a potent means of giving financial help to enterprises deemed deserving, is altogether unwarranted as a matter of sound and fair government administration.

One problem with subsidy, of course, is where do you draw the line? A subsidy for one, let us say a gasoline marketer, is inherently unfair in comparison with every other competing gasoline marketer to whom the subsidy is denied.

In short, while we recognize the difficult problems which some independent marketers face, we do not believe that crude oil quotas should be used to solve those problems—because those problems are not due to the oil import program.

SPECIAL DEALS

One word about the special deals in the past—like Occidental's Machiasport. A word may be in order in these hearings because of your Committee's special concern with fuel oil prices to the consumer and the arguments which have been advanced for projects like Machiasport. It would be a most serious error for this Committee's interest in consumer prices to lead it to endorse such proposals.

Why would it be an error? The answer is that there is no inherent magic in the foreign trade zone concept for Occidental's Machiasport proposal which reduces cost to the domestic consumer.

The only cost reduction which can occur would be that attributable to giving to that one project an unusually large share of low cost foreign oil compared with all other refiners in the country. Any other refining company could do the same thing! Why give this special advantage to a crude-rich financial giant? Furthermore, if this special allocation of low cost foreign oil is made to one favored company, it must be accompanied by a corresponding *reduction* in the amount of low cost foreign oil available to all other refiners; the asserted savings to Machiasport and its consumers must be matched by a corresponding increase in costs to refiners and consumers elsewhere. Why this special group and geographic discrimination?⁴

At present the cost advantage of foreign oil is distributed to all refiners and by them distributed to all consumers. We hope that your Committee will think, as we do, that the cost advantage of foreign oil should be distributed widely to all consumers and not lumped for the special benefit of a single company or a favored group of consumers.

(CONSUMER) BENEFIT-TO-(IMPORT) COST COMPARISONS

To put the matter of consumer savings and the import program into perspective, the large savings to consumers noted at the beginning of this statement may be compared with the "cost" of the independent refiner's sliding scale quotas. The actual "cost" to consumers of *all* oil import controls (on the net resource basis) was estimated in 1969 at about \$1,000,000,000 annual.⁵ In these terms, the *total* cost of the oil import program would be justified by just one aspect of that program—the equitable treatment accorded to independent refiners (especially by means of the sliding scale) and its beneficial effect in the continued existence of the independent refiner as a vital competitive force.

To put the matter into still sharper perspective, it should be emphasized that the totality of quotas based on the sliding scale feature of the oil import program, so important to independent refiners, accounts for only 7% of total restricted imports⁶—or \$70,000,000 per year in 1969, perhaps half that today. Few other large government programs have such favorable benefit-to-cost ratios.

OTHER PROBLEMS: ANTITRUST—GASOLINE PRICE WARS

It would be in error to leave you with the impression that if the import program is continued, and the sliding scale held intact, the independent refiner's problems are completely solved. He has other problems too which, with the competition from foreign crude, led to a sharp decline, an alarming 45%, in independent refiner numbers in the decade from 1950 to 1960.⁷ With import controls this decline has slowed but, if the independent refiner is to survive, these other problems must also be solved. For this reason we noted with interest that you intend to inquire not only into the oil import program, but also into the broader problems of competition and the application of the antitrust laws to the oil industry.

While that total subject is beyond the time scope of this hearing, it is appropriate to bring to your attention two deficiencies in the antitrust laws which have handicapped independent refiners in securing relief from predatory pricing practices in the courts under the antitrust laws—and which thereby endanger the independent refiner.

In the Federal Trade Commission's 1965 study of anti-competitive aspects of gasoline marketing there was recurrent testimony to the effect that, irrespective of who might have started a gasoline price war, the real problems were: 1) how do such wars develop into destructive rather than healthy competition;

⁴ Essentially a similar comment may also be made with respect to every request by a non-refiner for a special quota. With a quota, anyone can obviously quote a lower price and claim a consumer saving—but this must be matched elsewhere by a corresponding reduction of some refiner's quota and a corresponding increase in prices elsewhere to consumers.

⁵ Statement of Under Secretary of the Interior Russell E. Train to the American Petroleum Institute, November 1969. Today the figure is substantially less because of the increase in delivered cost of foreign oil. A substantially higher (e.g. \$5 billion) figure is frequently referred to but it represents the initial cost to coastal consumers *before* deductions, recognized by the Task Force itself as appropriate. (Report, pp. 20-30.) The net cost figure is obviously the appropriate one.

⁶ Quotas for all refiners in the 0-100,000 b/d bracket amount to only 17 percent of total restricted imports (1969 data). Of this, about 60 percent would be allocable without the sliding scale so only 7 percent is attributable to the sliding scale.

⁷ The total number of refining companies declined from 223 on January 1, 1951, to 159 in 1956 and further to 147 in 1961. The decline has continued: to 142 in 1963, and to 132 in 1968 with a level trend since. The independent refining companies disappearing from 1951 through 1968, 91 in number (223 less 132), constituted over 45 percent of the independent refining segment of the petroleum industry.

2) how are they sustained? The answer was this: the truly disastrous price wars were sustained in their duration and severity only by the limitless resources of the crude-owning majors—with the independent refiners, lacking those resources, either driven from the market or to the wall.

But the problem goes beyond the matter of financial heft. In addition, the structure of the tax laws gives every incentive to allocating an integrated company's oil profits to the production phase of the business; as a result, the independent refiner must buy his crude oil at prices set by his major company competitor at the maximum level for tax purposes, irrespective of the actual profitability, at those prices, of the refining and marketing phases of the business. So at the point where the independent meets the major competitively in the marketplace (and in that competitive absurdity—the gasoline price war) the major has two advantages: extra financial heft and a price structure for crude distorted so that it gains while the independent refiner loses.

Two changes in the current antitrust laws would alleviate this situation:

First, a change which would make the existing prohibitions on sales below cost under Section 3 of the Robinson-Patman Act a formal part of the antitrust laws—so that private suits for triple damage would be authorized.

Second, a provision that cost, for purposes of sales below cost, shall be determined separately for each functionally separate segment of a business, with the cost, in the case of an integrated business, of raw materials entering a functional segment being set at the prevailing *market* value of those materials. To relate this to the oil industry, this would mean that the market price of an integrated major's crude oil (and not the low cost of such oil to it as a producer) plus the cost of refining would be the cost for purposes of determining sales below cost at the refinery level. This would put the integrated major and the independent refiner on the same footing.

The basic principles behind these suggestions would be equally applicable and beneficial in the case of other industries. The dairy industry, for example, has pressed for legislation like that first described.⁸

We have submitted drafts of legislation from time to time to accomplish these objectives and would welcome any favorable action by your Committee in furtherance of such proposed legislation.

Chairman PROXMIRE. Very good. Thank you very much and I appreciate so much your condensing your statement so ably.

Our other witness we will hear in this group is Mr. Alfred James. Mr. James, please proceed.

STATEMENT OF ALFRED JAMES III, INDEPENDENT PETROLEUM GEOLOGIST, WICHITA, KANS.

Mr. JAMES. Thank you, Mr. Chairman.

I am an independent petroleum geologist, an oil producer in Wichita, Kans. I have been active in oil and gas exploration and production for 18 years and for the last 6½ years I have been managing partner in a small exploration company which owns interests in producing wells.

Mr. Chairman, at the outset I want to stress a very important point as strongly as I can. There is a distinction not commonly recognized outside of the petroleum industry. We independents have been lax in putting this forth and, as a consequence, our elected officials and the public are not generally aware of this as I believe you are. There are two distinct segments of this industry that we call the oil industry. One is highly privileged and concentrated, the other one is bona fide individual enterprise. The first is represented by the major, integrated, international petroleum corporations and the others are small, independent refiners and marketers, and oil producers.

I speak only as an independent explorer and producer.

⁸ E. g. S. 1835 and S. 1935, 88th Cong. and hearings thereon by Senate Subcommittee on Antitrust and Monopoly (pp. 20-44).

This hearing is called by you to discuss oil prices and supplies. Potential reserves of oil and gas are inexactly known, of course. But from experience, we can agree on some broad estimates. We have basically two sources of oil: foreign and domestic. I am convinced that we must find and develop at least some of the domestic; how much depends upon the cost and our evaluation of its necessity to national security.

I think the National Petroleum Council's estimates of the amount of crude oil that we can find and produce now and in the future are pretty much in the ballpark. They give us, including all the known reserves and the undiscovered reserves that we can hope to find potentially 346 billion barrels of oil.

This is four times what we produced in the past; natural gas, approximately 3.6 times what we have produced in the past; and natural gas liquids about 3.5 times past production.

Almost all geologists agree that this is reasonable and we can find it, given the proper incentives.

Time and again large reserves have been found by imaginative people in areas most did not consider very promising. The NPC report goes on to say, and I feel this is important, "To the extent that policies of industry and Government militate against accelerated exploration, particularly drilling, a high percentage of the petroleum resources of the United States is immobilized."

We have found the most easily discovered large fields and now the search becomes more difficult and it will very likely become more extensive. The reserves are here under our own soil in this country.

Now, the question resolves itself: Who is going to find and develop this oil and what will it cost us? The past and present give us the answer to the first part of the question. The independent wildcatter has found most of the oil on shore and continues to account for about 85 percent of all exploratory drilling in this country on shore.

Chairman PROXMIRE. Will you pull the mike a little closer, Mr. James?

Mr. JAMES. Yes, sir.

Chairman PROXMIRE. And speak a little louder.

Mr. JAMES. The independent can be expected to continue to do this as long as he can make a living out of it. But we are a vanishing group. We are not making it under current prices and under current conditions. We have lost about half of our technical personnel and these are people who will only be recovered in time of need with quite some timelag.

The well-known story of oil and gas reserves is one of net decline in a time of expanding demand. And so foreign oil and soon foreign gas, much or most of it from sources of questionable security, comes in to fill the widening gap between our supply and our need. I suggest the incentives for increasing the search for our own oil and gas reserves might be, some or all of the following:

(1) Wellhead prices for oil and gas that permit a fair return on investment and risks.

(2) Tax treatment that encourages exploration in this country rather than in foreign countries as it does now.

(3) A revised and more realistic form of the depletion allowance such as your own amendment to the House tax resolution in 1969,

which provided for an allowance geared inversely to gross production and satisfied the needs of the small business segment of the industry that finds most of the oil.

And, finally, some form of domestic exploratory drilling subsidy providing credits to those willing to take the risks, and this committee has proposed such a plan under your chairmanship.

The principal point of my testimony, therefore, I think, is the unequal tax treatment of foreign versus domestic oil and gas production. This is the thing that is really hurting competition among the independents in the petroleum industry in this country. To me, this is the greatest single factor inhibiting exploration. This isn't a novel idea at all. The vice chairman of this committee, the Honorable Wright Patman, in 1965, who was chairman of the House Banking Committee, said, and I quote :

*** my purpose is to suggest the possibility that favored treatment to our American international oil companies is a principal factor in the present payments gap, as well as a primary cause of the distress in which the small businessman in the domestic oil industry now finds himself.

Congressman Patman went on to ask for curtailment of clear abuses of tax credits and questions the rationale behind extending full depletion to foreign production.

In 1969, again, Mr. Chairman, you wrote one of my colleagues that it is your legislative proposal to eliminate foreign depletion allowance and tax credits and in quoting your words, "shift the incentive back toward domestic exploration." These proposals were not enacted, of course.

The OEP report to the President last year suggested consideration of tax treatment to determine whether a difference should be established between exploration and development in secure areas as compared to insecure areas. And Elmer Bennett, last year when he was general counsel of the White House Oil Policy Team, made the same point, stating also that some people in the Treasury Department would like to see this inequity corrected.

I think the reason for this inequity continuing and the reason that Congress regularly turns down reform in this area is this system of political financing and privilege that we have all inherited. In a recent book titled "America, Inc.," the authors state that the oil industry is believed to outspend all others in political contributions and a look at the tax laws leaves no doubt that the spending has been worth while.

There have been other commentators who have hit this same target quite recently. They may be very right, but I don't excuse them for their all-inclusive term of "the oil industry," because, as I said first, this does not in its context include small producers, refiners, and marketers, and it surely does not include me. It does include the major, integrated, and international oil corporations and their subservient associations that dominate the industry from the well to the pump.

We don't even hear pleas from those industry associations who claim to represent independent oilmen, with a few exceptions.

Once again, political and economic power dominates these organizations, just as it dominates State and National politics.

So-called independent organizations are dominated directly by dues-paying major oil company memberships and contributions. Indirectly, they are tamed by major company business connections. An independ-

ent contractor who does a large portion of his work for major companies does not have the privilege of free speech unless he also welcomes the privilege of going out of business.

I would lend my support also to those who have urged that our trade and antitrust laws be strictly enforced. We can't sit here and talk intelligently about supply and demand, costs and prices, if all these are influenced by a few large corporations; they are the buyers, the sellers, the transporters, the marketers. I am no expert on this, but I am just echoing other people who have recommended divestiture of overlapping activities and enforcement of our antitrust laws.

Just last month, Representative Neal Smith's subcommittee, House Subcommittee on Special Small Business Problems, issued a report on concentration of industry in the energy market, scoring growing major company domination of sources of supply. The subcommittee's recommendations include no less than eight separate references to anticompetitive actions and pleas for enforcement of antitrust laws.

As I said before, I am no expert in this. I would certainly think some of these things deserve a good deal of attention and action.

If I may address myself to the subject of natural gas, many people, not entirely familiar with the industry, have considered this as a separate problem. From the standpoint of pricing and exploration, I think we have to consider oil and gas together, and, as a geologist, I have had the experience, and it is not at all unique in this business, of finding natural gas when one thought he was looking for oil, and the reverse. Therefore, when you are going to drill a well, you have to consider the economics and incentives of both.

Wellhead prices for gas are far below the level needed to bring forth new supplies. Once again, legislative obstruction of supply and demand has hurt supply and, as always, ultimately the consumer.

I would hope that the complexity of the total problem will not lead us into self-defeating attitudes. For instance, there has been a suggestion that import controls should be abolished to effect lower product prices, but the effect of such action alone by itself would be to practically eliminate all independent competition. I cannot compete with foreign oil which treats royalty payments as tax credits and claims full depletion. And the independent refiner cannot compete with oil which flows into the major refineries at the worlds lowest costs of production because it pays virtually no Federal taxes. And where will product prices go without competition?

If you will, however, make foreign oil pay its Federal taxes, and if you will revise the depletion allowance to accomplish its original intent in 1926, which was the encouragement of domestic exploration, I will be able to compete on a fairer basis and the Federal Treasury will be richer for the amount of dollars it collects from imported oil, which same dollars now are going to eliminate competition, as you have so well detailed.

The result of a freer market for oil, which would come from the elimination of preferential tax treatment for foreign oil, might very well be such that the mandatory oil import program could be totally abolished; and, as you, Mr. Chairman, pointed out very well yesterday, these two programs are really at cross-purposes. The public is paying some \$2.5 billion, I believe you estimated yesterday, in subsidies to foreign oil in the form of foreign tax credits, so they are investing in

this foreign oil, and the Government is saying, "No, you can't bring it in except in limited quantities." I would agree, these are cross-purposes.

The additional beneficial result, as Chairman Patman of the Banking Committee pointed out in 1965, might very well be a decrease in the balance-of-payments deficit.

One estimate is that the dollar drain by 1985 might be \$22 billion a year. This is something I don't think this country can afford.

Finally, another belief that I believe is somewhat self-defeating is that we can plug and abandon all stripper wells, those that produce 10 barrels a day or less, and it amounts to half a billion barrels a year. It is already found, and granted it may be higher cost production than other production, but if we are talking about energy supplies that are secure, I think it is essential we keep these.

Mr. Chairman, if I have at times strayed from the subject of this hearing, it is because I have tried to impress you with some of the problems I feel underlie our price structure.

I very much appreciate the opportunity for one small businessman to tell his problems to this committee. Thank you.

(The prepared statement of Mr. James follows:)

PREPARED STATEMENT OF ALFRED JAMES III

ABSTRACT OF PREPARED STATEMENT

I feel the greatest single factor inhibiting exploration and competition in the domestic petroleum industry is the unequal treatment of foreign vs. domestic oil and gas production. The interests of the domestic independent producer and those of the major international corporations are so diverse as to constitute almost two separate industries. This fact has not been promoted by industry associations, nor as a consequence realized by most of the public and its elected officials.

If this country is to develop its domestic oil and gas reserves to the maximum, governmental policy must encourage this development through its tax policies and handling of imports. Present laws favor the major international corporations. The reasons for such favored treatment may lie in the sources of political financing and privilege. If, also, our antitrust laws are not presently being enforced as regards the giant corporations, the underlying reason may be the same. The resulting loss of competing small oil companies places the sources of supply in the hands of fewer and fewer large corporations. What will product prices be without competition?

It is possible that if the tax laws can be revised so that foreign oil pays its share of Federal taxes, and the depletion allowance made to encourage domestic exploration and production as was the original intent, import controls might be abolished. To do so without such tax reform would spell the death of most of the remaining independent companies.

TEXT OF PREPARED STATEMENT

My name is Alfred James III. I am an independent petroleum geologist and oil producer in Wichita, Kansas. I have been active in oil and gas exploration and production for 18 years. For nine of these, I was junior partner in a small firm which owned a drilling rig and operated producing properties. In the last 6½ years, I have been the managing partner in a small exploration company which owns interests in producing wells. We are luckier than many; we survive.

Mr. Chairman, at the outset, I wish to emphasize as strongly as I can, a distinction not commonly recognized outside of the petroleum industry. There are two distinct segments of this industry—one highly privileged and concentrated; the other restricted to bona fide individual enterprise. The first is the major, integrated, international petroleum corporations. The second is the small business explorer-producers, and the independent refiners and marketers. I speak only as an independent explorer and producer.

Major industry organizations have disclaimed such disparity. They have told you before and will say again by inference and distortion that this is "one

industry." I emphatically disagree! Actually, we independents are in a position similar to that of the small family farmer who must sell his produce to large food processing and marketing corporations. The farmer is powerless to influence a price which the corporations set on the basis of huge factory-farms they organize to compete with him in production. The independent oilman sells his product, crude oil and natural gas, to large producing, refining, and marketing corporations at a price which he is equally powerless to influence.

I am not an expert in this industry, particularly on the subject of law and economics. Many statistics are used one day to prove the industry's worth, and the next to prove its distress. One questions figures that are not his own anyway. For these reasons I will cite only a few figures which I feel are reasonable, and will help tell the story of what is happening to my part of the business.

This hearing is called to discuss oil prices and supplies. Potential reserves of oil and gas are inexactly known, of course. But from experience, we can agree on some broad estimates. There are basically two sources of oil: foreign and domestic. I am convinced that we must find and develop at least some of the domestic; how much depends upon the cost and our evaluation of its necessity to national security.

How much domestic oil can we expect to find and produce? I think we can accept the National Petroleum Council's estimates on this. They give us, including known and undiscovered reserves, potentially 346 billion barrels of oil, or four times past production; 1,195 trillion cubic feet of natural gas, or 3.6 times past production; and 38 billion barrels of natural gas liquids, or 3½ times past production. Almost all geologists agree that this is reasonable, and that it can be found. Time and again, large reserves have been found by imaginative people in areas most did not consider very promising. The NPC report goes on to say, and I feel this is important, "To the extent that policies of industry and government militate against accelerated exploration, particularly drilling, a high percentage of the petroleum resources of the United States is immobilized." The most easily discovered large fields have mostly been found; now the search becomes more expensive and demanding of technical skills and imagination. As technology and skills increase, the cost of goods and services increases even more, but the reserves are surely there, beneath our own soil.

The question resolves itself: Who is going to find and develop this soil and what will it cost us? The past and present give us the answer to the first part of the question. The independent wildcatter has found most of the oil on shore and continues to account for about 85 percent of all exploratory drilling.

He will continue to do so as long as he can make a living out of it. But we are a vanishing group. We are not making it at current crude prices and under current conditions. In the last ten years, we have lost half our field men, drillers, and technical people who provided a vast reservoir of expertise. Each year there are fewer drilling rigs looking for new oil and gas fields on shore in this country. And the well-known story of oil and gas reserves is one of net decline in a time of expanding demand. And so, foreign oil, and soon foreign gas, much or most of it from sources of questionable security, comes in to fill the widening gap between our supply and our need. The incentives for increasing the search for our own oil and gas reserves might be:

1. Wellhead prices for oil and gas that permit a fair return on investment and risks.
2. Tax treatment that encourages exploration in this country rather than in foreign countries as it does now.
3. A revised and more realistic form of the depletion allowances such as Chairman Proxmire's amendment to the House tax resolution in 1969. This provided for an allowance geared inversely to gross production and satisfied the needs of the small business segment of the industry that finds most of the oil. A Treasury Department¹ study has shown that in 1947, firms grossing a million dollars or less annually got only 6.1 percent of the depletion allowance subsidy, and in 1957 their share was but 3.7 percent. The decline continues today.
4. Some form of domestic exploratory drilling subsidy providing credits to those willing to take the risks. Again, the chairman of this committee has proposed such a plan.

This same man who some misinformed independents feel is their enemy, once also suggested that if there must be an import quota system, the independents should get their direct share. These quota allocations were devised in part on the supposition that this would happen—so they gave them to the refiners. It is as if the government, deciding the farmers needed help, contrived a subsidy for

¹ Congressional Record-Senate, Apr. 19, 1967, pp. 5532-5538.

General Foods and Safeway! It has helped the small refiner in fact, and we would have much less marketing competition now without it. But what of the independent producer who gets none of it?

I really dislike talking about subsidies in discussing corrective incentives. We are continually trying to counterbalance for one man a privilege given another, and always wind up unfair to somebody. We work overtime legislating prices, imposing quotas and tariffs, and really seem to want everything but what we brag about: free enterprise and a free market system, subject only to demonstrated national security needs. But this is the world of legislated inequality we live in. This brings us to the principal point of this testimony: the unequal tax treatment of foreign vs domestic oil and gas production. To me it is the greatest single factor inhibiting exploration and competition in this country. This isn't a novel idea at all. In a most noteworthy speech on the floor of the House in 1965, the Hon. Wright Patman, Chairman of the House Banking Committee said, " * * * my purpose is to suggest the possibility that favored treatment to our American international oil companies is a principal factor in the present payments gap—as well as a primary cause of the distress in which the small businessman in the domestic oil industry now finds himself." Rep. Patman goes on to ask for curtailment of clear abuses of tax credits, and questions the rationale behind extending full depletion to foreign production. In 1969, the chairman of this committee, Senator Proxmire, wrote one of my colleagues that his legislative proposals would eliminate foreign depletion allowances and tax credits, and "shift the incentive back towards domestic exploration." These proposals were not enacted. Gen. Lincoln's OEP report to the President last suggested consideration of tax treatment to determine whether a difference should be established between exploration and development in secure areas as compared to insecure areas. And Elmer Bennett, when he was General Counsel of the White House Oil Policy Team, made the same point this year, stating also that some people in the Treasury Department would like to see this inequity corrected.

One wonders how such a glaring inequity could continue to be permitted. Congress regularly turns down reform in this area. I'm not alone in saying that I think the reason for this may go deeply into the political system you gentlemen have inherited. It is a system of political financing and privilege. In a recent book titled "America, Inc." the authors state that the oil industry is believed to outspend all others in political contributions and a look at the tax laws leaves no doubt that the spending has been worth while. Richard Harris recently wrote in the New Yorker magazine that the oil industry is the most insidious force in political life. Russell Hemenway went so far as to say "it owns the government." These writers and commentators may be very right, but I do not excuse them for their all-inclusive term, the so-called oil industry. It doesn't include scores of small producers, refiners, and marketers, and it doesn't include me. It does include the major integrated international oil corporations and their subservient associations that dominate the industry from well to pump.

But there is reason for optimism. Our Kansas Senator James Pearson has been praised publicly for his leadership in drafting the new campaign spending limitation bill, presently before Congress. I feel this effort, as any effort toward limiting the political uses of power and money in our legislative processes, should be supported. This country needs to move once again in the direction of individual enterprise. I'm sure you agree with Dr. Walter Adams of the University of Michigan, that the industrial giants can no longer be considered as on the same level as the pretzel peddler.

Why don't we hear pleas for reform in politics and taxes from organizations purporting to represent the so-called oil industry? We don't even hear them from those claiming to represent the independent oil men. Once again, economic and political power dominates these organizations just as it dominates state and national politics. The "independent" organizations are dominated directly by dues-paying major oil company memberships and contributions. Indirectly they are tamed by major company business connections. An independent contractor who does a large portion of his work for major companies does not have the privilege of free speech unless he also welcomes the privilege of going out of business. The independent sector of the industry is therefore forced to pay an unending ransom to preserve what life it can. This situation was "told like it is" by one of my colleagues a couple of years ago, in a letter to the members of the Kansas Independent Oil and Gas Association: "When I was chairman of the Liaison Committee of Cooperating Oil and Gas Associations, I strove vigorously to get IPAA to listen to the independents and be concerned with their problems. However, I was confronted with such statements as one that was made to me at a public meeting in Houston by the then president of IPAA, 'I have

seventeen rigs running for the major oil companies; if you think I'm going to oppose them, you're insane.'"

I would lend my support, also, to those who have urged that our trade and antitrust laws be strictly enforced. We can't talk intelligently about supply and demand, costs and prices, if all these are influenced by a few large corporations they are the buyers, the sellers, the transporters, the marketers. I cannot compete, selling my crude oil at 8 cents a gallon to a big company who takes it on to the market at 12 to 25 cents a gallon. Would not divestiture of overlapping activities be in the best interests of competition? After all, it is competition that sets the fairest, and usually the lowest prices. Just last month, Rep. Neal Smith's Subcommittee on Special Small Business Problems, issued a report on concentration of industry in the energy market, scoring growing major company domination of sources of supply. The subcommittee's recommendations include no less than eight separate references to anticompetitive actions and pleas for enforcement of antitrust laws. I am no expert in such matters, but feel such recommendations may well deserve further action in view of what I see happening in the small business part of my industry.

Natural gas has been wrongly considered as a separate problem. From the standpoint of pricing and exploration, oil and gas have to be considered together. I have had the experience, as have most geologists, of finding gas when I thought I was looking for oil, and the reverse. The economics of both must therefore be considered. Interstate gas prices long have been and still are far below the levels needed to bring forth new supplies. Once again, legislative obstruction of supply and demand has hurt supply, and as always, ultimately the consumer.

I'd like to offer a personal observation on the "energy crisis" we are told is approaching. The statistics we have proving such a crisis come from industry associations and from government supported by industry. However, I am inclined to agree with them. My point of contention is not with the shortage itself, but in the handling of it. It seems axiomatic that in a shortage of any vital commodity, the first plan of action should involve conservation, and the encouragement to find and produce more of the vital commodity. But I hear almost nothing about conservation from my industry or the users of its products. The automobile manufacturers work to sell more and more cars to families that already own one or two, and nobody seems to be working toward economy in fuel consumption. Power utilities promote more electric and gas appliances, many of them of little real use, and tell us we must leave lights burning all night to discourage crime. If we continue to squander what we have, perhaps we deserve to run short.

There is no immediate profit in conservation, but it seems less than honest on the part of both government and industry to talk about encouraging exploration for energy without also calling for conservation of the uses of it.

I hope that the complexity of this total problem energy supplies will not lead us into attitudes and beliefs that are self-defeating. For instance, the Chairman of this committee has suggested that import controls should be abolished to effect lower product prices. But the effect of such action alone by itself would be to practically eliminate all independent competition. I cannot compete with foreign oil which treats royalty payments as tax credits and claims full depletion. And the independent refiner cannot compete with oil which flows into the major refineries at the world's lowest costs of production because it pays virtually no federal taxes. And where will product prices go without competition?

If you will, however, make foreign oil pay its federal taxes, and if you will revise the depletion allowance to accomplish its original intent in 1926 which was the encouragement of domestic exploration, I will be able to compete on a fairer basis. And the federal treasury will be richer for the amount of dollars it collects from imported oil, which same dollars now are eliminating competition. The result of a free market for oil which would come from the elimination of preferential tax treatment for foreign oil might very well be such that the Mandatory Oil Import Program could be totally abolished? But to do so without tax reform would spell the demise of what independent competition now remains. An additional beneficial result may well be a decrease in the balance of payments deficit. Once again, I must plead that I am not expert in this field, but will note that the President of Continental Oil Company's Western Hemisphere Petroleum Division recently forecasted that this country's dollar drain by the year 1985 might well be \$22 billion per year if we are by then importing 57 percent of our petroleum. And, as I cited earlier, Rep. Patman has addressed himself to the adverse effects of oil imports on the balance-of-payments.

Another self-defeating belief may be that we should plug and abandon all stripper wells; those that produce ten barrels a day or less. We might believe this

should be done so that we can produce lower cost oil from the better wells. This might have been a good idea twenty years ago when we had more oil than we could use. But these wells now produce almost a half billion barrels a year. Should we, in a period of mounting scarcity, throw these wells away and then spend added billions of dollars to bring down oil of unknown price and great risk from the Arctic Slope. We need both.

Mr. Chairman, if I have at times strayed from the subject of this hearing, it is because I have tried to impress you with some of the problems I feel underly our price structure. In a free country, supply and demand are viable market forces only so long as we preserve individual enterprise and thereby competition. I feel we are continuing to move in a direction away from these, largely because of industry and government policies which together work to concentrate power and stifle competition.

I am certain that I have not divined all the problems of my part of the industry or their solutions. I do wish to express my heartfelt thanks to you, Mr. Chairman, and to this distinguished Committee, for the opportunity you have given one small businessman to tell his opinions to the federal government. I sincerely hope that I have provided something of value.

APPENDIX A

MANDATORY IMPORT PROGRAM

Commenced: President Eisenhower's proclamation of March 10, 1959.

Purpose: National security reasons. We were being flooded with cheap foreign oil. Both Eastern and Western Hemisphere oil was being delivered to East and Gulf Coast USA at anywhere from \$1.00 to \$1.50 per barrel less than delivered domestic oil (Kansas price in 1959 was \$3.05 for 40°).

Allocations: Every United States refiner got import quota on sliding scale based on inputs during a base period. Percentages of quotas given weighed in favor of small refiners.

Exchanges: One of the regulations states that foreign crude or the domestic crude it may be exchanged for, must be processed in domestic refinery within 120 days of importation of foreign crude.

Therefore, inland refiners "swapped" or exchanged their quotas since most obviously could not physically or economically process their foreign quota. They exchanged their quotas, usually with a major company with foreign production, for domestic crude that they processed which conformed to the regulations.

Inland refiners bought foreign crude equal to their quota from the major with whom they had an exchange agreement and then merely gave it back to the major at the major's refinery on the East or Gulf Coast. The major bought from the inland refiner, or the inland refiner's supplier, the amount of barrels needed to effect the exchange and merely gave it right back to the inland refiner. This is what is called a "Phantom" exchange. However, in some instances, the major had some excess domestic crude of its own that was a desirable crude for the inland refiner which they were able to give to the inland refiner to complete the exchange.

Typical exchange deal.—One of the regulations states there shall be no money exchanging hands in a quota exchange. A typical deal may work as follows:

1. Inland refiner has a quota of 3,550 B/D for 1971.
2. Inland refiner agrees to sell this quota to a major company for 50 cents per barrel.
3. Price structures of both foreign and domestic crude built up this way.

Arabian crude to be imported:	<i>Per barrel</i>
F.O.B. Ras Tanura-----	\$1. 80
Duty -----	. 105
Transportation -----	. 60
Quota value-----	. 50
Delivered cost-----	<u>3. 005</u>
Kansas crude:	
F.O.B. field-----	3. 60
Pipeline charge-----	. 20
Delivered cost-----	<u>3. 80</u>

Therefore: For every barrel of Arabian inland refiner gives to major company, they get back 0.7907894 barrels of Kansas crude that inland refiner or inland refiner's supplier originally may have sold to major company. Major company pays the full delivered price for the Kansas crude while inland refiner pays major company the above price for the Arabian minus the 50 cents per barrel quota value. The net effect is that inland refiner is getting 50 cents per barrel for his quota and no money has exchanged hands so the deal complies with the regulations.

RAMIFICATIONS AND COMMENTS ON QUOTA PROGRAM

1. Subsidy of small independent refiners by major companies. Major companies really paying for the privilege of bringing in their own foreign crude, in excess of their own quotas.

2. Foreign crude delivered cost to United States ports artificially higher by amount majors paying to quota holders and only for the quantity on which they have exchanges. The price of the major's own quota they import is NOT artificially high.

POSSIBLE EFFECTS IF QUOTA PROGRAM TERMINATED

1. More foreign crude imported since tanker rates presently down and therefore delivered cost of foreign crude now less than domestic crude.

2. We would rely more and more on foreign sources for our requirements. (Department of Interior has said that in 1970 we imported around 23 percent, this figure higher or lower depending on the source, of of crude, finished and unfinished products requirements).

3. Shut down and eliminate small independent inland refiner who could not physically or economically run foreign crude which in turn would result in possibly driving down the price of domestic crude if the small inland refiner tried to stay in business and compete with the cheap foreign crude run by the deep-water refineries. This in turn would hasten the demise of and completely eliminate the domestic exploration and producing industry, especially the independents since they do the major part of the new exploration in this country.

QUESTIONS

1. Is it imperative that we have a healthy and active domestic exploration and producing industry for national security reasons or any other reasons?

2. Do we need the small independent refiner for any reason? And what follows, the independent marketer?

3. Up to what limits do we want to rely on foreign crude?

CAN THE QUOTA PROGRAM EVER BE ELIMINATED?

Yes, it can when the delivered cost of foreign crude equals or exceeds the delivered cost of domestic crude. When this point is reached, it would be beneficial to the small inland independent refiner since he would be able to compete with the large major company. The time when this might happen is difficult to determine because of the volatility of tanker rates. Also, the cost of the foreign crude to the importing companies at their loading ports is a big factor. It appears that the trend of the cost of foreign crude at loading ports upward (OPEC demands and gains) which trend may help to equate the delivered cost of foreign crude with domestic crude.

(Appendix prepared by George Grenyo, Wichita, Kans.)

Chairman PROXMIRE. Well, thank you very much, Mr. James.

Mr. Allvine, I neglected you, unfortunately. You were billed as coming with Mr. Peterson, but you have a prepared statement of your own. That prepared statement will be printed in the record.

Would you like to make a comment in relationship to it?

STATEMENT OF FRED C. ALLVINE, ASSISTANT PROFESSOR OF MARKETING, GRADUATE SCHOOL OF MANAGEMENT, NORTHWESTERN UNIVERSITY, ACCOMPANIED BY JAMES M. PATTERSON, PROFESSOR OF MARKETING, UNIVERSITY OF INDIANA

Mr. ALLVINE. Yes, Mr. Chairman, if you please, I will make a 3-minute summary and comment on my prepared statement.

Chairman PROXMIRE. You are welcome to 10 minutes. Mr. Peterson did not use his time. You are welcome to use it.

Mr. ALLVINE. Mr. Chairman, I am an assistant professor of marketing, Graduate School of Management, Northwestern University, Evanston, Ill. Accompanying me is Prof. James Patterson from the School of Business, University of Indiana, Bloomington, Ind.

Chairman PROXMIRE. We are pleased to have you here.

Mr. ALLVINE. We appear before this committee at the request of SIGMA—Society of Independent Gasoline Marketers of America. However, the prepared statement was prepared by me and represents my own views. No one has edited this prepared statement and any errors or omissions are my responsibility.

There are five fundamental recommendations. Because of the time constraints, I would—

Chairman PROXMIRE. If you could tell us what page you are at, it would be easier for us to follow you.

Mr. ALLVINE. We abstracted last evening to make it shorter after we learned about the time constraints and, unfortunately, we were unable to get it reproduced for you.

Chairman PROXMIRE. All right; very good.

Mr. ALLVINE. For the past 3 years Professor Patterson and I have been involved in a study of the vitality of competition in the gasoline and petroleum industry. As a result of this study, was a coauthoring a book that is entitled "Competition Limited: The Marketing of Gasoline," which will be published this spring. This prepared statement is prepared in response to the questions asked by your staff and draws heavily upon the research and conclusions to be presented in the forthcoming book.

The five general recommendations are as follows:

Recommendation No. 1: The publicly held, integrated oil companies should be required to either functionally or physically divorce their crude oil operations from their downstream activities.

Subsidation of downstream operations has become a way of life in the petroleum industry and has resulted in the gradual strangulation of independent refiners, terminal operators, price marketers, and also integrated companies with a low degree of crude oil self-sufficiency. Twice before during this century steps were taken to correct the practice of major oil interests exerting their monopolistic powers. In 1911 the Standard Oil Trust was broken up and in 1942 return on common carrier pipelines was regulated.

Recommendation No. 2: A major inquiry should be held into the foreign tax credit as applied in the oil industry with consideration given to (1) limiting the foreign tax credit on oil so that it does not exceed the U.S. tax liability associated with the unit of revenue, and, (2) limiting the foreign tax credit to the average rate of foreign income tax on all other types of business investment in a particular foreign country.

The reason for this recommendation is that it appears that the foreign tax credit may be contrary to other laws which are intended to encourage domestic production in the interest of national defense.

It appears that the foreign tax credit may have resulted in the United States subsidizing the world price of crude oil to the detriment of the interests of this country and to its citizens.

Recommendation No. 3: The major integrated oil companies should be required to divest themselves of ownership of so-called common carrier pipelines. The major oil company joint ownership and control of interstate common carrier pipelines has permitted them to extend their dominant position in refining to the marketplace and, as a result, to limit and constrain competition in certain markets and areas.

In actual practice, the common carrier pipelines do not serve "all without discrimination," nor are they available for "public use" as is supposedly the case.

Recommendation No. 4: The large integrated oil companies should be required to divest themselves of major production companies that they have acquired or otherwise gained control of since the middle 1950's.

These mergers have definitely been part of a trend toward increasing concentration in the petroleum industry and have contributed to the destruction of normal forces of competition in the pricing of gasolines.

Recommendation No. 5: The major oil companies' practice of granting "price protection" and other techniques for subsidizing select dealer operations should be banned. Through the manipulation of retail prices the giant integrated oil companies have been able to police, control and even destroy competitors that endeavor to sell gasoline on a high-volume, low-cost, low-price basis.

That concludes the five general recommendations from my prepared statement.

(The prepared statement of Mr. Allvine follows:)

PREPARED STATEMENT OF FRED C. ALLVINE

My name is Fred C. Allvine, and I am an Assistant Professor of Marketing, Graduate School of Management, Northwestern University, Evanston, Illinois. Accompanying me is Professor James Patterson from the School of Business, University of Indiana, Bloomington, Indiana. We appear before this committee at the request of S.I.G.M.A. (Society of Independent Gasoline Marketers of America). However, the statement was prepared by me and represents my own views. No one has edited this statement and any errors or omissions are my responsibility.

For the past three years Professor Patterson and I have been involved in a study of the vitality of competition in the gasoline and petroleum industry. As a result of this study we are co-authoring a book that is entitled *Competition Limited: The Marketing of Gasoline* which will be published this spring. This statement is prepared in response to your questions and draws heavily upon the research and conclusions to be presented in the forthcoming book.

BACKGROUND INFORMATION ON PETROLEUM INDUSTRY

Most serious students of the petroleum industry soon grow to recognize that in many respects the petroleum industry does not respond in the ways normally thought to exist in competitive industries. In competitive industries the interaction of supply and demand bring about price changes which eventually result in more or less resources flowing into a given industry activity. However, in the petroleum industry monopoly profits have historically been captured in certain sheltered industry activities which have been used to gradually squeeze competitors performing other industry functions. In the early days of the petroleum industry the Standard Oil Trust gained a monopoly position in refining that extended into transportation and so was able to dominate and control many aspects of the petroleum industry. With the breakup of the Trust in 1911, the instrument of monopoly control shifted backwards into pipelines. During the golden era of the pipelines from 1920-1940, exceptionally high return on investment was captured in pipeline activities while crude oil production, refining and marketing were frequently only marginally profitable or unprofitable activities.

This profit haven gradually eroded following an anti-trust suit against the pipeline companies in 1940 which was settled by a consent decree in 1942 which regulated the return on investment of company carrier interstate pipelines to 7 percent of asset valuation.

During the 1940s the nerve center of the industry shifted backward to the production of crude oil. From 1945 to 1948 crude oil prices more than doubled and the crude oil department was firmly established as the profit haven for the petroleum industry and it remains as such today. As a consequence, having a high degree of crude oil self-sufficiency is almost a necessity to be a successful competitor in the industry. Many who have not been so fortunate have been severely squeezed even though they have been reasonably efficient in performing other industry activities. High and noncompetitive crude oil prices have contributed to the decline of independent refinery capacity, the demise of independent terminal operators, the selling-out of independent price marketers, takeover of integrated oil companies having a low degree of crude oil sufficiency and intensive integration of the operations of the major oil companies. The consequence of administering artificially high crude oil prices has been increased industry concentration and a stifling of the rigorous competition provided by the independents. How far this trend will go is definitely in the hands of the government. If government continues granting special privileges to the integrated oil companies and there is limited enforcement of the anti-trust laws, then concentration will grow to the detriment of the public.

QUESTIONS AND RESPONSES

I. Does the favorable tax treatment of oil encourage the integrated oil companies to operate the refinery and marketing aspects of their business on a virtual non-profit basis, thus increasing the difficulties faced by the independents if they try to engage in price competition?

The favorable tax treatment of crude oil earnings has provided a large incentive for the major integrated oil companies to maintain artificially high crude oil prices. The 27.5 percentage depletion allowance in effect from 1926-1969 has provided dual pressures for administering high, non-competitive, crude oil prices. First, high crude prices were necessary to take full advantage of the 27.5 percent depletion allowance tax shelter. Second, the administering of high crude oil prices improves the net yield of integrated oil companies that have a relatively high degree of crude oil self-sufficiency.

To take full advantage of the 27.5 percent depletion allowance, net income (after deduction of expenses) had to be at least 55 percent of gross income. This was because of the 50 percent of net income limitation on the amount of depletion that could be claimed. To obtain the 55 percent net income level meant that relatively high crude oil prices had to be maintained. For example, consider crude oil which cost \$1.50 to produce (see Table below). If the price per barrel of crude oil is \$2.50, then allowable percentage depletion will only be 20 percent; and at \$3.00 per barrel it is 25 percent. Only at a price of \$3.33 or more could the full 27.5% depletion allowance be taken.

RELATIONSHIP BETWEEN ALLOWABLE DEPLETION AND THE PRICE OF CRUDE OIL

Price per barrel of crude oil	Deductions before depletion	Net income before depletion (percent)	50 percent of net income limitation (percent)	Allowable percentage depletion
\$3.33	\$1.50	55	27.5	27.5
\$3.00	1.50	50	25.0	25.0
\$2.73	1.50	45	22.5	22.5
\$2.50	1.50	40	20.0	20.0

¹ Maximum percentage.

While the reduction of the depletion allowance in 1970 removed the need to maintain as high crude oil prices to take the full 22 percent allowance, the industry reacted to it in another manner. With the cut in the maximum depletion allowance from 27.5 to 22 percent the industry's position was that higher crude oil prices were necessary to offset the loss of crude oil earnings associated with the reduction of the depletion allowance. Around 20¢ per barrel was the amount suggested as needed to restore what the 1969 Tax Reform Act had taken away.

The loss from the reduction of the depletion allowance was thus recovered by the November 1970 crude oil price increase. As a result of the industry's ability to administer the price of crude oil, the industry restored to itself what Congress saw fit to take away.

A second reason that the tax laws give incentive for administering high crude oil prices is that many of the integrated oil companies improved their after-tax profit yield by switching earnings from forward industry activities back to the crude oil department because of the differential tax rate. As a result of the depletion allowance, income tax on crude oil earnings until 1970 was about one half of that on forward industry activities such as refining and marketing—approximately 25% as opposed to 50%. Thus a dollar of before-tax earnings from crude oil (\$1.00— $.25$ tax=\$.75) yielded, on an after-tax basis, approximately 75 cents as opposed to only 50 cents for earnings taken in marketing and refining (\$1.00— $.50$ tax=\$.50). Crude sufficient companies could thus improve their after-tax yields by approximately 50 percent ($$.75 \div .50 = 1.50$) on earnings switched from the forward industry activities to the crude oil department. The attractiveness of this maneuver of course depends upon the degree of crude oil self-sufficiency of the integrated oil companies. Dean Alfred Kahn of Cornell University showed that without any increase in refined product prices, integrated oil companies producing over 77 percent of their own crude oil would profit from such a move. If 50 percent of the crude oil price increase is passed forward in terms of increased product prices, an integrated oil company would benefit from shifting profits back to the crude oil department if it produced 39 percent or more of its own crude oil. The high crude oil sufficiency positions of most of the integrated oil companies—and particularly for some of the giants—make it generally attractive for the major oil companies to administer high and noncompetitive crude oil prices.

With the system of state and federal controls over the production of crude oil, it is not particularly difficult for the major oil interest to administer high crude oil prices. High crude prices are beneficial to the crude oil production companies and to most of the integrated oil companies which dominate the industry. As a result there are simply no effective counterbalancing forces to offset the pressures for maintaining artificially high and noncompetitive crude oil prices. What weak counterbalancing pressures that exist in the system come from the few remaining independent refineries, terminal operators, and marketers, a few governmental committees relatively free of the influences and control of oil money and power, and a lingering fear on the parts of the giants of industry of anti-trust action if they go too far and too fast in exploiting their monopolistic powers.

With the crude oil tax incentives and the dominant forces in the industry having a vested interest in high crude oil profits, the production department of the integrated oil companies has been established as the activity in which the petroleum industry has channeled its profits. To be a major factor in the petroleum industry it is almost imperative for a company to produce a high proportion of its own crude oil. Many of the integrated companies finding themselves in the vulnerable position during the 1950's and 1960's of not having a high degree of crude oil self-sufficiency have been exerting considerable effort to improve their crude oil position. The necessity of integrated petroleum companies producing a high degree of their crude oil requirements has resulted in considerable backward integration. For the decade following the imposition of the Mandatory Import Quota System in 1959, the five largest U.S. based integrated international oil companies improved their crude oil sufficiency position from 93.5 percent to 108.9 percent while the next largest U.S. integrated oil companies improved their crude sufficiency position from 63.4 percent to 84.9 percent ("Large Firms Boost Oil Self Sufficiency," *The Oil and Gas Journal*, January 18, 1971, pp. 22 and 23).

The beneficial tax laws not only provide economic incentive for maintaining high and noncompetitive crude oil price which has resulted in massive backward integration of the major refinery companies, but also has perfectly established conditions by which a squeeze can be exerted on the independents—refiners, terminal operators, and marketers. As a consequence of capturing monopolistic profits in the crude oil department, the forward levels of most integrated company operations earn only marginal, and at times negative, rates of return on investment. Subsidization of downstream operations is a way of life in the petroleum industry. Even though the leaders of the industry frequently deny this condition, have no comment or dodged the issue, statements to the contrary leak out. For example, Keith Fanshier, publisher of the *Oil Daily*, and long time

observer of the oil industry, stated in a January 3, 1972 article in his daily publication entitled "The Look Downstream" that:

A realistic view indicates that truly prosperous downstream results have seldom existed, except for relatively short intervals . . .

. . . any profit adhering to the marketing function particularly, and to some extent manufacturing, are minor.

The Assistant to the Vice President of Marketing of Shell Oil Company was quoted as having said in a talk to a jobber in the second part of 1972 that "virtually all marketers simply have failed to make an adequate return on their investment" (*National Petroleum News*, December 1971, p. 66). Phillip's Oil Company in its letter to the Office of Emergency Preparedness concerning the November 1970 crude oil price increase, revealed the very low return on investment from marketing and refining indicated below.

(In percent)

Year:	Return on investment sales and refining	Overall return on investment
1969	1.98	4.33
1970	.69	3.68

The reported 1970 earnings of Phillips were before the November 1970 crude oil price increase. This increase was followed in the first half of 1971 by very poor forward markets. As a result it is quite likely that Phillips actually recorded a negative return on investment for marketing and refining during the first half of 1971. Sohio's statement to the Office of Emergency Preparedness was also quite enlightening. Sohio stated that "If we pay too much for raw materials we will go bankrupt and if we pay too little we lose our supply. Either situation ends in disaster." Many independents that have operated in less sheltered markets than Sohio's homeland know only too well the truth in this statement.

Were it not for the profits securely tucked away in crude oil operations, integrated companies could not afford to subsidize their forward operations. However, the independents that they compete with in refining terminally, and marketing, must earn a fair rate of return from their investment in order to continue to operate. What this means is that over time the independents are gradually ground down until they are not too much of a factor. This has been particularly true in refining where there are relatively few surviving independent refiners. The number of independent terminal operators have also been dramatically whittled down in this manner over the past 10-15 years. In many areas where the independent marketers were once strong, their position has also dwindled. However, in some markets, the independents have survived and prospered because of their efficiency, since the major's approach to marketing is generally very costly. Unfortunately, the new price warfare technique that has been employed against the independents in recent years has the prospects of eliminating many of the remaining independents. One of the saddest accounts of what has been happening to the independent marketers is the Los Angeles market where independent marketers are making a last stand.

Another consequence of administering artificially high prices is that it reduces the ability of the independent refineries, terminal operators, and marketers to discount prices. By forcing the independent refineries to pay a noncompetitive price for crude oil, the major integrated oil companies saddle the independent channel with higher raw material cost. Down the line this forces the independents to sell at higher prices and be less competitive. On the other hand, the major integrated companies with the lower raw material and finished product cost often refuse to sell product to the independents while they normally exchange products freely with one another.

In summary, the beneficial tax treatment of crude oil has been a major incentive to the integrated oil companies and crude oil production companies to administer artificially high and noncompetitive crude oil prices. One consequence of pegging crude oil prices at fictitious levels is that it improves the after-tax yield of the integrated oil companies. A second result of this strategy is that it contributes significantly to the gradual strangulation of many of the independents, and even those integrated companies with relatively low degrees of crude oil self-sufficiency. Since World War II the industry has grown progressively

more integrated and concentrated. The independents at all levels have been swept to the side as this has occurred.

Recommendation.—The publicly-held integrated oil companies should be required to “functionally” or “physically” divorce their crude oil operations from their downstream activities. If the integrated oil companies were functionally divorced they would then account and report separately their assets and earnings from crude oil operations and downstream activities. In contrast, physical divorcement means that the integrated companies would be required to divest themselves of their crude oil operations.

At a very minimum the integrated oil industry should be required to functionally divorce their crude oil operations from other industry activities. If functional divorcement were properly implemented, it would force the integrated companies to bring into the open the extent to which they are subsidizing their downstream operations. This in turn would aid the government regulatory bodies and the public in making an assessment of the legitimacy of the pressure for still higher crude oil prices. It would be relatively simple for the industry to comply with a requirement stipulating functional divorcement. The only imposition would be on the accounting department of the companies that would publicly report records that are presently maintained by the oil companies anyway.

Physical divorcement, as opposed to functional divorcement, is more certain to bring about competitive pricing of crude oil and to restore competition to the petroleum industry in general. If the refining and marketing ends of the business were no longer tied to crude oil, then those companies competing in the forward industry activities would no longer have a vested interest in maintaining artificially high crude oil prices. The refiners would negotiate for the best prices and terms for crude oil and prices would be forced downward to a more nearly competitively determined level. The normal forces of competition would then come more into play in regulating competition in different industry activities. The crude oil business would become more efficient and the marginal and inefficient operators would be forced out of business. Refineries and marketers would also compete with one another. Marketers would negotiate with refineries for fair prices. The marketers would have some leverage in negotiation with refineries for, if need be, they could integrate backwards into the refining business. With marketing no longer subsidized by crude oil profits, there would be some very significant changes in the way gasoline is marketed. The excessive investment in marketing would be withdrawn and a much larger portion of gasoline would be sold on the mass merchandising principal of high volume, low cost, and low price. The consequence of restoring the normal forces of competition in the petroleum industry would be the lowering of real prices of the products and services offered by this industry.

While there is a strong competitive and economic logic for physical divorcement, there is little likelihood that it will happen in the foreseeable future. The oil industry is too strong a political force and controls the minds of too many congressmen. Thus, it would very likely be a waste of the time of liberal leaders of government to advocate physical divorcement. On the other hand, a less severe approach and one that would seem to stand a better chance of succeeding would be for government leaders to work for “functional” divorcement of crude oil operation from forward industry activities.

In recent months there have been two congressional hearings and a number of speeches that have been directed to divorcing marketing from refining. These efforts are not directed at the source of monopoly power in the industry—the tying of crude oil operations to forward industry activities. It is rather difficult to see where there would be any major changes and public benefits in divorcing marketing from refining. It is hoped that this hearing and others that may follow will be directed to the critical link of tying the monopolized crude oil end of the business with the workable competitive forward levels of industry activities.

II. What types of business activities are encouraged by the tax treatment given to oil? Do the tax laws encourage foreign as opposed to domestic crude oil exploration and production?

One of the strongest arguments for maintaining oil tax incentive programs and for the Oil Import Program has been in the “interest of national defense.” Supposedly, these programs are needed to encourage domestic exploration and production so that the United States will not grow overly dependent on foreign integrated oil. However, the system of tax laws that exist seems to encourage foreign and domestic production and the effect of one of the laws may actually be to favor the production of foreign oil.

One of the inconsistencies in the national defense argument for the depletion allowance is that it is allowed on all production of U.S. companies, whether from the U.S. or abroad. Under the Johnson Administration a study done for the U.S. Treasury Department by the CONSAD Research Corporation concluded that percentage depletion was "a relatively inefficient method" of encouraging exploration for new domestic oil reserves. According to the report "40 percent of depletion is paid for foreign and nonoperating interests in domestic production." This evidence seems to run contrary to the national defense argument for the depletion allowance.

While the depletion allowance provides a special tax incentive for oil exploration and production without distinction to national boundaries, the foreign tax credit system as it is applied in the oil industry seems to encourage the exploration and production of foreign relative to domestic oil. To appreciate how this has been done it is necessary to delve into some history of the foreign tax credit and to see how the tax law actually works.

Prior to 1948 the payment made to foreign countries for the privilege of exploring and producing oil was primarily on the basis of a royalty—the standard approach used to reimburse landowners. As new fields were discovered and production rose in the Middle East countries, the approximate 12.5 percent royalty on the low cost and highly profitable production became unacceptable to the sheiks. In 1948 Aramco (jointly owned by Jersey Standard, So Cal, Texaco, and Mobil) made an agreement with King Ibn Saud of Saudi Arabia to split the profits on a 50-50 basis. This pattern quickly spread to the rest of the Middle East.

The mechanics of the foreign tax credit is illustrated by the example that follows. Assuming a \$1.60 price per barrel of crude oil with operating cost and royalty totaling \$.40, the "before 1948" cash earnings were approximately \$.82 per barrel. Under the "50-50 profit splitting plan," \$.60 per barrel (one half of the \$1.20 profits) is paid to the sheiks and is technically treated as a foreign tax. The \$.60 foreign tax payment is then applied as a direct credit against the U.S. tax liability of \$.38 and eliminates it. Since the depletion allowance reduces U.S. taxable income from oil, the foreign tax payment is not fully utilized (\$.60—\$.38=\$.22 excess tax credit.) However, the excess could be applied against other U.S. tax liabilities of companies on foreign earnings. If the full tax credit was nearly or entirely used, as was often the case, the 50-50 profit sharing plan cost the U.S. based international oil company little or nothing. In contrast, had the 60 cents been paid to the sheiks in the form of "higher royalties," the cash earnings would have been reduced by approximately 45 percent from the prior 1948 level.

DIFFERENCES IN PROFIT SHARING ARRANGEMENTS AND ROYALTY PAYMENTS TO THE DOMESTICALLY BASED INTERNATIONAL OIL COMPANIES

	Before 1948	50-50 profit split	Increase in royalty
Price per barrel of oil.....	\$1. 60	\$1. 60	\$1. 60
Operating costs.....	. 20	. 20	. 20
12.5 percent royalty.....	. 20	. 20	. 20
Additional royalty.....	. 40	. 40	1. 00
Net income before tax.....	1. 20	1. 20	. 60
Depletion (27.5 percent).....	. 44	. 44	1. 30
Income after depletion.....	. 76	. 76	. 30
U.S. tax (50 percent).....	. 38		. 15
Foreign tax (profit sharing).....		. 60	
Net profit after tax.....	. 38	. 16	. 15
Cash earnings:			
Depletion.....	. 44	. 44	. 30
Earnings after tax.....	. 38	. 16	. 15
Subtotal.....	. 82	. 60	. 45
Applied residual foreign tax credit ² 22	
Total.....	. 82	. 82	. 45

¹ Cannot claim full 27.5 percent depletion allowance because of 50 percent of net income limitation.

² \$0.06 foreign tax, less \$0.38 offset against U.S. tax liability on oil, leaves \$0.22 residual to be applied against other U.S. tax liability of companies from foreign operations.

From the actual mechanism of the foreign tax credit, several things can be observed. First, the profit splitting deal cost the oil companies little or nothing for the U.S. Government and U.S. taxpayer were footing most of the bill. Secondly, had the 60 cents payment been treated as a royalty rather than a tax, the allowable depletion would have been reduced. As previously discussed, this is contrary to the major oil company goal of maximizing the tremendous value of the depletion allowance. Three, had the 60 cents been treated as a royalty rather than a tax, the price of foreign oil would be much higher.

Clearly, there are many obvious reasons for international oil wanting the payments to the foreign countries classified as a tax. However, the question that must be raised is whether or not the foreign taxation of oil is a legitimate tax or really a royalty which is a less valuable before tax expense item. If it is a legitimate tax, then it should be allowed on the grounds that otherwise there would be unfair double taxation. On the other hand, if it was artificially contrived, then it becomes a tax loophole which causes a whole host of distortions.

One factor that must be taken into account in considering the nature of the payment to the foreign countries is whether or not it is a discriminatory tax on oil. More specifically, how does the rate of taxation on oil profits compare with the foreign countries' taxation of other industries? It is my understanding that there is no comparison between the taxation of the oil industry and other types of businesses in the oil exporting countries, and that oil has been singled out and taxed at a relatively high rate.

An indication during the 1960's that the foreign taxing of oil is unrelated to anything has been the development of two different prices—the so-called "tax reference price" and the "real market price" of oil. Following what was to the sheiks "an alarming reduction" in the free world price of crude oil in 1959 and 1960, the oil exporting countries formed the Organization of Petroleum Exporting Countries (O.P.E.C.) to bargain collectively with the oil companies. Basically, from that point forward, the oil companies were not permitted to reduce the posted price of crude oil. As a consequence of falling real prices and fixed tax reference prices, the profit split increased from 50-50 to 70-30 by 1969. The price increases negotiated during 1970 sent the profit sharing percentages in many cases close to an 80-20 split.

As the "profit sharing" and foreign tax percentage increased (say from 50% to 80%), the excess foreign tax credit resulting from the offset against the U.S. tax liability on oil also increased. This encouraged the international oil companies to apply the excess portion of their foreign tax credit on oil to their other U.S. tax liabilities from foreign sources, often thousands of miles away and unrelated to oil. The impact of this development was that the higher the percentage take of the foreign countries, the more the U.S. Government and taxpayers underwrote the falling real prices. Another way of putting this was that U.S. Government revenues were siphoned off from other areas of the world to subsidize the falling crude price to the sheiks. In essence, the foreign tax credit as it is applied in the oil industry seems to be a type of foreign aid that has not been authorized by the government.

Supposedly, the practice of the international oil companies of maneuvering U.S. tax liabilities of these companies and applying them against their excessive tax payments to the sheiks stopped when the Tax Reform Act went into effect in 1970. The Tax Reform Act restricted the offsetting of foreign tax against U.S. tax liabilities to be on a country by country basis on "foreign mineral income." However, the definition in the reform law of "foreign mineral income" was so broad as to make it possible for the international oil companies to shift U.S. tax liabilities from international operations to the Middle East countries to be offset against excess foreign tax payment to the sheiks. The definition of "foreign mineral income" from the 1967 Tax Reform Act is given below:

"... the term 'foreign mineral income' means income derived from the extraction of minerals from mines, wells, or other natural deposits, the processing of such minerals into their primary products, and the transportation, distribution, or sale of such minerals or primary products. Such term includes, but is not limited to—

"(A) dividends received from a foreign corporation in respect of which taxes are deemed paid by the taxpayer under section 902, to the extent such dividends are attributable to foreign mineral income."

Alternative Recommendations.—The facts seem to indicate that the application of the foreign tax credit in the oil industry may well be contrary to the national interest. A set of alternative recommendations which were discussed with an

expert on the foreign tax credit and which were considered to be logical approaches to the problem follows:

1. Establish an *unbiased* commission to study the impact of the foreign tax credit on the price and development of international oil. With respect to their findings the commission would be expected to recommend alternative solutions and their expected consequences.

2. Limit the total foreign tax credit allowed to the amount of the foreign tax on oil equal to, but not to exceed, the U.S. tax liability associated with the unit of revenue. In other words, no excess foreign tax credit on oil could be used to offset earnings on other types of investments. If this were to happen the unused portion of the foreign tax could not be recovered and there would be no subsidization of crude oil operations from U.S. tax due on other types of investments. This would result in an increase in the world price of crude oil.

3. Restrict the use of the foreign tax credit to the unit of production as in the previous case, but limit the tax credit to the average rate of foreign income tax on all other types of businesses in that country. The applicable rate would be published annually by the U.S. Internal Revenue Department. If this were done it would take away all taint of U.S. tax subsidization of foreign oil. As with the previous recommendation, the price of world oil would increase, but by a larger amount.

III. Application of the Antitrust Laws to the Oil Industry: Is control of pipelines by the major oil companies a violation of the antitrust laws?

Control of pipelines should be thought of as one vital link in the ever tightening system of vertical integration in the oil industry. The name of the game is to produce your own highly profitable crude oil, move the crude oil through controlled pipelines, refine the crude oil in your own refineries, move the finished products through controlled pipelines and distribute gasoline and other products on a branded, controlled basis. Independent operation of any of these post crude oil steps, or interruption of the integrated system, increases the likelihood of pressures being exerted back on the highly profitable and sheltered crude oil end of the business.

Control over the major finished product pipelines is one of the ways that the integrated oil companies have been able to extend their dominant position in refining on to the marketplace. For many inland markets the practical and economical way to obtain gasoline and other oil products is through pipelines. When the major oil companies own and control the pipelines and have in effect a policy of not allowing independent refineries economical access to the line and will not themselves sell unbranded gasoline, the consequence is obvious—price competition is going to be limited and constrained in certain markets and areas. Another way of putting this is that the independents are going to be centered or concentrated in and around the few independent refining centers and those markets that can be economically reached by water transportation, or those markets that are in a few cases served by independent pipeline companies. By keeping the independents concentrated in this manner, price pressures can be kept on them to regulate their growth and to periodically thin their ranks if they grow too strong in an area.

The major oil owned company common carrier pipelines are not common carriers in the sense normally thought of in interstate transportation systems. According to *Webster's Dictionary* and a generally accepted definition, "a common carrier" is a "company in the business of transporting—goods for a fee: so-called because it attempts to serve all without discrimination." In addition, the right-of-way of these so-called "common carrier" pipelines have often been secured by eminent domain—a procedure employed for the "taking of property for *public use* where just compensation is given to the owners." In actual practice the common carrier pipelines do not serve "all without discrimination," nor are they available for "public use." Instead the common carrier pipelines are practically the exclusive domain of the major oil companies financing the lines. In essence the common carrier pipelines are combinations of certain members of the oil oligopoly which have the practical effect of denying others, and particularly the independents, economical access to many markets.

The "common carrier" pipeline is not only an instrument of oligopoly control, but is also a costly method of distributing gasoline in contrast to the independent "common stream" pipeline. One of the few examples of an independently owned common stream pipeline is the William Brothers Pipeline. Major integrated oil companies, smaller integrated oil companies, and independent refineries all have access to the pipeline. They tender product at receiving points along the pipeline according to the pipeline specification and take receipt of a like grade and quality

of products at various terminal points. Since it is an independent common stream pipeline, identity of product is not maintained which results in savings not enjoyed by the major's own common carrier pipelines. In contrast, the major owned common carrier lines preserve the identity of the products handled by the line. In order to do this there has to be more intensive investment in input and output facilities on the line to keep the different companies' products separated. For example, at a terminal point of the majors' common carrier line, several majors will maintain their own separate storage facilities and loading racks. This would be in contrast to the independent common stream line where there would be only one commonly utilized storage and loading facility.

Recommendation.—The major integrated oil companies should be required to divest themselves of ownership in common carrier pipelines. In their place would be independent common carrier pipeline companies that would be required by law to "serve all without discrimination" and be for general "public use." If need be, the product identity of the shippers could be maintained if the shippers wished to pay the additional cost of tracking, storing, and loading of their own product. However, at all terminal centers there would be common product facilities that could be used jointly by "all shippers" not specifying that product identity be maintained.

There would be some important public benefits if the major oil companies were forced to divest themselves of ownership of the common carrier pipelines. The jointly owned and controlled common carrier pipelines would no longer be used as an instrument of market control by the large oligopolists in the petroleum industry. There would be increasing competition in the supply of gasoline, and particularly the supply of lower priced unbranded gasoline. This would lead to an increase in price marketing and intensified competition in the more sheltered markets. Similarly, many of the branded jobbers and dealers would find that the stranglehold of the major oil companies over their operations would be reduced. Jobbers would then have the opportunity of doing what their leaders recently have been advocating—going to the Gulf and contracting for their own supply of more economical gasoline. In addition, this change would have a positive impact on independent refining and could contribute to a reversal of the long term decline in the output of independent refineries. One might even expect some new independent refineries to be built if they had economical access to the major product pipelines and could offset the high and non-competitive price of domestic crude oil by running a high portion of imported oil.

This recommendation would actually be relatively easy to implement. Most of the major's own common carrier pipelines are organized as independent entities, but are operated under the strict rules of their owners. Therefore, if the major oil companies divested themselves of their ownership of the common carrier pipelines, the fundamental difference would be a change in the rules of the game. Furthermore, this change would be in terms of increasing competition, a position likely to be opposed by the giants of the industry, but one which would help to restore an element of competition in an industry which sorely needs it.

IV. Supplemental Question: Have the antitrust laws been adequately enforced in the petroleum industry?

The deterioration of competition in the petroleum industry is to a considerable extent associated with the limited enforcement of the antitrust laws in this industry. Anticompetitive practices have been allowed to continue until they have eroded much of the foundation of competition in this industry. Another problem with antitrust enforcement is that there seems to be over reliance on traditional indices in evaluating competition in the petroleum industry. Two of the traditional indices are market share concentration ratios and return on investment. It is often pointed out by industry spokesmen that the industry in terms of refinery throughput is not as concentrated as other industries and similarly that return on investment is not relatively high. However, this rationale begs some important questions. The industry concentration argument assumes some universality of concentration ratios across industries which is not particularly logical. The more relevant consideration is "would concentration be more or less" if the marketplace and legal competitive practices were directing the industry? The return on investment argument also suffers from the same problem of all generalized measures of performance. In this industry which enjoys special expensing privileges and special tax treatments, return on investment may be somewhat of a distorted figure and not a good indicator of excessively high returns. Another measure by which the industry might be appraised is the ability of companies to internally generate funds. On this account the industry has had no peers. As a partner in Eastman Dillon and Union Securities Company recently testified, the

giants of the petroleum industry until very recently have been able to provide nearly all of their own capital requirements from internal sources, barring only marginal amounts. This is truly a remarkable feat for an industry that has had large and growing capital requirements.

One of the major shortcomings of antitrust enforcement in the petroleum industry has been the permitting of a large number of mergers and not taking the necessary action to avert the problem giving rise to many of the mergers. As a result of these mergers the structure of the petroleum industry has become highly integrated. The major push toward vertical integration came about as a result of the shifting of industry profits back to the crude oil department and under the tax shelter that occurred with the doubling of crude oil prices from 1945-1948 and with the further price increases of 1953 and 1957. It became increasingly clear at that time, and particularly obvious with the falling forward market prices in the later 1950's and early 1960's, that a petroleum company's future was tied to production of a large portion of its own crude oil needs if the artificially high and pegged price of crude oil was to be maintained.

Had the antitrust department of government attacked in the early post World War II period the anticompetitive elements of the so-called "oil conservation laws" (e.g., Demand Prorating, Connally Hot Oil Act, and the Interstate Oil Compact) that permitted the administering of non-competitive crude oil prices, there would not have subsequently been the pressure to permit backward integration in the petroleum industry. Furthermore, had the antitrust department not permitted these backward mergers into crude oil, there would today be a relatively strong group of independent refineries and poorly integrated companies that would act as a counterbalancing force to unreasonable crude oil price increases. However, since this was not done, those refining and marketing companies relatively poor in crude oil were forced to purchase oil production companies or to combine their marginal refining and other business with production companies in order to survive. During the 1950's and 1960's, several billions of dollars of assets of production companies were purchased or combined to save the marginal refining and marketing businesses that were being squeezed as a consequence of the administration of high, noncompetitive crude oil prices. Varying estimates of the magnitude of these mergers include:

1. The Department of Justice estimated that from 1950-1963 inclusive, the twenty largest integrated oil companies took over production companies with assets totaling more than two billion dollars. (Source: Statement of Dr. Alfred E. Kahn. Hearing on *Economic Concentration*, Subcommittee on Antitrust and Monopoly, U.S. Senate, 89th Congress, First Session, page 592).

2. One-half of the "production-oriented" companies listed on the New York Stock Exchange sold out during the decade prior to 1962 (*Oil and Gas Journal*, March 12, 1962, p. 76).

3. Almost two billion dollars of domestic production properties were estimated to have exchanged hands during the short period from January 1962 to November 1963 (*Oil and Gas Journal*, November 4, 1963, p. 88).

4. From 1956-1968 the twenty largest petroleum companies purchased 52 crude production and natural gas companies (Dr. John M. Blair for Hearings on *Government Intervention in the Market Mechanism: The Petroleum Industry*, Part 3, Subcommittee on Antitrust and Monopoly, U.S. Senate, 91st Congress, First Session, p. 1179).

The merger of some of the few remaining production companies with refining and marketing operations has continued to the present. In 1969 the largest existing independent production company, Amerada, was merged with Hess. Also during 1969 the Sohio and British Petroleum merger took place which gave Sohio the crude oil it sorely needed if it was to remain competitive in the petroleum industry.

A natural consequence of profit taking in crude oil and backward integration into production has also been the opposite forward integration of the integrated oil companies into marketing. To a large extent it simply became a matter that without profits secured in crude oil, most independent distributors could not afford to make the necessary investment in marketing to compete with the subsidized operations of integrated companies. During the later 1940's, 1950's, and 1960's, the major oil companies have integrated forward into marketing by expanding their direct operations, buying out significant independent jobbers, and controlling other jobbers by contracts and the lending of their financial assistance. The conditions existing today is that the major oil company jobber has been all but frozen out of the major markets and the big jobberships have been mostly taken over by the integrated companies. The ranks of the few remaining

large jobberships are being thinned. For example, since 1968 American Oil purchased the K. Friend jobbership in Chicago, cancelled its contract with the large Citron Oil jobbership in Detroit which then sold out to a subsidiary of the French Oil Company, and purchased the Rotenberg jobbership in St. Louis, Sun Oil Company recently purchased the large Smith Oil jobbership in northern Illinois.

For some reason the petroleum industry seems to be preserved from effective enforcement of the antitrust laws. In other industries the vertical mergers have been stopped and acquiring companies have been forced to divest themselves of firms they have purchased.

The consequences of permitting the petroleum industry's profits to be largely skimmed off in crude oil does not stop with the backward and forward integration discussed, but also carries over into the giant mergers among some of the integrated oil companies. Crude shortage problems significantly entered into Standard Oil of Kentucky's decision to merge with Standard Oil of California in 1961, the merger of Pure into Union Oil in 1965, and the takeover of Sinclair in 1969 by Atlantic-Richfield.

The squeeze that was exerted on many of the onetime giants of the petroleum industry as a consequence of profit-taking in crude oil carried over to the entire independent segment of the industry—independent refineries, terminal operators, and marketers. Confronted with escalating crude oil prices and depressed forward markets, a majority of the independent refineries with over 10,000 barrels a day capacity sold out. A number of the few remaining independent refineries exist in the northern tier and western parts of the country where they are able to import a relatively large percentage of their crude oil refining requirements at more competitive prices. These independent refineries and many of the smaller ones continue to exist on the value of their import tickets. With but few exceptions the condition of independent refinery business is quite bleak. The condition of the independent terminal business is also bad. Presently there are fifteen independent terminal operations in the Midcontinent which is down from an estimate of 88 from before the Import Quota System. Finally, thousands of independent marketers have sold out to integrated companies over the past fifteen years.

The buy-out of price marketers and their subsequent conversion to the major operations with their non-price approach to marketing is another particularly sad account of antitrust enforcement. This is the most direct way of eliminating the arch rival of the major's approach to marketing and is the process by which the very important intertype competition has been destroyed in several markets. The most recent example of this practice was the purchase in 1970 of 250 Douglas stations located on the West Coast by Texaco. Within a few months these stations were converted to the Texaco brand. The Douglas chain had been acquired by Continental a decade before and continued to operate as an aggressive price brand until it was sold. This merger not only destroyed one of the last private brand chains of any size on the West Coast, but also represented a horizontal merger by a company that was already a major competitor on the West Coast. In one suburb outside of San Francisco where I was visiting, there were within four blocks of one another two Texaco stations plus a Douglas that had been converted to Texaco. The discouraging thing to me is that I have written Mr. Miles Kirkpatrick, Chairman of the Federal Trade Commission, three times about this process by which intertype competition is destroyed, and I have yet to receive even an acknowledgement of my letters.

A second major area in which antitrust enforcement has been lacking is that of "predatory pricing" in the marketing of gasoline to the public. Prolonged periods of below cost selling in certain of the gasoline markets has been used time and again by the giants of the petroleum industry during the last decade and a half to discipline, control and destroy competitors and to gain access to markets. The price wars that started in the later 1950's and that became quite severe in the period 1962-1964 figured importantly in several of the mergers that were previously discussed. During the last couple of years, gasoline price wars have been rekindled. Very likely, before these price wars are over, the industry will move another notch up the scale of integration and economic concentration of power.

The method used to wage the selective price wars in the terminology of the industry is "Price protection." By the granting of price protection, prices are cut in select regions of the country, cities, or parts of cities. The way in which the procedure works is for the major oil companies to hold up the prices in markets which they dominate and to drop them in markets where they aren't making it, where a major may have stepped out of line and reduced prices, or

where they want to carve out a larger share of the market. The practice of granting price protection amounts to a system of cross market subsidization and is the means by which below cost selling is financed. As a result of the cross market subsidization, tremendous economic pressure can be exerted by the giants of the petroleum industry against smaller operators.

During the past two years gasoline price wars have intensified in certain markets to a level where they are having a devastating impact on certain competitors. While public statements of some oil executives indicate that they are upset about the recurring price wars, they are not hard to explain and have not just suddenly happened. During the last three years, conditions have been established which permit the acceleration of price wars. What the major oil companies have done is raise the tank wagon price, the price that branded dealers pay for gasoline, to artificially high levels throughout the country. They then are in a position to quickly drop back prices in the competitive markets to unprofitable levels of operation while holding prices relatively constant in the major oil company dominated and monopolized markets. In major dominated markets like New York City, Washington, D.C., Cleveland, and San Francisco, the price structure remains relatively constant while it is dropping back several cents in the competitive markets like Milwaukee, St. Louis, Wichita, Denver and Los Angeles. What this means is that consumers in the less competitive markets are subsidizing the lower price in the more competitive markets.

The giants of the industry, including Jersey, Texaco, Mobil and Gulf, led the recent increases in the tank wagon price that carried the tank wagon price to its artificial high level. From the artificial high tank wagon levels the giants of the industry quickly dropped back prices to unprofitable levels of operations in those markets where the independents are strong and they aren't making it, where they feel it would be advantageous to extend their position, or where they want to discipline another integrated company for one of a variety of reasons. During the past two years, as this squeeze has been exerted in select gasoline markets, the price protection granted by the major oil companies has increased to new record levels.

Recommendation 1.—The Connally Hot Oil Act and the Interstate Oil Compact should be repealed. These laws have little to do with conservation, but rather are instruments established by the U.S. Government which aid the major oil interest in their effort to administer high and noncompetitive crude oil prices. The Connally Hot Oil Act makes it possible for the market demand prorationing states to regulate the flow of oil in interstate commerce. In turn, the Interstate Oil Compact permits the market demand prorationing states to effectively allocate forecasted demand to the individual states. In essence, what these laws do is enable the major oil interests (the production companies and crude strong integrated companies) to adjust production to demand at the administered price of crude oil. This is contrary to the way in which prices are established in competitive industries. In such industries it is the interaction of supply and demand that determines prices, rather than prices being first set with demand and then supply adjusted to price.

If the Connally Hot Oil Act and Interstate Oil Compact were repealed, the price of crude oil should fall to a more competitively determined level. However, the extent to which this reform measure would actually work depends upon how strong the oligopolist control is over crude oil supply and in turn over price. If there are enough natural competitive forces at work in the supply of crude oil, then de-regulating the industry will result in a decline of crude oil price from its high administered level. On the other hand, should the repeal of these market constraining laws not result in the restoration of competitively determined crude oil prices, because of the highly integrated and concentrated nature of the industry, then it will be necessary to take still harsher steps to restore the forces of competition which have been drained from the industry.

Recommendation 2.—The large integrated oil companies should be required to divest themselves of the major production companies that they have taken over or otherwise gained control of since the middle 1950's. These mergers have definitely been part of a trend toward increasing concentration in the petroleum industry and have contributed to the destruction of the normal forces of competition in the production of crude oil.

Were some of the large integrated petroleum companies separated from their acquired ownership of sheltered crude oil profits, they would no longer share the interest of the crude oil production companies in maintaining artificially high crude oil prices. A major counterbalancing force would thus be established in the

petroleum industry that would bargain hard for more competitive crude oil prices. With the repeal of the Connally Hot Oil Act and the Interstate Oil Compact, it is very likely that the crude poor refining companies would be able to bargain effectively for lower crude prices.

While Recommendation 1 and 2 may seem strong, they would not be necessary today had antitrust enforcement in the petroleum industry been at all effective. These recommendations are intended to restore to the marketplace its regulatory role of industry practices. Unless these recommendations, or others like them, are implemented, it is highly likely that the petroleum industry will grow still more concentrated, inefficient and insensitive to the demands of the marketplace.

Recommendation 3.—The major oil companies' practice of granting price protection and other techniques for subsidizing select dealer operations should be banned. Price protection is the means by which the integrated petroleum companies manipulate the retail price at which their dealers sell gasoline. By so doing, the giant integrated oil companies have been able to police, control and even destroy competitors that endeavor to sell gasoline on a high volume, low cost, low price basis. Such a practice is a violation of Section 5 of the Federal Trade Commission Act that deals with unfair competitive practices.

It is rather clear what would happen if price protection were eliminated and not replaced by another method of price subsidization. The top-heavy, inefficient, and very costly method by which the major oil companies market their branded gasoline would collapse. The mass merchandizing of gasoline on a high volume, low cost, low price basis would replace the archaic methods of marketing that exist today. In addition, the sales of costly brand-advertised gasoline would decline. What this would mean to the public is that the average price of gasoline would fall, gasoline customers would no longer be discriminated against, retail variety would be enhanced, and resources would be more efficiently allocated.

In recent months, one of the most domestic integrated oil companies caught in the squeeze of price protection has been advocating the reform of the majors' method of pricing gasoline. The new pricing plan calls for the elimination of all price protection schemes and the substitution of a "refinery based pricing plan." All customers of a particular category would be sold gasoline at the same price, plus a charge for the appropriate transportation cost of moving products to the different markets. Some plan along the lines suggested would be a marked improvement over the manipulating and predatory system of pricing gasoline that exists today. However, unless the antitrust departments of government step in and encourage pricing reform in the industry, there is little likelihood of the much needed change being made in the major oil companies' method of pricing gasoline.

Chairman PROXMIRE. Very good. Well, I appreciate that and I want to apologize to you, Mr. Peterson, for so suddenly confronting you with this situation.

Mr. PETERSON. I need no apologies, Senator. I just think if we have some questions I can field them.

Chairman PROXMIRE. Very good.

I think that is a fine attitude and it also, I think, will help to move our discussion along very well.

You and Professor Allvine, and, I take it, Professor Patterson are together more or less?

Mr. PETERSON. Yes, sir, and the chairman of our legislative committee, Mr. Lou Kincannon, Golden Imperial, Indianapolis, Indiana.

Chairman PROXMIRE. One of the most startling developments in your very excellent prepared statement—I did have a chance to read it carefully—also supported by Professor Allvine this morning, is this divestiture argument, that you divorce crude production—is that correct—from the operations, from marketing and refining and so forth?

Mr. PETERSON. That is correct.

The matter of divestiture at the crude level became a matter of public concern to my knowledge 15 or 20 years ago. In the very early days of SIGMA, it was proposed. I then took a stand against it, not because I did not believe it was the one move that could be made,

that would best effect competition in the marketplace, but because I did not want to be so contrary to my own industry's position. As recently as a couple of months ago I was obliged to reverse my position.

Chairman PROXMIRE. I would like to ask both of you gentlemen, Professor Allvine and Mr. Peterson, to what extent such an action on the part of our Government, if we could take such action under the antitrust laws or could enact legislation that would require such action, how would it affect the economies of scale, and I am thinking of the whole operation, the fact that it is very helpful, of course, more than helpful, it is essential to have a large amount of capital available in some phases of oil development and exploration and so forth. To what extent would you think that divestiture would handicap the operations, if at all?

Mr. PETERSON. The crude production or the total picture?

Chairman PROXMIRE. Isolating the crude production.

Mr. PETERSON. The crude production position.

I think with separation between crude and refining and from there on down, that simple separation would give the producer, the integrated producer, more capital to expend for production purposes. Now, whether or not he would spend it in the United States seeking domestic crude remains to be seen, would remain to be seen.

Chairman PROXMIRE. Let me just follow that up a little bit. I am not sure that would be the consequence; perhaps it would be, but let's look at it.

You have a very large majority that is integrated. There is very strong tax incentive for him to move his funds into exploration and production. He takes advantage of the intangible provision; he takes advantage of the depletion provision and so forth.

Mr. PETERSON. Yes, sir.

Chairman PROXMIRE. Now, if you separate that so that the production and exploration is on its own, he wouldn't, as the years go on, be in the same position to tend to shift his—and concentrate his investment in the exploration area. Would that be correct or not?

Mr. PETERSON. You are positively right, except I think from your comment you are presuming that a profit is currently enjoyed in refining, and that marketing for the major oil company is likewise a most profitable operation. This is not the case, in my opinion. If refining were a profitable operation, my company would like to be in the refining business.

The fact that crude oil prices are administered and the values of crude and the profits of companies are garnered into the crude oil position for tax purposes and for control purposes, I think, that those moneys which were presently lost in refining and lost in marketing, could be channeled back into production. This is one of our basic complaints; that the values of crude come down into the marketplace in the guise of price protection, extremely expensive construction, unnecessary numbers of service stations, and so forth.

Chairman PROXMIRE. What position does your group take on the oil import quota program?

Mr. PETERSON. The oil import quota?

Chairman PROXMIRE. Yes, sir.

Mr. PETERSON. Simply stated, our position on the oil import quota is it ought either to be modified or abolished. We tend very much to

share the opinion of the Presidential Task Force report. However, we do feel—

Chairman PROXMIRE. You say you do share the opinion of the report?

Mr. PETERSON. Yes, sir.

Chairman PROXMIRE. So you would modify it, convert it into a tariff?

Mr. PETERSON. That, or as an alternative, to modify the program so that competitive, refined products could be brought into independent terminal operators for entry into the marketing area of the United States as a competitive weapon.

Chairman PROXMIRE. What is your answer to the very strong arguments that were made here this morning by Mr. Dryer, particularly, and also by Mr. James, that this would just be devastating, in their view, for the people they represent?

Mr. PETERSON. Well, my response is this: When I entered this business, lo these many years ago, we had 75 to 100 sources of supply around the United States that would call upon the independent marketer seeking his business. Today nobody calls on the independent marketer, including the independent refiner, because the independent refiner, as a factual matter, in spite of the oil import position, is not in a position to generally be competitive and a reasonable source of supply to the independent terminal operator or the independent marketer.

I don't think that supplying that independent terminal or those independent companies would at the outset materially affect the refining, the independent refining, heavily.

Now, if the modifications would permit additional crude to come in so that new entrepreneurs could enter the refining business, I think it would be found that the independent refiner would fare better and we would have some new companies enter into the refining business. All we have seen since the oil import program is the diminution of the number and the ability of the independent refiner and all of it is moving over to the major oil companies.

Chairman PROXMIRE. Mr. Dryer, what is your answer to this? It does seem logical. You said that while you conceded there had been a decline in numbers of independent refiners since the import program was put into effect, you say it would have been more precipitous, perhaps would have been devastating if it had not been put into effect. How do you argue against the fact there has been this very sharp reduction?

Mr. DRYER. Well, the sharp reduction occurred in the decade prior to oil import controls and then that decline continued but at a lower rate for several more years. But in the last few years it has leveled off and the number of independent refining companies has been approximately the same in each of the last 3 or 4 years, according to the annual tabulation of refining plants and companies by the Bureau of Mines.

Now, we know that the import program has played an important role in supporting the independent refiner because it would have been impossible for him to have continued to process domestic crude oil purchased at a price substantially above the world price of oil, and

market his products in a national market against the competition of refining plants with access to foreign crude oil.

This is why the program, one of the reasons why the program got underway.

In February 1958, when there was a question as to whether the voluntary oil import program was succeeding, and what should be done about it, and one of the main problems was that you had a host of companies coming in saying, "We need to have access to foreign oil," and the 2 weeks Captain Carson had hearings and these independent refiners from all over the country came in and testified to the competitive impact they were experiencing from products manufactured with low-cost foreign oil. The effect of the program is to distribute that advantage among all refiners, whether they are on the coast or inland.

Now, with respect to Mr. Peterson's comment about his inability to obtain gasoline from independent refiners these days, I would say two things:

First, that the independent refiner is available as a source for oil for the independent marketer and thus assuring the independent marketer that there is a source away and separate from the integrated major companies.

Now, it does not necessarily follow that the independent marketer will then buy from the independent refiner, particularly if, and this occurs time and again, the integrated major can quote a price to the independent marketer that is substantially below that which it is charging its own dealers and substantially below what the independent refiner—

Chairman PROXMIRE. What I can't get through my simple mind is why, if you make available foreign oil, and it is cheaper and, therefore, the whole cost structure is reduced and, therefore with the elasticity of demand you sell more of your product, why wouldn't it be to the advantage of refiners as long as they have access to this foreign oil on an equal and fair basis with everybody else, in other words, if you have the same access you have now only in addition to what you have for domestic oil, you have foreign oil opened up at a lower price, why wouldn't that be to your benefit? Your costs would be less; therefore, you would be able to sell more, even maintaining the same profit margin and, therefore, increase your net profits. Why wouldn't that be sensible?

Mr. DRYER. Well, it is true that if the price of the domestic crude oil which the independent refiner purchases were reduced to the world price of oil, then the independent refiner would not be suffering this competitive disadvantage in competing with refining plants.

Chairman PROXMIRE. Why wouldn't that happen?

Mr. DRYER. It might very well happen, but that was not the wish of the Government. All Government policy was against a decline in the price of domestic crude oil to the world price of oil.

Chairman PROXMIRE. Well, yes, I think perhaps I am pressing you too hard, but I am just saying any decline at all, any decline in price for the refiner, any greater availability for the refiner, independent refiner, it seems to me, would be in their interest as well as in the interest of the consumer and others. It may not be to the interest of the people that Mr. James represents; I can understand his viewpoint. He would

have to have some other kind of relief; but as far as refiners are concerned, I should think it would be fine.

Mr. DRYER. As far as the refiner is concerned, if the price of the crude oil he buys is domestically at the world price of oil, he cannot complain, but the question is, Will Government permit the price of domestic crude oil to decline to the world price of oil? And until that occurs, something has got to be done to distribute the cost advantage of foreign oil among all refiners so that there will be an even, competitive impact. It is the only way to live with a two-price system.

Mr. ALLVINE. Mr. Chairman, if I might add a comment to Mr. Dryer's point.

Chairman PROXMIRE. Yes.

Mr. ALLVINE. I would say that fundamentally the paradox that you talk about is that the independent refiners need the benefit of an import program because of the artificially high and administered price of crude oil.

Mr. Dryer also mentioned that it wasn't necessarily—and my figures indicate there still has been a decline of independent refiners since the import program occurred, but it was in the decade before whom the major squeeze was exerted on the independent refiners.

In my prepared statement, and from the evidence that I have looked at, it was a period in 1945 to 1948 when the crude oil price, domestic price, was double, and the crude oil department of the integrated oil company was made the profit haven that it is, that has created all the artificial distortions which then makes the independent refiners come back and plead for some relief because of the noncompetitive and high price of raw material input to their system; and that is the type of squeeze that is being exerted.

Chairman PROXMIRE. I see, and I think that is a very good clarification to me. That indicates that we could take care of Mr. Dryer's problem without too much difficulty, but that still leaves, of course, the problem of Mr. James and the independent exploration action which I guess is the fundamental purpose—anyway, that has always been offered—for oil import quotas and for prorationing and for the tax advantages and everything else.

Now, when we come to that point, I think Mr. James himself suggests several possible ways that he could have his situation alleviated: One would be a direct, explicit, honest subsidy for exploration period and not fool around with all these other disguises which are so enormously expensive.

Mr. ALLVINE. The original purpose of the depletion allowance was for exploration, but it was broadened over the years to include all production. It originally was a law that was intended to give particular incentive for the risky ventures involved in exploring for oil.

Chairman PROXMIRE. And then in addition to that, of course, it would also be very helpful to end the foreign tax credit which is so ironic because what it does, of course, is it pours \$2.5 billion of tax privilege, in effect, into the exploration of foreign oil which, in turn, comes in and competes with the domestic oil; but, of course, that would have the effect, I take it, of permitting a rise in price. That would tend to hurt the consumer. He can't have it both ways, is that right?

In other words, if we ended that foreign tax credit, and then on the basis of that, recognized the price of foreign oil would rise, we couldn't

very well expect also to have an equivalent benefit to the consumer?

Mr. ALLVINE. I think, Senator, there is a logic in the foreign tax argument that a reduction of it, but not an elimination of it, would actually have the benefit of decreasing the real price of U.S. oil because what, in effect, is taking place; our tax dollars, as citizens of this country, are being drained out of this country to subsidize the world price of oil, so that the world and not the United States is benefiting from the lower price of crude oil.

Chairman PROXMIRE. Because most of that oil goes to Europe, Japan, and elsewhere, we are doing, as we are subsidizing, in effect, the American taxpayer is subsidizing, lower price oil for the Common Market and Japan; and one of the reasons why they are competing competitively, better, is because their fuel and energy costs are less, thanks to the generosity of the American taxpayers.

Mr. ALLVINE. So then we have to have the import quota system to keep that lower world price, subsidized price, of crude oil, to come back from competing with American industry and create some of the problems Mr. James spoke about.

Chairman PROXMIRE. Mr. James, we talked about your problem without giving you a chance to talk about it yourself.

Mr. JAMES. Thank you. I would like to say something about what you and the gentleman on my left have been talking about, and there has been a lot of talk about the artificially high price of domestic crude as opposed to foreign, and you took the words out of my mouth—what we are doing is subsidizing the artificial price of foreign crude which is low. If we removed that subsidy, which I see as the corruption of the foreign tax credit as Mr. Patman termed it, the corruption of it, through depletion allowance which I don't feel can be justified as regards foreign production; that was not the original intent.

It does not work that way. The sliding scale depletion allowance provides subsidization for big wells; we in our low producing wells of 10 barrels per day in Kansas don't get 22 percent, we don't collect anything like that.

Chairman PROXMIRE. The sliding scale was proposed by me when we had 27.5 instead of 22. It would have been 27.5 for firms grossing \$1 million, between \$1 million and \$5 million it was 20 or 21 percent, and for the big boys it was down to 15.

Mr. JAMES. Right, but my terminology was wrong. I think that is an excellent idea, as I said in my testimony. The working of the present depletion allowance as a percentage of the net on a small well would not get 22 percent depletion. This effectively subsidizes large wells; it works backward from the way that we need it.

The point that I would like to make is that we are talking a great deal about tariffs. Tariffs, to me, are another legislated inequality which serves to—

Chairman PROXMIRE. Well, the advantages of tariffs, as I understand it, are that they provides some of the protection the quota provides, but it would mean that the Federal Treasury and, therefore, the taxpayer, would be the beneficiary rather than the particularly privileged oil company.

Mr. JAMES. This I recognize and I think it is very good. I am not against the tariff. I am wondering if the tariff would not be—I am wondering if removing the inequity that forces a tariff would not be—

better than another inequity on top of it. In other words, a tariff to correct the existing abuse of the tax laws as far as depletion and foreign tax credits, if you see what I mean. I would not be against the tariff.

Chairman PROXMIRE. So what you favor is removing, No. 1, the foreign tax credit?

Mr. JAMES. I think that would be preferable over the tariff.

Chairman PROXMIRE. It is amazing that that statute has political virility and strength; it really is, when you recognize there is no real constituency for it. It is not like the depletion allowance which has been reduced which has very strong obvious political strength from the oil-producing States. But these foreign countries, after all, are the ones that are the principal beneficiaries, except for the stockholders of the big corporations; they have undoubtedly a lot of financial muscle but they shouldn't have; they probably don't have as much really, if we put them to the test, as the States themselves or rather as the State producers themselves, the oil wells in Texas and California and Kansas and elsewhere.

Mr. JAMES. I think we independents have been partially to blame for that as well as the type of political influence that has made this continue. But we independents have not, through our industry associations, for reasons that I set forth, attacked this foreign tax credit for just what it is.

Chairman PROXMIRE. A foreign tax credit really shouldn't be as much of a problem as one might think. No. 1: It is an administrative ruling; it is not legislative action. So it can be changed by a new President or by the same President, for that matter, if Mr. Nixon changes his mind.

No. 2: Because there has not been action, positive action, by the Congress in enacting it, it would be somewhat easier to change than if we had acted legislatively on it. We did not provide it. It was an interpretation; isn't that correct?

Mr. JAMES. I was not aware of that, sir.

Mr. PETERSON. Mr. Chairman, may I come back to the question of the independent refiner for a moment—

Chairman PROXMIRE. Yes, sir.

Mr. PETERSON (continuing). And his viability as a functioning organization within our industry?

It rather astonishes me to find we are on the opposite side maybe of this question, because with those things you say, it would seem that we would be on the same side.

Chairman PROXMIRE. The opposite side, that is, from Mr. Dryer—

Mr. PETERSON. Of our thoughts as to what is happening to the independent refiner.

Chairman PROXMIRE (continuing). Who represents the refiners?

Mr. PETERSON. Right.

It seems to me that the independent group ought to be basically concerned, and it seems to me that there is strong evidence as to what is happening to the independent refiner lies in the fact that during the time of the oil import administration there have been no new, no significant new independents enter the refining business at all. The independent marketing section will not be here to even talk with you about offerings that you might have unless something is done to relieve

them of their noncompetitive position with reference to the acquisition of product.

The same thing is true of the independent refiner.

It seems to me that the independent refiner has contented himself to suckle on the very, very low nutrient value of the Government's bosom on oil imports and that they have neglected to view the overall problem which is, the industry is dying, the independent refiner is dying, and those that aren't going to die on their own stem will be acquired by the major oil companies. It just will not be.

Now, you can say to me, as a marketing man, "We stand here ready to serve you." I say to you, "With what?" You are in no position to serve us. The value of profit in our industry lies in crude oil. Very few independent refiners have more profit left than the value of import tickets and when the value of import tickets goes down, they are crying bloody murder; they are not out soliciting business. It would be a waste of time for most of them to be out unless they have some specific advantage being along the Canadian border or something of this nature; they are in no position; they are dying.

Why can we be content to see 3.5 billion barrels of new refining capacity put offshore of the United States by U.S. people and stand and say, "We are not dropping quite as fast in the last 10 or 12 years as we were in the last prior time." Obviously, we are not dropping as fast. Hell, there isn't anybody to drop off.

Chairman PROXMIRE. Mr. Dryer, you have been challenged.

Mr. PETERSON. I would invite it.

Chairman PROXMIRE. What is your response?

Mr. DRYER. One figure to look at is the percentage of refining capacity which is in independent refiner hands.

Chairman PROXMIRE. Give us those figures of 1959 and 1971.

Mr. DRYER. That percentage for almost two decades has been approximately 15, 16 percent.

The independent refining companies have declined in number but their share in industry capacity has not declined substantially.

Now, with respect to Mr. Peterson's concern about the survival of the independent refiner, I couldn't be any more concerned than he is but the question is, what do we do about it? We think that a system, if you are going to have a two-priced system for crude oil, domestic and world, you have got to do something to distribute the cost advantage of foreign oil so that there will be an even, competitive result; and that is what the oil import program does through the sliding scale.

We are not content, however, to rest our desperate steps for survival upon the oil import program. We are trying in every possible direction to improve the climate within which an independent refiner can live. Toward that end we have been suggesting for several years now a provision in the antitrust laws that would accomplish in practical effect, without the major surgery of divorcement—would nevertheless accomplish in practical effect an elimination of predatory competitive effect that an integrated major can exercise by reason of his crude oil ownership.

The specific legislative provision to which I refer is described in my prepared statement in which we suggest that there be a provision that cost, for purposes of sales below cost, shall be determined separately for each functionally separate segment of a business, with the cost in

the case of an integrated business of raw materials entering a functional segment being set at the prevailing market value of those materials.

To relate this to the oil industry, this would mean that the market price of an integrated major's crude oil and not the low cost of such oil to it as a producer, plus the cost of refining, would be the cost for purposes of determining sales below cost at the refinery level. This would tend to put the integrated major and the independent refiner on the same footing.

This is a step that would be helpful. It is short of the major surgery of divorcement and it would create a more viable competitive situation for the independent refiners.

Chairman PROXMIRE. I don't quite understand who is to take this action. Would this be taken by legislation?

Mr. DRYER. This would have to be taken by Congress.

Chairman PROXMIRE. By Congress. I must say you strike an enticing chord when you say the dairy industry has pressed for legislation like this. [Laughter.]

It must be good.

Mr. PATTERSON. May I comment a second?

Chairman PROXMIRE. Yes, sir.

Mr. PATTERSON. This proposal, however, is another interference with the market mechanism and it strikes me that divorcement is always described as major surgery and yet, in fact, the connection between crude production and exploration and refining and marketing is not at all that necessary.

Now, I think refining and marketing will probably have a logistical economy of scale in operating and planning that makes that connection worthwhile; but the one between crude and these other levels is not. Therefore, I don't think divorcement is a major form of surgery. In fact, it would be quite easy to separate it. The advantage of that is instead of having this, you know, fiction of a price, of a cost which now interferes with the market mechanism, on the one hand, we establish countervailing power in the form of buyers who are now seeking lower crude prices, refiners, refiner marketers, to offset what is a situation now which is where the principal producers are also the principal buyers and, therefore, they don't have an incentive to keep the crude price low, so we would establish competition through countervailing power at the purchase of crude level.

At the same time we would keep administrative handouts at cost itself and competition would determine prices. It would allow all the complexities of national security and conservation, and these factors at the crude part to be handled separately from the refining, marketing part of the industry.

Chairman PROXMIRE. How realistic is this? I think you fellows have made a very, very powerful, logical argument for it in terms of the interests of all concerned, especially the consumer and taxpayers, but also in terms of the various people who are independent marketers, at least in terms of almost everybody except the integrated firms. But how realistic would this be? Would we have any example, substantial example, in American history of breaking up integrated monopolies of this kind in the way you recommend for a large industry?

Mr. PATTERSON. Well, I think, frankly, if you look at the judicial record you will find judges are very careful with past property relationships and are willing to deal with future situations, that is, for example, in the aluminum industry, but they don't—they are very cautious about changing things in the past.

Mr. Allvine suggests maybe the movie industry was an example of some divestiture between—

Mr. PATTERSON. The beer industry; the beer industry, likewise.

CHAIRMAN PROXMIRE. The beer industry?

Mr. PETERSON. Yes.

Mr. PATTERSON. Of course, we had the meat packing industry.

Chairman PROXMIRE. How did they break up the beer industry? How did they break up the production from the refining, in effect?

Mr. PETERSON. Mr. Chairman, these are really not good comparisons because the beer industry, the meat packing industry, do not have, first of all, they do not own for the most part their basic source of supply. Beyond that, the basic—

Chairman PROXMIRE. There has been no law that has been passed to prevent them from doing so. If a meat packing firm wanted to have huge farm holdings and grow their own beef, if a beer producing firm wanted to have huge farm holdings and grow their own materials, there would not be any—there is no law on the books to prohibit that; is there?

Mr. PETERSON. I think that is accurate but the thing I wanted to stress is that even though they went to full integration backward or forward, they still would not have in front of them the tax advantages and the administered prices that we have. This is where we are in trouble on the tax values in crude oil.

Chairman PROXMIRE. That is why this seems to be an easier way to get out of it than divestiture, the tax advantage, I think, hard and tough as it is, seems to be less radical and more appealing, and more realistic, more likely to get congressional action, I would think, or administrative action.

Mr. PETERSON. The question, Senator, it seems to me, is what is wrong with the free market. What is wrong with a free market? We have no free crude oil market. We have no free wholesale market because of this lack of freedom of the wholesale terminal supplier has dropped from about 90 down to about 15. Our own company struggles to keep terminals open on an economic basis. Our terminal at Madison, Wis., is closed.

When I first appeared before the Oil Import Appeals Board, we had three terminals closed because we could not economically find suppliers.

Administered conditions prevail. Even the Oil Import Appeals Board—they granted relief to the east coast terminal operators. I submit that it is just as cold in Chicago with empty tanks as it is in Boston, and that this kind of extension away from the free market handicaps all of us who are not beneficiaries of the tax or the administered price. The independent refiner does not enjoy it, as he should. If the integrated company is going to, and certainly the evidence is strong that the independent marketer is going to collapse, in the final analysis, without some recognition of the lack of free markets.

Now, free markets at retail and wholesale come out of the profits in crude oil through price protection by the major oil companies at the retail level. We have had such low prices in Detroit. As an example, they were actually selling gasoline in Detroit at 6.9, all taxes paid, with plus 11 cents tax, plus a sales tax.

Chairman PROXMIRE. Mr. Allvine, you made several recommendations to us, five in number. These tend to be to some extent, I take it, exclusive, that is, if you adopted one you wouldn't adopt all five or would you recommend we adopt all five?

I take it, for example, the first one is to divorce crude oil production from the rest of the operation. Would you follow that up by in addition to that divesting pipelines and so forth, divesting majors, divesting production companies since 1950?

Mr. PATTERSON. Could I reply?

Chairman PROXMIRE. Yes, sir.

Mr. PATTERSON. In our study, we came exactly to the same conclusion that your comment to me just indicated, that while divestiture would restore competition in an industry which at the marketing and refining level is potentially vertically competitive but as the consequence the vertical competition is not structured that way. We thought for a long time these divestiture proposals were coming forward and they would get struck down and, therefore, these other proposals are in lieu of divestiture.

I think if divestiture were to take place, these other things would not be necessary. They would work their own way out. But if you are going to be realistic, divestiture has got a long fight ahead of it.

It strikes me as unusual that it does because it does not seem to me like major surgery but very simple. I don't think there is any economy of scale logic which argues for the connection between crude production and refining and marketing.

Chairman PROXMIRE. So, you eliminate it if you can, but if you can't you eliminate foreign tax credit on oil and you prevent the majors from using their discriminatory pricing.

Would you give us a little more on that, either Mr. Allvine or Mr. Patterson?

Mr. PATTERSON. Well, I will ask him to speak to it, but a principal way in which the power of the integrated oil company, which he derives from his position through crude, is transmitted down through the retail level and frustrates what might otherwise be workable competition. There is the support system which allows the company to subsidize its materials in what could be described as a good situation for keeping in competition with competitors.

Chairman PROXMIRE. Gasoline war?

Mr. PATTERSON. Exactly, if excessive profits of crude can't be transmitted down through these price subsidies to the retail level then those firms that don't have these excessive profits in crude are obviously going to be destroyed.

Chairman PROXMIRE. Why wouldn't it be just as crisp, clean, and perhaps a more realistic approach to simply concentrate on providing a direct, explicit, available, honest subsidy for exploration and then you eliminate all necessity for all the rest of this stuff and you go back to free market, tax the petroleum firms the way you tax everybody else?

MR. PATTERSON. As soon as you get into the mechanism of indirect forms of support, they have all sorts of undefended side effects that soon make the cure, you know, worse than the original problem that you started with.

Let's call a spade a spade. The problem is encouraging domestic production and exploration. Why not support that directly rather than through tax incentives? The problem of national security in—that is supposed to be dealt with by the importing program, is a strange thing that refiners have to get the benefit of this rather than drillers; and yet we have a program which in a sense pays a premium to refiners on the basis of the import ticket. So I would agree with you, sir, that the need is to go back and ask what is the problem we are trying to deal with and that then to devise a program to deal with that rather than to use the subterfuge of tax incentives and quotas. But Mr. Allvine is the pricing expert and maybe I should ask him to speak about the price support.

Chairman PROXMIRE. Mr. Allvine.

MR. ALLVINE. Senator, it appears that we have sort of a dual problem in this industry. We have one problem which I think has been mainly addressed so far, and that is the special privileges that have been granted to those producing crude oil.

Then we have another problem in the industry, and that has to do with the implementation of pricing program in the industry, which are inherently anticompetitive, which go against the antitrust laws that for all effective purposes are not being in any way restricted.

What we have seen taking place in the last 4 years, if I recall the facts correctly, is that the price to the dealers, the tank wagon price, has been increased rather unbelievably five times on a general and in many cases a national basis carrying the price upward to the consumer to a very high level.

Chairman PROXMIRE. You say these are violations of the antitrust laws, in your view?

MR. ALLVINE. In my view, in the way in which they are then manipulated.

Chairman PROXMIRE. And they should be successfully and effectively prosecuted?

MR. ALLVINE. This is one of the basic problems that there has not been any effective enforcement of the antitrust laws as they are on the books with regard to the pricing practices employed by the industry.

Chairman PROXMIRE. Can you give us an estimate as to the cost of that to the consumer? Is it a matter of hundreds of millions, billions?

MR. ALLVINE. If there was not the system or price protection in existence today, Senator, I think by the major oil companies own admissions that the number of service stations that we have today would decrease substantially because there are far too many; there is an excess, oversupply of service stations that are held on the marketplace and that are paid for by the consumer, as a result of the technique of using price protection to subsidize the stations that can't make it on their own.

If the present market were broadened to gasoline marketing you would find that huge numbers, and I have heard estimates 30, 40 even up to 50 percent of the service stations open today would close.

Chairman PROXMIRE. Here you have a kind of a loss for a consumer, loss at least to convenience and availability. Having a service station available is a matter of convenience. Would you say that would be more than counterbalanced by the inefficiency and excess costs in having these superfluous stations and, therefore, the cost of gasoline would be less, substantially; is that right?

Mr. ALLVINE. Correct, sir.

Mr. PETERSON. I think one of the things you need to take into consideration on this would be the real convenience of the stations that were closed. We have a great number of subquality stations in the United States. I don't believe that the closing of the stations would necessarily impair the ability of the consumer to have gasoline readily available to him.

But responding to your question with references to what such a move might do as far as the customer is concerned, consumer is concerned, which is, of course, has got to be, a concern of all of us, I believe that the normal posted retail price within a 6- to 12-month period of time would probably come down 2 or 3 cents a gallon. Now, that unfortunately does not mean that the consumer would buy gasoline, necessarily, at a 2- or 3-cent-a-gallon better price than an individual in an individual city might be buying because one of the practices has been that the major oil companies zone prices within their structure. He will isolate a given competitor and reduce the price around that competitor, using price protection as a tool to do it.

I think that if the marketing section of the industry, and I am not talking just about the independent; I would also be including the major who is not sufficiently blessed with crude oil source, would like to see price protection eliminated also, because it is a real cancer within our industry; and like the professor, I believe an illegal procedure, one that I personally believe can be best dealt with under section 5 of the Federal Trade Commission Act if they will just get off their duffs and do something about it.

Chairman PROXMIRE. Now, one of the purposes of this hearing, of course, is to try to relate the oil policies to the purpose of phase II, which is to hold down prices.

Mr. PETERSON. Right.

Chairman PROXMIRE. Certainly in the near term, the short term. In view of the sensitivity and necessary responsiveness of the crude prices to the world price, I guess it is very difficult, if not impossible, for the Price Commission to make decisions which would dictate, determine, a stable level of or a level of moderate increase, at least in oil price; is that correct?

Mr. PETERSON. Mr. Chairman, I think all we need to best do is what the President wants, inflationwise, within the retailing and wholesaling sector of our industry, the best thing that we could have would be a simple free market—

Chairman PROXMIRE. I understand that.

Mr. PETERSON (continuing). Which would have to involve the elimination of production subsidies.

Chairman PROXMIRE. You say in your prepared statement:

To control the supply of crude is to control the price of crude. It follows that the best possible basis is secured for administered product pricing and for percentage depletion tax savings.

Mr. PETERSON. Right.

Chairman PROXMIRE. I think you make a very strong and excellent case here but could you document that by giving us figures to show that the movement of crude prices has been uniform, has been characterized by the same kind of administered monopolistic pricing as, say, the steel industry?

Mr. PETERSON. We have documented that. I don't know that it relates to the steel industry but we have documented that to some extent for the Federal Trade Commission and they have enough facts in my belief and in the belief of some good legal minds to be, long since, to be busy on the task.

Chairman PROXMIRE. What has happened to the price of crude since August 15; can you tell me?

Mr. PETERSON. I don't believe that it has risen; it has been stable since August 15.

If I may back up a little, Senator, to get back to your question of why we ever had the oil import program, may I submit that the price of crude oil was about \$3 here in the United States. The price of foreign crude was substantially less. I don't happen to think that our security had a damned thing to do with what happened. All we wanted to do was protect that high price and we have been doing an excellent job of it ever since; and I would think an independent refiner needs relief from this administering. We need you. We need you.

Mr. DRYER. Earlier I had said that the independent refiner could survive if the price of the domestic crude oil which he buys, has to buy, would be at the same level as the world price of oil.

Chairman PROXMIRE. I think you have been very consistent. You argued your problem is the two prices.

Mr. DRYER. But there is an additional item that I should emphasize, and that is, he can only survive if this price situation exists, and the domestic oil is there. If the result of a reduction in the price of domestic oil is to dry up the sources of domestic oil upon which the independent refiner depends, the fact that he can buy it, the fact that the price of it is the same as the world price, doesn't mean a thing to him. He wouldn't have the feed stock with which to operate his refinery and most independent refiners are located in the heartland of America and not on the coast. If their domestic crude oil supply dries up, that is the end of their business.

So we have a very closely related problem, closely related to that of the independent producer.

Chairman PROXMIRE. Yes.

Now, why would it dry up in the event that you follow a policy of making in one way or another foreign crude oil more readily available or reduce the price of crude? Why would that necessarily dry it up? We have such an artificial system of controlling supply in this country. You have your prorationing which is the fundamental method. Why would their response be to dry it up? Why wouldn't their response be, natural response under the present circumstances, they would need more revenue, even though the price is lower, of simply letting their fields pump a little more, because you have to get in the long run—you have another problem—in the long run you have a problem we have been hitting at all morning, of providing some kind of incentive, effec-

tive incentive, which we don't have now, effective incentive for exploration, proving more reserves?

Mr. DRYER. Before Mr. James comments, I might just say that today independent refiners in the midcontinent are finding it increasingly difficult to get domestic crude oil with which to operate. As it becomes tighter the integrated major, who controls most of it, will allocate its crude oil first to its own refining plants before making it available to an independent refiner. And independent refiners in the last year have had to go further and further out from their refining plants in order to get the oil with which to operate.

Chairman PROXMIRE. Mr. James.

Mr. JAMES. Thank you, Mr. Chairman.

In regard to the prorationing, market demand prorationing, as it has been called, has moved out of the domain of market demand in my State and in much of the interior of the United States for the very reason we have no excess capacity; we are producing all that we can get, and prorationing now in Kansas is simply to protect correlative rights, so that this fellow does not drain this fellow. Mainly, what little excess production there is comes from brandnew wells.

Chairman PROXMIRE. How many days a month are you producing?

Mr. JAMES. Well, in Kansas we produce every day.

Chairman PROXMIRE. Texas—what is it, 8 or 9 days, 10 days a month?

Mr. JAMES. Well, it isn't limited that way, sir. In Kansas it is limited by production and by barrels per day.

Chairman PROXMIRE. Up until recently it was something like about a third of the month.

Mr. JAMES. Not in Kansas. In Texas and Louisiana.

Chairman PROXMIRE. Not in Kansas? Kansas is a very important State, I am sure, but it is not the principal or the biggest oil-producing State.

Mr. JAMES. It is the only one I am really familiar with.

My understanding is, my point is that I believe from what I have read, and I cannot substantiate this, but I am sure that others can, that there is very little excess producing capacity in this country.

Chairman PROXMIRE. I would like to ask Mr. Peterson if you would comment on this one final question. We have another witness I want to call in just a minute or two. But I would like you to comment on the very interesting emphasis which Mr. Dryer gave to the sliding scale in his analysis, the sliding scale.

Would you like to give us a very brief summary of that so I can ask Mr. Dryer to comment, because I think it was an interesting emphasis, and I thought that was what Mr. Dryer was principally here to hit hard on.

Mr. DRYER. Yes; the sliding scale is a method by which, even though it gives a difference in quota treatment, the difference is necessary to offset differences in the actual impact of the program upon independents versus the integrated majors, because the integrated major has additional benefits from the program through the higher price—

Chairman PROXMIRE. Are you satisfied with what they have now, in sliding scale with respect to the import quota program?

Mr. DRYER. This is a question which is relative to the total volume of imports. We have survived at the quota brackets that have been in existence for the last 2 or 3 years, and we are constantly seeking more. We certainly would strenuously oppose any reduction in the quota percentages. I do think that it should be emphasized that the total quantity of quotas that are involved in the sliding scale feature represent only 7 percent of the total restricted imports; only 7 percent of total restricted imports are allocated—

Chairman PROXMIRE. It seems to me you are pretty satisfied with being tossed a fish.

Mr. DRYER. What?

Chairman PROXMIRE. You are being tossed a minnow now and then, and that seems to satisfy you. You get 7 percent; you say you represent 15 percent of the refinery capacity; you get 7 percent of the sliding scale basis at least.

Mr. DRYER. Oh, no. The Senator misunderstood me. If there were a uniform scale, every refiner would get the same percentage. In addition to whatever the independent refiner would get on a uniform scale basis, 7 percent of total restricted imports are allocated to him by reason of the sliding scale. So the amount involved is not large in terms of the program as a whole, but it is of critical importance to this small group.

Chairman PROXMIRE. Would any of you gentlemen like to comment? Mr. Peterson, Mr. Allvine, and Mr. Patterson?

Mr. PETERSON. I would like to comment as I have been commenting for 12 years.

The philosophy of the independent refiner, and indeed, the independent marketer, in an economy that is growing and particularly growing in the petroleum industry, at the rate of 4 to 5 percent a year for the past 12 years, the philosophy that we are in a business to survive and let the major oil companies take over all of that which remains, is a poor philosophy. The independent refiner ought to have the same right to grow in this Nation as the integrated company, and I think it is bad testimony that we sit here and talk about how little we have slunk in an increasing industry rather than how well we have been able to do under the freedom of our country. Beyond that, I don't see, as an independent marketer, what there is that leads the independent refiner and the independent refinery into the sacred cow position with reference to the importation of foreign products.

If we are really concerned about phase II, if we are really concerned about inflation, let's bring in some products or let's bring in some crude to the independent terminal operator who has been going down as competition has been going down, and the evidence is strong; let's bring him in some product so that he can enter the market and let's get you going forward, not by saying: "I am only sinking at such a rate each year."

I cannot conceive that the once virile independent refiner finds himself in a position, and I think you are right, Senator, they have been content with the fish that is tossed out to them. That is not the purpose of your being in business. That is not the purpose of our economy; that is not the purpose of you and me, as I see it. If I felt that way, I would resign in a moment.

Mr. DRYER. If there are more effective solutions we are the first who would like to get them adopted. And any suggestions toward a more effective solution we are all for.

Unfortunately, sometimes these suggestions for the solution of the independent refiner's problems are means by which other measures are advanced which will, in fact, hurt the independent refiner, and I think the suggestion, for example, that which opens the gates to foreign finished product imports is in that category.

I would like to comment upon that very briefly. Anyone who is granted an import quota can thereby quote a lower price. He can thereby serve the interests of consumers by having a lower price. But he does it because he is given a quantity of low-cost foreign oil.

Now, what happens if you do have a program which has got an overall limit on imports, if you are going to give one favored company or one favored geographic area a special access to this low-cost material? What has to happen is that there must be a corresponding reduction somewhere else among those who are permitted to import, because you are going to have an overall—

Chairman PROXMIRE. Why not just mean lower prices? You made that same argument on Machiasport.

Mr. DRYER. Right.

Chairman PROXMIRE. It seems to me because you are getting a little lower price in New England where you have the highest fuel prices in the country, it does not mean that everybody else in Wisconsin, California, and elsewhere is going to suffer.

Mr. DRYER. It does mean that everyone elsewhere is going to suffer, because if you give 150,000 barrels a day to Machiasport, it has got to come out of other refiners' quotas.

Chairman PROXMIRE. If you bring in more oil—

Mr. DRYER. Since you have an overall limitation.

Chairman PROXMIRE. Yes; but that is the assumption I won't accept.

Mr. DRYER. Right; well, I will come back to the assumption in a moment. Within that assumption, if you then take it away from other refiners, you are taking it away from other consumers and this is because the grant of these quota values to refiners does, in fact, pass through to consumers.

The task force itself conceded that. It said that refiners, by and large, compete away the quota values they receive.

Chairman PROXMIRE. Sure; as long as you have rigid quotas that are not expanding.

Mr. DRYER. But the point is this: that whatever there is in the way of quota value, whatever there is in the way of a low-cost foreign oil advantage, is, when it is distributed to refiners, then passed through to consumers by reason of averaging out at a lower level the cost of refinery feedstock.

Now, you don't have to accept my word on that, this was one of the conclusions of the task force, that there was, in fact, a passthrough. They said refiners, by and large, compete away the quota values that they receive. That means the net result is a distribution to consumers of that advantage and under the present system with quotas to all refiners, this advantage is then distributed countrywide.

If you take 150,000 barrels a day for Machiasport, you have got to take it away from refiners elsewhere and you are going to penalize consumers elsewhere.

Chairman PROXMIRE. Well, gentlemen, I want to thank you.

Mr. PETERSON. May I have one last word?

Chairman PROXMIRE. You are so vigorous and effective in your responses, I am sure Mr. Dryer is going to come back with another answer.

Mr. PETERSON. I can understand this. But I happen to agree with him this time. I do agree that every time we do this we distort; something else happens; that which happened with the oil import program was a decline of the independent refiner and the virtual elimination of the independent terminal operator who represented a principal source of supply to the independent marketer, and this is the distortion that has happened. It is happening to you and to me and if you want more, I am all in favor of your getting it. If we are not going to change the program except percentage-wise, I am in favor of your getting more, but I also would like to have my own company be able to exist within the program. It has distorted us out of the terminal business and all of us like that.

Chairman PROXMIRE. I think I can agree with that agreement but I am not sure Mr. Dryer can agree with it. At any rate—

Mr. JAMES. Can I have 30 seconds?

Chairman PROXMIRE. All right.

Mr. JAMES. It occurs to me there are three main reasons, undoubtedly more, that account for the disparity in price between foreign and domestic. That is what the argument is about, low cost.

The three that occur to me, for geological reasons this foreign oil is very, very prolific, unlike most of the oil in this country except the North Slope of Alaska.

Second, we have subsidized this through the application, the full application of the depletion allowance to foreign oil and their tax credit. This makes it a whole lot cheaper and the public is paying for it.

Third, one reason up until very recently this oil has been so cheap is because among the countries that were exporting these oils, largely the Arabian countries, there was no unity whatsoever.

Chairman PROXMIRE. That is changing rapidly.

Mr. JAMES. Yes, sir; it is.

Chairman PROXMIRE. Just today, this week, yesterday, they announced they are going to get a higher price.

Mr. JAMES. Because of the devaluation of the dollar.

Chairman PROXMIRE. That's right; but they can take advantage of the devaluation of the dollar because of the political unity. As you say, they were divided and are no longer divided.

Mr. JAMES. Right, so the pressure on their crude price is going to be upward. If we remove the tax subsidy I don't think any of us would argue, unquestionably the price will go up.

The point you made earlier to the gentleman on my left that the effect of this subsidy is to keep the price of foreign oil artificially low, rather than the price of domestic oil artificially high, I think it is helpful to see why foreign oil is cheap and why it may not stay that way.

Chairman PROXMIRE. Well, gentlemen, again I want to thank you very, very much.

Mr. Allvine wants to summarize. Go ahead.

Mr. ALLVINE. Senator, if I could have 1 minute, I will watch my watch to stay within those constraints, just a couple of points made that I think should be called to the attention of your committee.

I think in one sense phase II does not really affect the pricing of gasoline to the public because of the way the price protection system exists. To all effects and purposes, the major oil companies by adjusting price protection can increase the price of gasoline to the public without having to come before the Price Board. That is one point.

Chairman PROXMIRE. How? Take more than a minute because that really hit something that is important.

Mr. ALLVINE. Let me get my other two points out, if I may.

Chairman PROXMIRE. All right.

Mr. ALLVINE. A second point is that I think 5 years from now we may be coming back to this particular point with Mr. Dryer and look at the statistics of independent refiners and find it is a very bleak situation because my understanding from talking to many of the independent refiners is that large numbers of them in the next 2 to 3 years are going out of business simply because they are going to be unable to make the investment that is necessary to produce low and unleaded gasoline.

Relating to that particular point, my statistics show since the implementation of the import program in 1959, that the refining throughput of the major 20 large independent refiners has, in fact, increased from about 84 to 86 percent, and if we brought back on shore the refining capacity I think we would find the majors controlling an ever-increasing portion.

The third one is that I think it is shortsighted for the independent refiners to put themselves in a position of being dependent upon the low-price foreign crude. As you mentioned yourself, and was just mentioned a moment ago, there is very possibly going to be the situation in the next 2, 3, or even 5 years where foreign oil is going to be more expensive than domestic oil and what position is the independent refiner going to be in if he is dependent upon something that is no longer of value. The beggar position that the independent refiner is put in is almost intolerable.

Mr. PETERSON. Agreed.

Chairman PROXMIRE. Gentlemen, again I think this has been very, very helpful. One of the most interesting aspects of this situation has been, I think Mr. Dryer would agree with this, that the present situation is not attractive, it is not good for small business, it is not good for the American taxpayer or the American consumer, it is not good for the independent.

You say, Mr. Dryer, that the situation could be worse; you indicate that some of the remedies may be unattractive; you want to hold on at least to what you have got; but you seem to indicate that your group is diminishing to some extent in number, at least they are not gaining as all of us would like independent business to gain.

So, added to all the other problems that we are developing here for the consumer and taxpayer, we have a concentration which is unwholesome and unhealthy and something that does interfere with our competitive system and prevents our competitive system from operating as effectively as it should. I think you have demonstrated that and documented that extraordinarily well this morning and I am

very grateful to all of you for appearing. It has been one of the best panels we have had for a long time. You men have contested vigorously and you have brought out some very fine points.

Thank you very much.

Our final witness this morning is Mr. Beverly C. Moore, Jr., of the Corporate Accountability Research Group.

Mr. Moore is a graduate of Harvard Law School and has been associated with Ralph Nader in the Center for Responsive Law, as well as in his present position. He is coauthor of the Nader report on antitrust enforcement entitled, "The Closed Enterprise System."

Mr. Moore is accompanied by Lance Haddix, an attorney specializing in pipeline litigation.

Mr. Moore, I apologize for keeping you so long. You were present and can understand what the reason was.

Your full statement will be printed in the record—both your statement and Mr. Haddix's statement—and you gentlemen may proceed.

STATEMENT OF BEVERLY C. MOORE, JR., CORPORATE ACCOUNTABILITY RESEARCH GROUP

Mr. MOORE. Thank you, Mr. Chairman.

The problem of inflation receives the constant attention of politicians and the press. While the former propose stopgap expedients, such as phase II, the latter publish sensationally superficial news analyses, such as "phase II is an economic revolution." Yet the control of inflation lies ultimately in the restoration of competitive innovation and cost cutting. Rather than systematically cartelizing the economy for the benefit of myriad special interest groups, Government economic intervention must aim at planning for competition through an antitrust attack on concentration in behalf of consumers everywhere.

Government policy toward the domestic oil industry is a classic illustration of pervasive microeconomic bankruptcy. First, the import quota shields domestic producers from foreign competition, while inflating consumer prices by \$5 to \$8 billion annually. Then, in the guise of "conservation," State prorationing commissions in Texas and Louisiana restrict oil production in order to maintain domestic price levels. Next, the oil depletion allowance promotes vertical integration of refining and production, as integrated companies post high prices on the crude oil that they sell to themselves in order to shift their profits to the production level and maximize their depletion benefits. The relatively competitive independent refiners, who have no depletion allowance, see their profit margins squeezed and their options reduced to bankruptcy or vertical merger.

In this context, antitrust enforcement faces an uphill battle in this context. The dominant oil firms are vertically integrated at every level—production, refining, transportation and marketing. The very size of the 20 domestic oil companies which have assets exceeding \$1 billion dictates a philosophy of joint planning rather than competition. Concentration at the refining level is increasing nationally, largely on account of lax Justice Department antimerger enforcement. By 1971, eight firms that were among the 25 largest oil companies in 1960 had been swallowed up. The eight largest oil companies now control 62 percent of refinery runs. These mergers, together with the elimination

of numerous independent refiners, have decimated the ranks of potential entrants into regional markets which are substantially more oligopolistic than national concentration ratios would indicate. Infusing new competition into these regional markets is the central objective for antitrust enforcement vis-a-vis the oil industry.

It is with that objective in mind that the critical role of joint venture oil pipelines should be examined. It is absolutely essential that the pipeline network provide access to concentrated regional markets where new entrants would render oligopolistic behavior more difficult and price competition more vigorous. In order to foster competitive access to markets, oil pipelines are clothed with common carrier status. Theoretically, they must serve all customers on an equal and nondiscriminatory basis at reasonable rates.

In reality, most oil pipelines function as exclusionary bottlenecks. They serve not as common carriers, but as jointly owned private carriers for the integrated companies that dominate the marketing areas that the pipelines serve. Nonowner competitors will usually find their theoretical right of access prohibitively expensive. The pipeline's cycle, minimum tender requirements, capacity, destinations, access points, storage tanks, pumping stations, feeder lines to or from refineries and other connecting facilities will have been carefully planned by the pipeline's owners for their own operations and not for the needs of nonowners. While the high costs of these facilities are borne by the pipeline company where the owners are concerned, nonowners must either provide these facilities for themselves or forego access to the markets dominated by the pipeline's owners.

Even if the joint venture pipeline was planned to accommodate the nonowner competitor on a nondiscriminatory basis, he would face a competitive disadvantage in that he must pay the pipeline rate, while the owners pay only the pipeline cost, recouping the difference through pipeline dividends. The rate-cost differential is commonly 20 to 30 percent, notwithstanding the ICC's duty to ensure that common carrier rates are held to reasonable levels. ICC abdication also makes it possible for the pipeline owners to install discriminatory tariff structures which increase the rate-cost differential for outsider shipments to markets which they dominate, with a commensurate decrease in the differential for markets which the pipeline owners do not primarily serve.

Furthermore, the rate-cost differential enables the joint owners to stabilize their market shares in a regional cartel. As the pipeline is originally conceived, each owner's stock interest, and thus his share of the dividends, is geared to his proportion of total pipeline shipments, which in turn approximates his market share in the region served by the pipeline.

Suppose that a particular owner decided to increase his market share by cutting prices against his fellow oligopolist owners. His proportion of total pipeline shipments would increase, but his stock ownership and share of the dividends would remain constant. He would thus pay a penalty for price cutting in the amount of the rate-cost differential on his increased sales. His increased rate payments, in turn, contribute toward higher dividends for the remaining owners who can recoup their decline in market shares by retaliating with price cuts to the extent of those extra dividends he provides.

Finally, the owners of joint venture pipelines can so synchronize pipeline operations to their own marketing requirements as to dry up the spot market at the destination point. In other words, the pipeline

serves as a vast storage tank to keep supplies out of the hands of independent refiners, in the case of crude oil pipelines, and of independent terminal operators and nonbranded retail dealers, in the case of refined petroleum products pipelines. In the light of the relative competitive vigor of these independent elements of the oil industry, this is a serious consequence for consumer welfare.

Let us turn now to two cases which illustrate the cartelizing operations of joint venture oil pipelines—the Colonial pipeline, which is the largest U.S. petroleum products pipeline, and the proposed trans-Alaskan pipeline system—TAPS—which if constructed, will be the largest U.S. crude oil pipeline.

The Colonial pipeline, which began operations in 1963, runs from the gulf coast refining complex through Atlanta and Washington to New York Harbor. The nine integrated oil companies that own Colonial, plus the three joint owners of the smaller Plantation pipeline (Jersey Standard, California Standard, and Shell) market 79 percent of the gasoline sold in the Southeast. Colonial's owners themselves put up only 10 percent of the original \$400 million capital outlay, the remainder being financed through debt. Their present investment totals \$38,553,000, equity plus surplus. In 1970, Colonial earned profits of \$36,425,119 before taxes and \$27,072,852 after taxes or revenues of approximately \$101 million. Dividends paid to the owners approximated \$24 million. Net income represented a return on invested capital of 95 percent before taxes and 70 percent after taxes.

Chairman PROXMIRE. Could I ask at that point on that, are you talking here when you say that the present investment, is that their present investment in the pipeline?

Mr. MOORE. That is their present stockholders' equity in pipeline, approximately \$36 billion, plus approximately \$2.5 million in accumulated paid-in surplus.

Chairman PROXMIRE. And the profit that you mentioned here of \$36 billion and \$27 billion before and after taxes, is that profit on the pipeline itself?

Mr. MOORE. On the pipeline, yes.

Chairman PROXMIRE. Exclusively?

Mr. MOORE. The pipeline is a single corporate entity separate from the corporate entities of its owners and as such it furnishes financial data to the ICC.

Chairman PROXMIRE. All right.

Mr. MOORE. So there was a profit of 95 percent before taxes and 70 percent after taxes. Additionally, the owners realized a \$15.5 million appreciation of their equity interest through retirement of debt. Lumping together net income and equity appreciation, Colonial's owners profited to the extent of a 140-percent return on investment before taxes and 111-percent return after taxes.

Chairman PROXMIRE. I don't understand why the profits wouldn't give you the complete picture; in other words, how do you add the amortization, which increased their equity in computing what their total net income and depreciation was? Aren't you repeating; isn't that a double accounting, other matters, 95 percent and 140 percent?

Mr. MOORE. The term "profit" and increase in equity are different concepts, and so I provided two measures of return for clarity. The point is that "increase in equity" is value which accrues to the pipeline owners even though it is not paid out in dividends.

Chairman PROXMIRE. I am not talking about the normal increase in equity which might come from various factors not related to profits, but, as I understand it, this could very well have been the fact they took their profits and paid off part of their debt with their profit and, therefore, when you figure the amount of debt paid off you have double accounting.

Mr. MOORE. No.

Chairman PROXMIRE. You didn't do that?

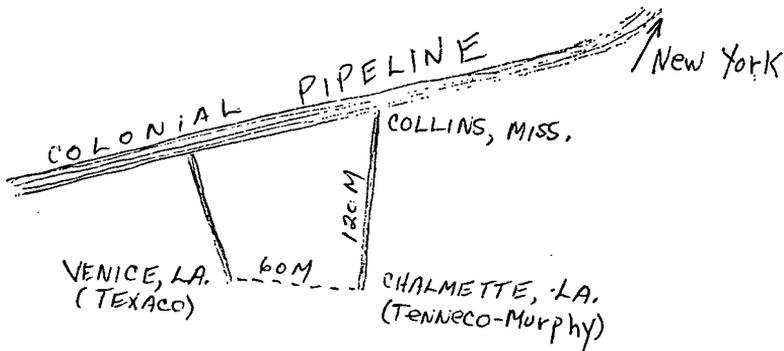
Mr. MOORE. No; the debt is retired automatically out of a schedule of pipeline revenues.

Chairman PROXMIRE. All right.

Mr. MOORE. I stated earlier that the net income after taxes was \$27 million and dividends paid out were \$24 million, so that there could not have been anything left over in the range of \$15.5 million with which to retire debt out of profits. Note that a 30-percent reduction in pipeline rates and revenues would still have produced a 13-percent return on investment for the owners, plus an additional 40-percent return through equity appreciation.

Until recently all shipments through Colonial were made through its owners. The diagram below illustrates the expense of access to nonowners.

(The diagram follows:)



Mr. MOORE. Now, Texaco, an owner, plugged into Colonial from its refinery in Venice, La., through facilities and a feeder pipeline owned by Colonial and provide to Texaco without charge by Colonial. Texaco's rate is 30.3 cents per barrel from Venice to New York. Tenneco and Murphy, nonowners, desired access to Colonial from their refinery at Chalmette, La. The closest terminal was at Texaco's refinery at Venice, 60 miles away. Assuming a 4- to 5-cent cost to Tenneco and Murphy for transporting their product westward to Texaco's terminal, their cost to New York from Chalmette via Venice would have been 34.3 to 35.3 cents per barrel.

Whether or not Tenneco and Murphy actually sought and were refused access through Texaco, we do not know. The significant point is that they were ultimately forced to construct their own common carrier pipeline from Chalmette to Collins, Miss., 120 miles away, where their access to Colonial was conditioned upon provision of their own storage tanks and facilities to pump 56,000 barrels per hour. Tenneco and Murphy's tariff from Chalmette to Collins is 13 cents per barrel, plus 3 cents per barrel terminaling charging, totaling 16 cents, or two-thirds of its 24.3 cents per barrel Colonial tariff from Collins

all the way to New York. Their total Chalmette to New York rate of 40.3 cents per barrel compares with Texaco's rate of 30.3 cents per barrel. It is noteworthy that, apparently contrary to law, Murphy and Tenneco do not have the benefit of a "through rate," defined as a rate less than the combined Collins pipeline and Colonial pipeline tariffs when interstate shipment requires direct connections between common carrier pipelines.

But is there not the alternative of tanker transportation for non-owner competitors who are excluded from Colonial, at least with respect to the mid-Atlantic markets serviceable by sea? That would be the case if Colonial's rate structure were geared to cost for the gulf coast-New York carriage. But Colonial prices as one would expect a monopolist to price. According to 1969 ICC figures, 54 percent of the value of the pipeline was in the Atlanta-New York leg. Yet, in order to ward off gulf coast-New York tanker competition, Colonial's effective Atlanta-New York tariff is 8.8 cents per barrel, while its Port Arthur-Atlanta rate, where it faces no tanker competition, is a monopolistic 20.65 cents per barrel.

Chairman PROXMIRE. What is the difference in distance there?

Mr. MOORE. Atlanta is as appropriate for a halfway point as any other major terminal, although the northern leg is somewhat longer.

Colonial's Port Arthur-New York rate of 29.45 cents per barrel is substantially below the lowest long-term independent tanker rates. Not surprisingly, gulf coast-east coast tanker carriage of petroleum products has declined from 73 percent in 1964 to 43 percent in 1970. Twenty percent of the independent tanker fleet is now laid up for lack of business. Moreover, Colonial is presently doubling its capacity between Baton Rouge and Atlanta, so that it will be able to service both the Southeast and the mid-Atlantic. Prior to this capacity doubling and contrary to standard pipeline practice, Colonial had given priority to short-haul carriages to Atlanta over long-haul carriages to the mid-Atlantic, since its owners collectively market most of their throughput in the Southeast.

Colonial's owners receive dividends and own stock in proportion to their pipeline throughput, reflecting their market shares. There is an additional provision prohibiting any owner from selling any of its shares without first offering these shares to Colonial. In 1970 the stock was redistributed to reflect changes in owner's shares of pipeline throughput from 1964 positions. The table below, which contains the 1964 and 1970 ownership shares, indicates substantial stability of relative throughputs.

(The table follows:)

[In percent]

Owner	1964 ownership	1970 ownership
Texaco.....	15.9	14.3
Cities Service.....	15.3	14.0
Gulf.....	14.9	16.8
Indiana Standard.....	13.6	14.3
Sinclair.....	10.7	¹ 10.5
Mobil.....	10.5	11.5
Pure.....	4.4	² 4.0
Phillips.....	11.0	7.1
Continental.....	3.7	7.5

¹ British Petroleum.

² Union.

Mr. MOORE. The most marked share changes—Phillips and Continental—are explainable by factors other than that the rate-cost differential may have operated as a market share stabilizing device. Phillips shifted some of its refinery operations from the gulf coast to Puerto Rico. Continental, in anticipation of the stock redistribution, increased its throughput by an exchange agreement which in essence allowed Tenneco and Murphy to use its access point for their products prior to construction of the Collins pipeline.

The Antitrust Division of the Justice Department became aware of the above possible anticompetitive consequences of the Colonial pipeline about 9 years ago. Indeed, an investigation was commenced, civil investigative demands (precomplaint discovery orders) were dispatched, reams of documents were received from the prospective defendant companies, two independent economists were hired as consultants to analyze the evidence (a task which they failed to complete), top staff recommended to Assistant Attorney General Donald Turner that a complaint be issued seeking divestiture of all but one of Colonial's owners, but nothing happened. Indeed, we are informed by staff attorneys at the Antitrust Division that to this day no decision one way or the other had been issued by the Assistant Attorney General's office on whether an antitrust suit should be brought against the Colonial pipeline.

Chairman PROXMIRE. What are the dates?

Mr. MOORE. In 1962 or 1963, the Justice Department became interested and began investigating.

Chairman PROXMIRE. When Don Turner received the recommendation that a complaint be issued?

Mr. MOORE. That was between 1965 and 1967. However, a proposed complaint had been drafted prior to 1965. My understanding is that the case was recommended on more than one occasion.

Chairman PROXMIRE. 1965, and neither the Johnson administration nor the Nixon administration has done anything further? For 6 years they have had this recommended and they have taken no action?

Mr. MOORE. That is correct. I take it the case will not be brought.

Chairman PROXMIRE. What would be the next step that they could take?

Mr. MOORE. The next step would be to send the complaint up from the office of the Assistant Attorney General in charge of the Antitrust Division to forward the proposed complaint to the Attorney General for approval when it is determined that the investigation is complete and that antitrust action should be recommended. Did I understand your question correctly?

Chairman PROXMIRE. Yes; that hasn't been done?

Mr. MOORE. No, and the people in the Antitrust Division who are familiar with the case have long since written it off as a dead issue, even though it is formally still up for consideration.

Chairman PROXMIRE. All right.

Mr. MOORE. The probable anticompetitive and thus inflationary consequences of the proposed Trans-Alaskan Pipeline System (TAPS) are of a much higher order of magnitude. The recent discoveries at Prudhoe Bay on Alaska's North Slope constitute the largest oilfields in North America. Even at this early stage of development, the estimates of Prudhoe Bay oil reserves range from a conservative 9.6 billion barrels by the American Petroleum Institute to 16 billion barrels

by ARCO, with speculation, over ultimate recoveries reaching as high as 50 billion barrels. The API figures for Prudhoe Bay reserves represent nearly 25 percent of the total U.S. oil reserves, a share which will increase as reserves in the Lower 49 States are depleted and North Slope reserve estimates are revised upward.

The capacity of TAPS as presently envisioned will be 2 million barrels per day. It is expected that 1.5 million barrels per day of this output will be consumed on the west coast, with the remainder being routed to the gulf coast via the Panama Canal. The former amount is equal to the entire present consumption of domestic oil in the Western United States comprising oil import district V. The API estimate of Prudhoe Bay reserves is double all proven reserves in the remainder of district V. Thus, combinations among producers or the joint owners of TAPS which tend to affect the price of North Slope oil would in turn affect such large shares of the west coast domestic oil market as to demand swift Government antitrust action.

If, on the other hand, the forces of competition can be harnessed, the potential benefits to west coast consumers are enormous.

The North Slope wells will be 1,000 times more productive than the average U.S. oil well. Recent estimates of the delivered cost of North Slope oil at Los Angeles are as low as \$1.20 per barrel, compared with the present west coast crude price of \$3.35 per barrel. Yet at this point in time it appears that once again competition will be frustrated and consumers will suffer grievously at the hands of monopoly.

Specifically, three companies—British Petroleum (BP), ARCO, and Humble, domestic subsidiary of Jersey Standard—hold at least 80 percent of the stock of TAPS. These same three companies also hold 95 percent of the oil leases in Prudhoe Bay: BP, 55 percent; ARCO, 20 percent; Humble, 20 percent. In addition, BP, Humble, and California Standard jointly control perhaps 2 billion more barrels of district V oil reserves off the Santa Barbara coast. The adverse impact of these arrangements on the potentially low price of North Slope oil could hardly be more obvious.

Were it not for the probability of substantial additional North Alaska oil being discovered by companies other than BP, ARCO, or Humble, there would be no need for the joint owners to utilize the pipeline as an exclusionary device. Yet, in violation of section 2 of the Sherman Act and section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. sec. 185), the pipeline is not even being set up as a common carrier in the legal definition of that term. Rather, it is being formed as an "undivided interest" pipeline. What this means is that a non-owner cannot seek access directly from the pipeline corporation—Alyeska, in this case—but must approach each owner individually to demand access—first BP, then, if necessary, ARCO, Humble, and the other owners.

In conjunction with the otherwise salutary common carrier doctrine of ratable take, the undivided interest device greatly complicates access and multiplies the opportunities for exclusion of nonowner producers. When the access seeker approaches the common carrier as a single entity, he may be met with the contention that the pipeline's spare capacity is insufficient to accommodate him. Through the ratable take doctrine, he can demand that all owners reduce their own inputs on a pro rata basis in order to accommodate his own pro rata access.

Once the proportion of his original tender for which he will be allowed access is determined, say at 90 percent, he may obtain access for the entire 90 percent at the point most convenient to him. In the undivided interest situation, however, the nonowner exercising ratable take can only demand of the first owner he approaches an input of 90 percent of that owner's share of the total pipeline capacity. He would then have to demand similar access from other members seriatim, but perhaps at inaccessible input locations.

BP, ARCO, and Humble will not need the pipeline to stabilize their market shares. This they have already accomplished through unitization of their Prudhoe Bay production. Through joint production from a single reservoir or layer of reservoirs situated directly beneath the leases of each of them, the three companies can reduce costs and enhance the ultimate recovery. But inevitably linked to this conservation measure is the joint decision of how much to produce, how much to withhold from the market, in order to increase price.

When unitization eliminates competition with respect to so large a share of potential oil production, the situation approximates that of a natural monopoly and should be treated as such. That is, an appropriate regulatory body must neutralize the tendency of the joint producers to restrict supply, by requiring that production be maintained at the maximum efficient rate as long as the resultant production can be marketed at a price which exceeds its cost.

The following should be noted with respect to the Justice Department's intentions to enforce the antitrust laws as they relate to the anticompetitive ownership of TAPS. In 1971 an Antitrust Division staff request that a formal investigation be commenced through Civil Investigative Demands was approved by the Office of Assistant Attorney General Richard W. McLaren and forwarded to Attorney General John N. Mitchell for what would usually be a routine approval. However, the requested Civil Investigative Demand was returned by Attorney General Mitchell's office bearing his initialed comment which read, according to an Antitrust Division attorney who saw it: "In view of what is going on, this is not the time."

Chairman PROXMIRE. When was that last; do you remember?

Mr. MOORE. During the summer of 1971, I believe. I do not know the exact date. Conversations with other Antitrust Division personnel confirm Attorney General Mitchell's indefinite postponement of the TAPS investigation. Subsequently, and in lieu of compulsory process, the Antitrust Division requested the voluntary submission of information relating to TAPS and responses have been forthcoming, as confirmed by a BP prospectus issued October 12, 1971. That does to some extent ameliorate the short-term consequences of Attorney General Mitchell's veto but there is no indication that the Antitrust Division approach to the Alaskan pipeline will be unlike its approach to the Colonial pipeline.

Chairman PROXMIRE. What does that voluntary submission of information mean?

Mr. MOORE. The Antitrust Division has authority under statutes to require companies pursuant to Civil Investigative Demands or CID's, to submit data prior to issuance of the complaint in a formal investigation. Instead, the Antitrust Division may ask the companies voluntarily to supply such information—meaning that if they supply the wrong information, or otherwise fail to comply, then there is no con-

tempt sanctions. There is thus no compulsory aspects to the process.

The Antitrust Division often resorts to voluntary requests for information, at least in the preliminary stage of an investigation, because it fears that prospective defendants may seek to delay an investigation through court challenge to compulsory process. This procedure is indicative to the Antitrust Division's hesitance to use its own legislated powers to enforce the antitrust laws.

Chairman PROXMIRE. So does this mean they are copping out on this thing or evading it or does it mean this is the proper and logical and usual action they take prior to determining whether or not to take action?

Mr. MOORE. Certainly it was not the usual logical and proper course to take, because the Antitrust Division had already decided to go ahead with a compulsory investigation. To change from a compulsory to a voluntary request for information would be a departure from the normal course of events—that is to first ask for voluntary submissions of data, then, if the submitted data raised further suspicions, to switch to compulsory disclosure. In other words, the Antitrust Division would normally proceed from a voluntary to a mandatory investigation, not vice versa. I assume that Attorney General Mitchell's reaction—"In view of what's going on, now is not the time"—has something to do with the environmental impact inquiry of the Interior Department. That would not be a relevant legal consideration for antitrust officials. Even if the Alaskan pipeline were held up for environmental reasons, some method, perhaps a Trans-Canadian pipeline, would inevitably be found to bring oil down from Alaska. And if the Justice Department now waiting to see whether Interior would even allow the pipeline to be constructed, why would they even have sought information voluntarily?

Chairman PROXMIRE. Let me follow up on that. You say the date you give here is October 12, 1971, that was 3 months ago. When should we expect, if they are proceeding in a reasonably expeditious way, when should we expect some kind of further overt action?

Mr. MOORE. Well, that varies substantially depending on the nature and magnitude of the case.

Apparently, top Antitrust Division officials have not in the past viewed these pipeline joint ventures as per se antitrust violations. They have instead looked for actual anticompetitive consequences and this requires a great deal of discovery.

Chairman PROXMIRE. Well, when they found them as you pointed out in the first decade instance that you went into—

Mr. MOORE. Well, that was a relatively recent—

Chairman PROXMIRE. Six years ago?

Mr. MOORE. I thought you were talking about the Tenneco situation.

Chairman PROXMIRE. I was referring to the one you described in detail, the Colonial.

Mr. MOORE. In the Colonial situation civil investigative demands were issued prior to 1965 and again in 1967. It was not just a matter of months but a matter of years before it became obvious that the case would not be brought. That might not happen in the Alaskan case. It depends primarily on the Antitrust Division's front office legal philosophy toward and interest in joint-venture pipeline situations. Some antitrust cases, as I am sure you know, go on for 10 or 15 years

once they are filed. And sometimes discovery is also protracted—take the IBM case, for example, was filed in 1969 and is still in discovery.

Chairman PROXMIRE. What gets me is you have several big, powerful firms which have a great deal at stake here which are being discriminated against, or losing. It is not as if you have an amorphous consumer who never takes any action anyway, but you have several firms in the first instance that you pointed out are having to pay a higher price; they are taking a beating. Isn't there something they can do, some kind of civil action they can take? Isn't there some protection they can seek?

Mr. MOORE. There is.

Chairman PROXMIRE. Why don't we hear from them? Why don't they come to the Congress or come to the public in a more conspicuous way than they have to get congressional action?

Mr. MOORE. I think it is usually the case that it is not the big firms that are being discriminated against, although Tenneco is a sizable firm.

Chairman PROXMIRE. Well, you gave some fairly good sized outlets; they are not small ones; these were big enough so they could take care of themselves under normal circumstances; they are a pretty good size.

Mr. MOORE. My own limited experience in talking to people in the oil industry and in enforcement circles is that there is an inordinate amount of fear throughout the entire industry. It is more intense at the retail level and in all the independent or nonintegrated sectors in the industry, but even when it comes to medium-sized companies there is a tendency to join rather than fight the majors, not to rock the boat in the expectation that everybody who behaves will be taken care of in the long run.

If you look at the pattern of joint ventures in offshore production and shale development, for example, you will observe that these large oil companies do very few things by themselves. It is a very gregarious situation. I do not know why Tenneco and Murphy in this particular case did not bring a private antitrust suit but I do know that it is very rare that such legal action is taken. The reason may be fear of reprisal, it may be the expectation of being let in by the majors at some future day; it may be the protracted nature of antitrust litigation.

I once talked to an Antitrust Division attorney who was investigating certain antitrust aspects of the oil industry. Fairly certain of his legal theory and evidence, he ventured into the industry in search of some real live complainants to come forward in a conference with the Assistant Attorney General and say: "We are being hurt and will continue to be hurt until the Government takes antitrust action." When the Antitrust Division lawyer went out and solicited these complaints, however, they listened carefully and then ran to the major oil companies and said: "Justice has been out to talk to us." The majors then relaxed their stranglehold to let these loyal competitors in on the action a bit.

Chairman PROXMIRE. Well, of course, one way you can solve the problem partially is to satisfy you and me and the public but it is better than nothing.

I would like to ask you about a couple of things. One you alluded to very briefly in your statement and the other you didn't allude to at all but I think your observation would be most helpful.

Mr. Dryer testified—you have heard him—in his testimony, that the amount of refining capacity by independent producers, not the majors, the independents, while there are fewer independents, he said that the amount, the total amount, the independents have has remained fairly stationary for two decades, he said at about 15 percent.

On the other hand, you say concentration at the refining level is increasing nationally largely on account of lax Justice Department antimerger enforcements. How do you explain this apparent discrepancy with Mr. Dryer saying it has been fairly stable for the last two decades?

Mr. MOORE. I do not think there is a discrepancy. The share of total refinery throughputs of the eight or 20 largest firms has increased recently as a result of a series of mergers. This has occurred even though the share of the independent refiners may have remained stable.

Chairman PROXMIRE. But there are fewer majors then or the majors, the big majors, are getting bigger and the others are not.

Mr. MOORE. Yes.

Chairman PROXMIRE. They are getting a smaller share.

Mr. MOORE. No, regardless of the share of the independents, refining concentration is increasing among the majors.

Chairman PROXMIRE. Yes.

Mr. MOORE. Several recent mergers have increased concentration somewhat at the national level. But the significant concentration is on a regional basis. In that situation because of corporate secrecy, we simply do not have accurate information on regional market shares and profits on particular product lines such as gasoline to enable us to analyze the adverse consequences of regional concentration for consumer welfare.

Chairman PROXMIRE. How many levels do these fellows need concentration? No. 1, they have this terrific concentration on the production level. No. 2, they have got the Government helping them to fix prices through prorationing and through an oil import quota program and through tax measures. Now, in addition you say there is another level of concentration in refining that has developed; is that right?

Mr. MOORE. Concentration has traditionally been much higher in refining than in crude oil production and concentration at any level serves as a bottleneck.

Chairman PROXMIRE. All the arguments we got from the first witnesses this morning were that crude was the basis for price fixing, crude production rather than refining. They seem to feel that was it.

Mr. MOORE. Concentration or government cartelization at the crude level puts a floor under prices to the refiner.

Chairman PROXMIRE. Then the margin is fixed further by a refining monopoly?

Mr. MOORE. A refining oligopolistic.

Chairman PROXMIRE. Do you have any figures that would document this refining monopolistic force?

Mr. MOORE. The figures that I used were compiled from Federal Trade Commission data, which is publicly available and I will be glad to supply it to the staff.

Chairman PROXMIRE. I would appreciate that.

Several of the earlier witnesses also recommended divestiture to separate crude production from the rest of the operation. This seemed

to be a fairly uniform position taken by the independents and one that they felt would go a long way toward helping to solve the problem. What do you think of that, of its practicality in the first place? Do you have any notion whether or not there are precedents for this and, as a legal expert, would you think it is a realistic way for us to approach this?

Mr. MOORE. Yes. I feel very strongly, and I think I can speak for my colleagues, that divestiture, not only in the oil industry but in a majority of the other industries is necessary to restore competition to the economy.

Chairman PROXMIRE. I am talking about a specific kind of divestiture, where you divest the vertical power they get from controlling the crude on up, especially with the kind of tax measures which give real advantage to an integrated firm.

Mr. MOORE. Particularly if the depletion allowances is maintained you are going to continue to have a trend toward vertical integration. If, however, you are going to maintain the depletion allowance—which, of course, you should not—

Chairman PROXMIRE. But you are going to—

Mr. MOORE. Then perhaps the only alternative is to say that regardless of the temptation to integrate backward to crude production, it cannot be done, and must in fact be undone. Vertical divestiture would at least create a “market” at refining level.

Chairman PROXMIRE. What is the best way to go about that, in your judgment? What is the most practical way of approaching it?

Mr. MOORE. I think the experience under the Public Utility Holding Company Act, commencing in the 1930's is the best precedent. A very large divestiture program was carried out by the Securities and Exchange Commission. This did not involve the breaking up of individual plant entities but the divestiture of functionally independent public utilities located in different markets. Here also we are not talking about horizontal dismemberment of operating facilities, but of vertical divestiture of functionally independent levels which involve no significant economies of scale.

Chairman PROXMIRE. It is a really good analogy; I had not thought of it. That's right. After the scandals, the Insull area in the late 1920's, you did have the Public Utility Holding Company Act ending the vertical holding company abuse.

Mr. MOORE. Actually what we are talking about is a “paper” divestiture, not a divestiture of physical assets. We are talking about divesting one level from another level. The two levels remain intact physically. Their ownerships, top executives, and procurement and marketing channels would be different. It would not be a drastic or costly remedy at all.

Chairman PROXMIRE. In your prepared statement you say the generality, you illustrate by your example: “most oil pipelines function as exclusionary bottlenecks. They serve not as common carriers, but as jointly owned private carriers for the integrated companies that dominate the marketing areas that the pipelines serve.”

What do you recommend here? What do you think can be done or should be done? You would divest the crude production. Would you require two things, the pipeline be operated separately and that it be subject to regulations by something like the Federal Power Commission?

Mr. MOORE. I would divest not only crude and refining, but pipelines as well.

The dominant shippers through pipelines should not be allowed to own these pipelines. There is no reason why you can't have completely independent companies operating pipelines—companies that are not engaged in the oil industry of any other level. There are a few such examples.

Chairman PROXMIRE. What can you do to get that? The one thing this does take obviously is a whale of a lot of capital. You and I could not go out and build a pipeline simply because we thought it was profitable. You would need an enormous corporation with great capital resources.

Mr. MOORE. If you look at the Colonial pipeline, a \$400 million pipeline, the nine other companies with combined assets of many billions of dollars put up \$36 million.

The important point is that if there is a sufficient demand in one part of the country for oil which must be transported from another part of the country, someone will be able to make a profit by constructing a pipeline between those two areas. Banks, insurance companies, and other investors should be willing to put up the necessary capital, as in fact they have. They put up 90 percent of the capital for the Colonial Pipeline and plan to put up 90 percent of the capital for the Alaska Pipeline.

Chairman PROXMIRE. We are hitting in both ways and I am not sure what the consequences would be where you have the opportunity for enormous profit which is one of your criticisms; the profit is fantastic, with Colonial it is better than 100 percent of return. Who could ask for more than that; and with Alaska it might be very great, too, but if you are going to, No. 1, say the big firms can't do it; and No. 2, say you are going to regulate that profit so it is a reasonable amount, say 8 or 10 percent, something like that, or some figure that would provide an incentive, isn't it still difficult; aren't you taking a risk that you are going to kill the prospect of developing the most efficient method of transporting your energy?

Mr. MOORE. That depends on the degree to which you limit profits.

There ought to be a way not to limit profits in the course of regulation to a degree that discourages pipeline construction.

Another point is that where there is an independent nonshipper pipeline owner there would be no rate-cost differential which discriminates against nonowners. So at least one of the bad aspects of excessive pipeline profits would be eliminated.

I think that one can regulate profits at "reasonable" rates of 10, 20, or even 30 percent, depending on the situation and how much profit is necessary to attract a pipeline, and still have banks and insurance companies come forward with the necessary venture capital. If they do not, you simply are putting too tight a lid on profits, basically assuming no imperfections in the capital market.

Chairman PROXMIRE. Very good. I want to thank you very, very much for a most expert and fascinating statement. This is so helpful; it makes a fine record and it is good to have this kind of detailed examination of specific experience which you demonstrate with the pipeline.

Now, Mr. Haddix, did you want to make any kind of a statement here. I am going to put your full prepared statement in the record.

**STATEMENT OF LANCE HADDIX, PARTNER, LAW FIRM OF DOWNS,
HADDIX & SCHWAB, CHICAGO, ILL.**

Mr. HADDIX. Thank you, Mr. Chairman. I do not intend to read the prepared statement in the interest of brevity.

I would prefer to summarize in a few sentences the major points.

Chairman PROXMIRE. All right.

Mr. HADDIX. My name is Lance Haddix and I am a partner in the law firm of Downs, Haddix and Schwab, a public interest law firm with offices in Chicago, Ill.

I would limit my remarks to Explorer Pipeline which is a new pipeline running from the gulf coast and terminating in the Chicago area, and, in fact, in Indiana.

In my prepared statement I have set out the nature of the ownership. This is a so-called joint venture pipeline. I have set out the names of the companies who are in ownership. I mention the capacity and the route that the pipeline will take when complete.

I myself visited the site of the construction of the pipeline last month. I specifically visited the crossing of the Mississippi at the St. Louis area. There are contemplated two crossings in the Upper St. Louis Harbor and in the Lower St. Louis Harbor; at that point I discovered that construction was somewhat behind schedule, quite a bit behind schedule, because of what engineers described to me as problems with fording the river and digging a trench on the river bottom. Three times they have tried to dig this trench 7 feet deep, and three times the trench has silted over.

In my prepared statement, I think the statement of one of the owners' engineers is possibly appropriate. He says, "This outfit may know how to lay pipes across the plains of the Southwest and the deserts of the Middle East, but they sure don't know what they are doing in the Ozarks and on a big river."

The point I am trying to make here, Senator, is I think this might well be a hazard to the environment, and further on I try to describe that I think environmental considerations are really not so far from economic considerations. If we were to submit that the pipeline may be subject to hazards of the river current—this isn't the only river it crosses; it crosses the Missouri and other major waterways—if we admit of these hazards we must realize that the pipeline could become uncovered, and that seepage or spillage could develop which would endanger the wetlands downstream and the marsh areas on the riverbanks.

I think the threat to all life cycles is therefore something that we ought to notice.

The Corps of Engineers had jurisdiction, I believe, in these matters, and yet no NEPA—no National Environmental Protection statement has been filed. So we ought to have the benefit of knowing exactly what the hazards are.

Nor will we know what the degree of safety is. It might well be that it is perfectly safe. I understand it is encased in concrete and presumably the owners think that is sufficient protection to give to a pipeline itself; but the statement—it is my understanding, that is required under the law to be filed—would include both the safety features as well as the hazards, if any.

I think the public is entitled to know what those safety features and what those hazards are.

In my prepared statement, I have attempted to describe what I think will be the danger to the transporters, the economic danger.

Chairman PROXMIRE. Let me just interrupt at that point to ask, do you have any feeling of what we should do as a matter of policy in the future with respect to pipelines of this kind? Are you saying that we not only should be concerned about the economic effects but also be concerned about the environmental effect to the extent that you have a regulatory body determining the competence of the people to build the pipeline and their comprehension of environmental dangers that might develop in the construction of the pipeline?

Mr. HADDIX. I don't think that the—

Chairman PROXMIRE. And we don't have that now, I presume. I presume anybody who wants to build a pipeline can just go out and build it, providing they have the money and can get the right-of-way; is that it?

Mr. HADDIX. Well, assuming condemnation has been taken care of and plans have been approved by the Corps of Engineers, I believe that is correct.

Chairman PROXMIRE. The Corps of Engineers approves plans; no other body, no environmental body, or body with environmental competence is required to make any kind of a finding at all?

Mr. HADDIX. Well, the citation I give here is section 102 of the National Environmental Policy Act, which does seem to require an environmental statement to be filed.

Chairman PROXMIRE. It is just the most violated provision in the law; it is just incredible; the Defense Department is the worst violator, but virtually every agency is incredibly remiss. I tried to put in an amendment that provided we can't go ahead in any substantial expenditure until an environmental policy statement has been filed. That amendment has always been defeated in the Senate. We pick up more support all the time but unfortunately that is a very weak provision.

Mr. HADDIX. I agree, and in this instance I think it is an outright flaunting of the law.

Chairman PROXMIRE. It is very helpful to have this example to be able to use because I think you raise some specific dangers that we should be alerted to.

Mr. HADDIX. In my prepared statement, I have attempted to set up what I think would be some of the economic dangers to what I describe as two groups of interests: first, the transporters of oil products. It is my view that the companies and workers on barge operations will be threatened just as the tanker operators were threatened by the Colonial pipeline. The tariff schedule which has been published seems to favor the long-haul shipment as against the short-haul shipment. In other words, I am trying to state here that even though the published tariff schedule from point of origin in Lake Charles, La., to Texas, is between 17 and 19 cents, to ship a barrel the entire length of the pipeline, many times that distance, would merely double the cost of 17 or 19 cents.

Chairman PROXMIRE. Again, you make the same fundamental point that was made by the previous witness so able; to wit, that this is something that obviously requires some kind of regulation.

Mr. HADDIX. I think so.

Chairman PROXMIRE. Something like the Federal Power Commission or some agency with the authority to make an expert determination of what is a fair price and require it—

Mr. HADDIX. I think so. I think the interests of these barge groups are severely threatened by this tariff schedule.

Additionally, in my prepared statement, I point to the independent jobbers and marketers in these market areas who will find that they must play the pipelines game which will be the only game in town. The effect of all of these considerations is that the market for petroleum products will be severely diminished.

Looking at the record of the Corps of Engineers, I find my totals seem to reveal that over 15 million short tons of oil products moved last year through the Mississippi River system; namely, Mississippi, Illinois, Ohio, and Missouri Rivers. If this is to be reduced then someone has to take up the slack and it will be the pipeline itself. These independent jobbers and marketers who have heretofore relied on a good many transporters will now find themselves bargaining with the pipeline or no one.

These independents, of course, make no return profit on the line. It is estimated that since they don't make any return of profit they will be on a cost-plus basis which may be a difference of more than 20, 30 percent of what the published rates are for the owners of the pipeline who transport their products by that system.

Not only that, the independents will not be in as good a position to carry out what the seasonal cycles for exchanges are; that is, they won't have outlets along the pipeline route where they can trade heating oil for gasoline, for instance, and will be forced to follow these cycles, and the marketing terminations of the owners of the pipeline.

In my prepared statement, I have tried to show how even the owners will have less incentive for competition because if one of them becomes more ambitious than the other, the profits would simply go back to the other owners of the pipeline who equity interests are not the same. There are, of course, other pipelines serving that area; one of them is a crude oil line and this, of course, will be a products line. The other line, the Williams Bros. line, will in fact rely on Explorer for much of its input from the Southwest, where the rates are supposedly less for connecting pipelines. Someone is going to have to take the loss, either Explorer or Williams Bros., if the hookup is to be effected, and it is my opinion that Williams Bros. will take it on the neck because they rely on a good many of the oil companies for their construction pipelines. Their own pipeline only constitutes a small portion of their business. They are engaged in pipeline construction worldwide and to show any lack of cooperation in marketing in the midcontinent region of the United States might pose a threat to their pipeline construction business worldwide.

Considering all these points, Mr. Chairman, I hope that more investigation will be done and that these fears that I have tried to raise are groundless or will be proved. But, on the other hand, if there is any substance to the doubts I raised here, I submit remedies should be sought.

I want to give you my thanks for the privilege of appearing here today.

(The prepared statement of Mr. Haddix follows:)

PREPARED STATEMENT OF LANCE HADDIX

Good morning. I am honored to be appearing before this committee. My name is Lance Haddix and I am a partner in the law firm of Downs, Haddix, and Schwab, a public interest law firm with offices in Chicago, Illinois. This morning I would address myself to the subject of a new pipeline which is now under construction and running from the Gulf Coast to the Midwest. The name of the new pipeline is the Explorer Pipeline.

Explorer is a joint venture owned by eight oil companies. They are Cities Service Oil Company; Gulf Oil Company; Shell Oil Company; Texaco, Inc.; Sun Oil Company; Phillips Petroleum Company; Apco; and Continental Oil Company. Of these Apco is the only small refiner. Now under construction is a 28-inch line from Lake Charles to Tulsa, a 24-inch line from Tulsa through St. Louis to Chicago, with a 12-inch spur to Dallas-Ft. Worth. Initial capacity is to be 282,000 barrels per day to Tulsa and 185,000 barrels per day to Chicago; ultimate design capacity is 614,000 barrels per day to Tulsa and 416,000 barrels per day to Chicago.

Construction is completed from Louisiana to Missouri. The pipeline is a so-called "products" line—that is carrying gasoline, aviation fuel, heating oil, and kerosene—and will cross the Mississippi River in the upper and lower part of St. Louis harbor some two or three months hence, several months behind schedule. The reason for the delay, it would appear, is the difficulty in excavating the seven foot deep trench across the river bed. Upon visiting one crossing location last month I was told by one of the venturer's engineers that three times the trench had been excavated and three times it had filled up again with silt. He said, "This outfit may know how to lay pipes across the plains of the Southwest and the deserts of the Middle-east, but they sure don't know what they're doing in the Ozarks and on a big river."

The threat to the environment, I think, is clear. Though the Corps of Engineers seems to have supervisory control over the crossing, it may be wondered what number of crossings will be permitted before success, how much "spoil," that is matter from the river bottom, will be allowed and how the spoil will be disposed of if it exceeds the quantity contemplated on the plans already submitted to the Corps.

I say that all these things may be wondered about, for apparently we shall never have the benefit of the owners' thinking concerning these possible hazards. No National Environmental Policy Act (NEPA) statement was ever filed as is required by law. Section 102 of that Act requires an environmental impact statement by federal agencies—in this case, presumably the Corps—before major action significantly affecting the environment is undertaken.

Environmental considerations are never far from economic considerations. Suppose that the construction of the pipeline does have a serious effect on its surroundings. Even suppose that the line leaks in a major waterway as has happened with another pipeline in another stream. How shall we measure the loss of or damage to wetlands downstream, the threat to microscopic life and hence to all life cycles? What of the outright threat of fire to communities? It should be remembered that petroleum products are lighter than water and will float to the surface. It might well be that these dangers are outweighed by the utility of the pipeline, but should we not be apprised of the hazards none the less?

A more directly economic concern is the antitrust implications of the pipeline. Though I do not hold myself out as an economist I think that even the lay observer can understand the adversity to those who will compete with the joint venturers building this line. The competitors may be divided into two classes: those who transport petroleum products and the "non-integrated" independent oil companies, that is, those companies who do not have a complete operation from well to pump and must rely on others for some part of their operation.

As to the first group, the transporters of oil products, of chief concern are the independent barge operators and workers on the waterways. These men are working against a tariff schedule for the pipeline which inordinately weighs the cost of shipping petroleum products against the short-haul shipment in favor of the long-haul shipment. This is in spite of the larger diameter pipe at the beginning segment of the line. Thus, although one might have supposed that uniform barrel-mile rates would obtain, it is seen from the published tariff schedule point of origin (Lake Charles, Louisiana) to Texas is between 17 and 19 cents; to ship the entire length of the line to Hammond, Indiana is merely double that cost even though the distance is many times as great.

It is obvious, then, that independent water and overland transportation interests are adversely affected and will suffer because of this combination in restraint of trade. The loss of this segment of the industry and the number of jobs it provides is equally obvious, just as the loss of shipments by tanker to the East Coast should have been obvious before the advent of the Colonial Pipeline. This loss caused by the Explorer line will be considerable when it is seen from the Army Corps of Engineers records that over 15 million short tons of oil products moved last year through the Mississippi river system, that is the main channels and all tributaries of the Mississippi, Illinois, Missouri and Ohio rivers.

Let us now consider the impact to the second group of interests: the independent jobbers and marketers. Although the owners of the line might maintain that anyone can get his products through the line by tendering products as with any other common carrier, we may turn once again to the country's largest pipeline, Colonial, for an example. Since 1963, when Colonial began operation, only its owners have been making shipments. Recently, a non-owner, Tenneco, was allowed in, but Tenneco had to connect from its New Orleans refinery to a point 100 miles away. Thus, Tenneco could not compete effectively with Colonial's equity interests.

Since the independents make no return of profit on the line, they will, even if allowed on the line, be shipping at higher costs than the owners. The difference may be 20 or 30 per cent of published rates. What is more, shipment cycles are scaled to the requirements of the owners. Hence, more heating oil will be sent to the North in winter. The line itself represents a huge facility for storage with its intermediate tankyards along the route. The so-called "exchanges" can better be done at the convenience of the owners. For example, a marketing operation in the South can trade heating oil in the North and receive gasoline. Therefore, there will be smaller quantities of so-called "distress" products available to the smaller companies when overages are experienced in any one area. In effect, the spot market for petroleum products might well be diminished.

Even among the owners there will be less incentive for competition because even if one ambitious firm decides to increase deliveries he will have to pay more to the pipeline which will be divided up as profits among the others. The emphasis will therefore always be on pooling inputs and terminal facilities, establishing common specification for product, so that one may rely routinely on the other for supply into the line or into a terminal.

Of course there are other pipelines in the area, but one of them is a crude oil line as opposed to a products line; the two lines are seldom, if ever, used interchangeably because of the differences in viscosity of the fluids they carry. The other possible competitor, the Williams Brothers line, will in fact rely on Explorer for much of its input from the Southwest. The so-called "joint-through tariff" which requires connecting pipelines to charge less than the two lines independently will probably mean that Williams Brothers will suffer the loss in order to serve their areas. It might be wondered why they would willingly do this until it is realized that their Midcontinent pipeline is only a small part of their business. They are more chiefly in the pipeline construction business, worldwide. Any lack of cooperation on their part in the Midwest might seriously affect their construction business elsewhere.

Considering all these points, Mr. Chairman, I earnestly hope that more investigation will be done so that if these fears are groundless, they may be so proved. If there is substance to these doubts, I submit that remedies should be sought. Once again, my thanks for the privilege of appearing here today.

Chairman PROXMIER. Well, thank you very, very much. This is most helpful. You gentlemen have been extremely useful to our committee in building a record. I think if we are going to get action on this I think it would be desirable—I don't know if your firm can do this; I don't even know if it is something law firms do, but I think the muscle has to come from the people who would be hurt by it and you listed an impressive number that would be—the barge owners, the jobbers, the marketers, the Williams Bros.—these are people with real economic stakes in getting fair treatment and getting reasonable action.

I have already commented on the environmental elements involved here and I think this is a most useful contribution which I intend

to use and call to the attention of my colleagues. But, unfortunately, I can't promise you much relief on that score except in the long term. We hope in the future that we will require some environmentally responsible agency to require—to have to take a look at it to get approval.

You point to the requirement in the law that mandates this now: Action by the Corps of Engineers in matters of this kind should definitely be enforced under the law to require an environmental policy statement, and then we could find out. You say you don't know—this may or may not have serious environmental consequences——

Mr. HADDIX. I am not an engineer.

Chairman PROXMIRE (continuing). But it is a potential danger and we ought to know about it.

Mr. HADDIX. I agree.

Chairman PROXMIRE. Thank you very, very much, gentlemen.

The subcommittee will stand in recess until tomorrow morning at 10 o'clock. We will meet in this room to hear from the Department of the Interior, the Department of Justice, American Petroleum Institute, and Congressman Conte.

(Whereupon, at 12:40 p.m., the subcommittee was adjourned, to reconvene at 10 a.m., Wednesday, January 12, 1972.)

APPENDIX

COLONIAL PIPELINE CO.,
Atlanta, Ga., January 27, 1972.

HON. WILLIAM PROXMIRE,
Chairman, Subcommittee on Priorities and Economy in Government, of the
Joint Economic Committee, New Senate Office Building, Washington, D.C.

DEAR SIR: This statement is being filed to correct certain misstatements concerning Colonial Pipeline Company made by Mr. Beverly C. Moore, Jr., and Mr. Lance Haddix at the hearings before the Senate Subcommittee on Priorities and Economy in Government, of the Joint Economic Committee, on January 11 and 12, 1972, and to answer some of the questions posed by you and the Honorable Silvio O. Conte after hearing their testimony.

I. THE COLONIAL PIPELINE SYSTEM

Colonial Pipeline Company, a joint venture owned by ten oil companies (Atlantic Richfield Company, BP Oil Corporation, Cities Service Company, Continental Pipe Line Company, Mobile Pipe Line Company, Phillips Investment Company, Texaco, Inc., The American Oil Company, The Toronto Pipe Line Company and Union Oil Company of California), was organized in Delaware on March 6, 1962, to construct a common carrier pipe line to transport gasoline, kerosene, home heating oils, jet fuels and other light petroleum products from Gulf Coast refineries to the Eastern Seaboard. The original system consisted of 1600 miles of trunk lines (ranging from 30 to 36 inches in diameter) and 1300 miles of spur lines, located in fourteen states (Texas, Louisiana, Mississippi, Alabama, Georgia, Tennessee, South Carolina, North Carolina, Virginia, Delaware, Maryland, Pennsylvania, New Jersey and New York), and the District of Columbia. The original system was completed early in 1965 with a capacity of 720,000 barrels per day, and initial shipments of approximately 600,000 barrels per day. In 1966, additional pumping capacity was added increasing the throughput capacity to 1,152,000 barrels per day. Colonial is presently completing a major expansion program which will increase main-line mileage to 2,000; lateral line mileage to 1,600 and throughput capacity to 1,584,000 barrels per day, which will double the original capacity. The system now has ten source points, delivers to 194 marketing terminals and serves all of the major consumption areas for petroleum products between Houston, Texas, and the New York harbor area. It also interconnects with five other common carrier pipelines. Colonial provides no terminal or storage services, but owns and operates 24,000,000 barrels of tankage as working tanks to reduce the flow of products on the main line and for delivery into shippers' terminals and spur lines. Colonial owns none of the products it ships, but is simply a transporter under published tariffs. Colonial, like most other products lines, offers segregated service to its shippers and presently handles 102 different grades of product on a segregated basis. For the convenience of its shippers, it also transports seven grades of kerosene, diesel and fuel oil on a fungible basis.

The Colonial system was carefully designed and engineered to exceed the requirements of all industry codes and Department of Transportation safety regulations, and in seven years of operation has transported 2.7 billion barrels of essential petroleum products without causing a single death or harming the Nation's environment. Colonial utilizes the latest and most sophisticated computerized supervisory control system and fail-safe devices and continues to improve its system as technology advances.

II. COLONIAL IS A COMMON CARRIER IN LAW AND IN FACT, AND IS FULLY REGULATED BY THE INTERSTATE COMMERCE COMMISSION AND A FEDERAL CONSENT DECREE AS TO VALUATION, RATES AND EARNINGS

Interstate petroleum pipelines, such as Colonial, were made common carriers regulated by the Interstate Commerce Commission under Part I of the Interstate Commerce Act, by the Hepburn Amendment of 1906.¹ The constitutionality of the

¹ 49 U.S.C. § 1(3) (a).

Hepburn Amendment, which in effect opened up interstate pipelines to public use, was upheld by the Supreme Court in 1914 in *The Pipe Line Cases*.² The two Champlin cases,³ which Mr. Bruce B. Wilson of the Justice Department referred to in his testimony, involved an oil company which owned a private line transporting its own product to its own refinery in another state, and is in no way related to Colonial or other pipelines which operate as common carriers under published tariffs.

Since the decision in *The Pipe Line Cases*, pipeline companies have filed tariffs and made their services available to other shippers without discrimination.⁴ Their conduct has been so exemplary that in a half century of regulation under the Interstate Commerce Act, less than a dozen complaints have resulted in formal action by the I.C.C. In these cases, the I.C.C. established 10 percent as a fair rate of return for products lines.⁵

Part I of the Interstate Commerce Act, which applies to railroads as well as pipelines, requires pipeline services to be available to all shippers on a non-discriminatory basis, to furnish transportation upon reasonable request to any shipper, requires regulations and practices for transporting products to be just and reasonable and accorded equally to all shippers, requires tariffs to be just and reasonable and prohibits any unreasonable preference or discrimination in services to any shipper. Pipelines must maintain a uniform system of accounts in accordance with I.C.C. regulations, and file inventories for valuation purposes.⁶ Colonial maintains its system of accounts, and has filed tariffs and reports with the I.C.C. in strict accordance with regulations and requirements. Under the Interstate Commerce Act, any shipper has the right to challenge any rate on file with the Commission or any operating practice which he considers discriminatory, and violators are subject to regulatory action by the I.C.C., civil actions, and criminal prosecution.⁷ To suggest that the I.C.C. has no authority to regulate pipelines is to concede that they also cannot regulate railroads, trucks, ships or freight forwarders, which are all covered by the same basic Interstate Commerce Act. Common carrier pipelines are also subject to the prohibitions of the Elkins Act⁸ which makes it a criminal offense for a pipeline company to discriminate against a shipper.

It is true that Congress, when it adopted the Hepburn Amendment in 1906, wisely exempted common carrier pipelines from the certification provisions which apply to railroads. Pipelines do not have exclusive franchises, and compete not only with other pipelines but other forms of transportation such as tankers, barges, railroads and trucks. Unlike utilities, pipelines have no guaranteed rates of return. This is in accordance with the national transportation policy set forth in the preamble to the Interstate Commerce Act, which declares the policy to "recognize and preserve the inherent advantages" of each form of transportation.⁹

In addition to the extensive valuation, rate and earnings regulations by the I.C.C., Colonial is also subject to a federal consent decree entered by the United States District Court at Washington, D.C., which prohibits Colonial from paying dividends to its shipper owners in excess of 7 percent of the latest valuation of its carrier property by the I.C.C. This agreed judgment has been in effect since January 1, 1942, and grew out of an Elkins Act suit which the Justice Department filed against twenty major oil companies and fifty-nine pipeline companies.¹⁰ It is surprising that this regulatory decree was not mentioned by Mr. Bruce B. Wilson in his testimony, since the Justice Department has prescribed reporting forms which Colonial and other pipeline carriers file with them annually to show compliance with the provisions of the consent decree.

² 234 U.S. 548.

³ *Champlin Refining Co. v. U.S.*, 329 U.S. 29 (1946); *Champlin Refining Co. v. U.S.*, 341 U.S. 290 (1951).

⁴ Pipeline tariffs are governed by I.C.C. Tariff Circular No. 20 and supplements thereto.

⁵ *In the Matter of Pipelines*, 24 I.C.C. 1 (1912); *Brundred Bros. v. Prairie Pipe Line Co.*, 68 I.C.C. 458 (1922); *Petroleum Rail Shippers Asso. v. Alton & Southern R.R.*, 243 I.C.C. 589 (1941); *Reduced Pipe Line Rates and Gathering Charges*, Docket No. 26570, 243 I.C.C. 115 (1940), final order entered in 272 I.C.C. 375 (1948); *Depreciation Charges of Carriers by Pipe Lines*, 205 I.C.C. 33 (1934); *Denver Oil Company v. Platte Pipe Line Co.*, Docket No. 33669, decided June 27, 1962.

⁶ 49 U.S.C. §§ 1-26.

⁷ 49 U.S.C. § 6(10), § 88, and § 10.

⁸ 49 U.S.C. § 41(1) et seq.

⁹ 49 U.S.C. preceding §§ 1, 301, 901, and 1001 (1940).

¹⁰ *United States v. Atlantic Refining Co.*, Civil No. 14060, United States Dist. Ct., D.D.C. (1941).

The contention by Mr. Moore that the Colonial owners should not be entitled to include in their valuation base properties acquired with borrowed capital is diametrically opposed to a United States Supreme Court decision on this precise question. On October 11, 1957, in the *Arapahoe case*,¹¹ the Justice Department re-opened the original Elkins Act case by filing four motions in the United States District Court for the District of Columbia, alleging that pipeline companies were paying dividends in excess of those allowed by the consent decree in that they had included pipe lines built with borrowed money in their valuation base for dividend purposes. The trial court rejected the government's interpretation of the decree and the Justice Department appealed the case directly to the United States Supreme Court, who affirmed the trial court's decision. Justice Black, in his opinion, pointed out that not only was the government urging a "strained construction", but that the government had accepted the contrary construction for sixteen years.

If Mr. Moore wanted to raise this dead issue again, in fairness to this committee it seems to me that he should have mentioned the fact that the United States Supreme Court had discarded this contention, inasmuch as he discusses this consent decree in a book he authored and was undoubtedly familiar with the *Arapahoe case*.¹²

Colonial is not only a fully regulated common carrier by law, but is a common carrier in fact. When the Colonial system was first conceived, only the most optimistic expected the initial throughput to exceed 400,000 barrels per day. The initial tariffs were designed to compete with the then T-2 tanker rates of 35 cents per barrel for the long haul from the Gulf Coast to the New York Harbor area, and with a rate structure on inland hauls designed to amortize the cost of the project. The venture has been successful beyond the expectation of its owners, and in spite of the fact that the capacity has been doubled in the past six years Colonial has been forced to prorate its space among all of its shippers on an equal basis since July, 1967. To stay within the I.C.C. and consent decree earnings limitations, Colonial has reduced its rates across the board by approximately 14 percent (including the assumption of transportation losses).

Its financial picture was further improved by an unexpected increase in long-haul movements. At the present time, long-haul shipments east of Atlanta are approximately 82 percent. Colonial prorates on the basis of input barrels and does not allocate shipments to any delivery point but simply moves the tendered barrels to the locations designated. It is up to each individual shipper to determine whether it wants to utilize its allocated space for long or short-haul movements.

Colonial has, in spite of spiraling prices generally, decreased its rates substantially during the past seven years, whereas competing tanker rates have increased substantially. As a consequence, Colonial is now connected to 23 refineries on the Texas and Louisiana Gulf Coast, and its shipper owners have been required to reduce their prorated share of space in Colonial's system to permit the entry of new shippers on a pro-rata basis. The initial list of nine shippers has now grown to 23 plus 22 consignees who do not ship in their own name. Delivery locations have increased from 166 to 194 and other locations are served by interconnections with other common carriers.

Colonial has followed a consistent policy from the beginning to require all shippers, including its owners, to provide pipelines and tankage to Colonial's input points. On the delivery end, Colonial builds at its own expense necessary pipelines to reach the delivery terminals, but owns no terminal tankage whatsoever. The ownership or arrangements between shippers at delivery terminals is of no concern to Colonial. Some shippers enter Colonial through General American Transportation Co. (GATX) which has a substantial public terminal connected to Colonial's initial input station at Houston, Texas. GATX also has a public terminal connected to Colonial at the northern end of the system at Carteret, New Jersey.

To criticize Colonial's rates for being too high is to ignore the facts. When tariffs are compared on a barrel-mile basis, Colonial's tariff ranges from 2.01 to 5.10 cents per 100 barrel-miles, whereas the rates of other comparable pipelines are considerably higher: Plantation, 3.15 to 6.18; Williams Brothers, 9.58 to 22.63.

To refute Mr. Moore's contention that Colonial's rates in the southeastern parts of the United States are too high, I have set forth below a comparison of Colonial rates between Port Arthur, Texas, and five delivery points in the south-

¹¹ *United States v. Atlantic Refining Co.*, 360 U.S. 19 (1959).

¹² *The Closed Enterprise System*, Vol. I, pp. 372-4. (A Nader Study Group Report, 1971.)

east, and alternate means of transportation, including a competing pipeline, railroads, and by a combination of tanker and rail (the best alternate routes other than pipeline) :

From—	To—	Via—			
		Colonial	Plantation	Railroad	Tanker and rail
Port Arthur, Tex.-----	Birmingham, Ala.-----	\$0.1865	\$0.2960	\$3.2000	\$1.5335
	Atlanta, Ga.-----	.2065	.3500	3.5450	1.3530
	Spartanburg, S.C.-----	.2285	.3780	3.9630	1.7390
	Charlotte, N.C.-----	.2340	.3840	3.9930	1.4760
	Greensboro, N.C.-----	.2415	.3920	4.1470	1.4175

This comparison shows that Colonial's rates are substantially less than its competing pipeline, and only a fraction of the rail rates and combination of tanker and rail.

The Transportation Association of America reports that pipeline rates generally are about 1/2 rail rates and 1/23 truck rates.¹³ Oil pipelines transport more than 21.6 percent of the Nation's inter-city ton mileage at a cost of only 1.6 percent of the Nation's total freight bill.¹⁴ Moreover, oil pipelines, including Colonial, have been financed, built and operated without one cent of subsidy, whereas other forms of transportation require an annual expenditure of almost \$19 billion for transportation subsidies, state and federal.¹⁵ Pipelines are not only cheaper, more reliable, and cleaner environment-wise, but they are safer. According to a recent study by the National Transportation Safety Board, pipelines are 1000 times safer than trucks, 250 times safer than railroads, and 30 times safer than tankers.¹⁶ In this report, the NTSB urged that these statistics be taken into consideration in developing the national transportation policy. In their News Release of September 27, 1971, NTSB had this to say :

"The Board also urged new Federal attention to public and employee safety when national transportation policy is written and applied.

* * * * *

" . . . The Board said it is 'concerned about the degree to which safety is being considered during the development of government policies and programs that affect freight transportation.

* * * * *

"The Board said it recognizes the 'many factors that influence the choice of mode for a particular freight shipment'—a commodity's physical characteristics, freight rates or cost structure, service, reliability, etc. 'However, we cannot overlook the fact that the ratio between the most safe and the least safe method of surface freight transportation is approximately 1,000 to 1.'"

III. SPECIFIC MISSTATEMENTS OF MR. BEVERLY C. MOORE, JR., AND MR. LANCE HADDIX REFUTED

At the risk of being tedious, some of the statements made by Messrs. Moore and Haddix are so unfounded as to require specific mention.

1. Mr. Beverly C. Moore, Jr. states that Tenneco-Murphy was required to construct a pipeline at their expense to Colonial's input station at Collins, Mississippi, but that Texaco, an owner, had been provided access to Colonial's system from Venice, Louisiana, at Colonial's expense. This is absolutely false. Colonial has required all shippers, including its owners, to construct their own facilities to enter Colonial's system. This includes Texaco's common carrier pipeline extending from Convent, Louisiana, to Colonial's Baton Rouge station, which was built entirely at Texaco's expense. To the contrary, Colonial expended substantial sums of money to create an additional receiving point at Collins, Mississippi, to accommodate Tenneco-Murphy. It so happened that Gulf, another Colonial owner, also built facilities to enter the Colonial system at Collins at its own expense. Furthermore, the Gulf connection is about twenty-five miles longer than the Tenneco-Murphy connection.

¹³ Transportation Association of America *Facts & Trends*, 7th Ed., April 1970, p. 7.
¹⁴ *Ibid.* Pages 4, 8.
¹⁵ *Ibid.* Page 24.
¹⁶ National Transportation Safety Board Report No. NTSB-ST-71-4, dated August 18, 1971.

2. Mr. Moore contends that, contrary to law, Tenneco-Murphy were deprived of the benefit of a "through rate, defined as a rate less than" the combined tariffs. Although through rates are found in the pipeline industry and utilized by Colonial in some instances, the publication of local tariffs is common practice and in strict accordance with the Interstate Commerce Act.¹⁷ At any event, the choice of a local rate was made by Tenneco-Murphy and no through rate has been requested. Certainly there is no law or regulation requiring two carriers to establish a through rate, or that such rate be less than the combined local rates.

3. Mr. Moore states, "The pipeline serves as a vast storage tank to keep supplies out of the hands of . . . independent terminal operators and non-branded retail dealers." The truth is that Colonial owns none of the products it ships, and the products in its custody belong to its 23 shippers, and each barrel is identifiable by owner at all times. Moreover, the products are moving at approximately seven miles per hour, which hardly constitutes "storage". Since the line operates full, in order for a barrel of product to enter the system, a barrel must leave the system on the destination end.

4. Mr. Moore states that in 1970 Colonial earned a "return on *invested* capital of 95 percent before taxes and 70 percent after taxes." Mr. Moore deliberately ignores the fact that the Interstate Commerce Act, I. C. C. regulations, the Elkins Act consent decree, and the United States Supreme Court in the *Arapahoe case* have all affirmed the right of Colonial and other pipeline common carriers to earn on their entire valuation base including properties purchased through borrowed risk capital secured by throughput commitments. To date, Colonial has never exceeded the 7 percent limitation of the consent decree as verified by annual reports filed with the Attorney General, and has never reached the 10 percent limit permitted by I. C. C. decisions.

5. Mr. Moore states that prior to increasing its capacity, "and contrary to standard pipeline practice, Colonial had given priority to short-haul carriages to Atlanta over long-haul carriages to the mid-Atlantic, since its owners collectively market most of their throughput to the southeast." This is absolutely false, because Colonial has never made space allocations in its system between short-haul or long-haul movements, but merely transports products to the destinations selected by the shippers themselves. During the last five years the Colonial system has been prorated on the basis of inputs into its system, and the choice of destinations is left to its individual shippers. As stated earlier, 82 percent of shipments through the system move to destinations beyond Atlanta.

6. Moore states that "until recently all shipments through Colonial were made through its owners." Mr. Lance Haddix states, "Since 1963, when Colonial began operation, only its owners have been making shipments." The truth is that shortly after Colonial's initial system was completed in 1965 several independently-owned delivery locations were connected at Colonial's expense, that Shell connected its refinery in September, 1967, followed by Signal in November, 1968. In 1970 refineries belonging to Texas City Refining, Inc., Murphy Oil Corporation, Tenneco Oil Company, Marathon Oil Company, Coastal States Marketing Inc., Crown Central Petroleum Corporation, and Sun Oil Company, were connected. Other Gulf Coast refineries, including those belonging to Humble Oil and Refining Company and Standard Oil Company (Kentucky) reach the Colonial system via interconnections with Plantation. Other independent companies who ship over Colonial include Ashland Oil Company, Lion Monsanto Company and Charter Oil Company.

7. Mr. Haddix also states that "Shipment cycles are scaled to the requirements of the owners." The truth is that Colonial adopted a 10-day cycle as part of its tariff at the outset, and this cycle has been applied uniformly to all of its shippers. Each cycle is made up of a series of batches arranged in sequence to insure that each shipper's various grades of products will be picked up and delivered at 10-day frequencies with a minimum of contamination. This cycle system, which never changes, is for the convenience of the shippers, is common in industry, and no shipper has complained.

GENERAL COMMENTS

The Joint Economic Committee of the Congress is charged with grave responsibilities, and their decisions must be based on accurate facts. If this subcommittee is interested in oil pipelines, facts are available at a number of reliable sources, such as the Interstate Commerce Commission, Transportation Association of

¹⁷ 49 U.S.C. § 1(4).

America, The Association of Oil Pipe Lines, or the pipeline companies themselves. The unfounded charges made by self-appointed experts Moore and Haddix are largely a re-hash of contentions discarded by the United States Supreme Court years ago—decisions which they were aware of but failed to mention. "Amateur night on the hill" may be great fun to professional critics but is a tragic waste of taxpayers money at a time the country needs sober judgment and can ill afford such sport. I hope the facts contained in this letter will at least make this subcommittee question not only the accuracy of the testimony of these two individuals, but their motivation.

Sincerely yours,

JACK VICKREY.

CORPORATE ACCOUNTABILITY RESEARCH GROUP,
Washington, D.C., February 17, 1972.

Senator WILLIAM PROXMIRE,
Chairman, Subcommittee on Priorities and Economy in Government, Joint Economic Committee, New Senate Office Building, Washington, D.C.

DEAR SIR: Although my time is extremely limited due to other pressing demands, I feel obligated to respond at least briefly to the evasive points raised by Mr. Jack Vickrey, Vice President and General Counsel of the Colonial Pipeline Company, in his statement of January 27, 1972 contesting my January 11, 1972 testimony before your Subcommittee.

1. *Colonial's Profits.* I stated that in 1970 Colonial earned a 95 percent return on *invested capital* before taxes. Mr. Vickrey "refutes" this contention by observing that a high debt-equity ratio enables a pipeline to earn profits of this magnitude and still not exceed the maximum 10 percent and seven percent returns on *total pipeline assets* (debt plus equity) imposed, respectively, by the I.C.C. and by an antitrust consent decree. This is, of course, not a refutation of my profit figures—they are figures supplied to the I.C.C. by Colonial itself—but merely a description of the rate making device which deems outrageously unreasonable profits to be "reasonable."

I am chastized by Mr. Vickrey for "unfairly" not informing the Subcommittee of the *Arapahoe* decision. I deliberately did not mention *Arapahoe* because it is not particularly relevant. The Supreme Court did not rule in that case that profit rates such as Colonial's were "reasonable." It merely construed a provision in a widely criticized antitrust consent decree which on its face incorporated the return on total assets concept to limit pipeline profits. I did inform the Subcommittee that "Colonial's owners themselves put up only ten percent of the original \$400 million capital outlay"—obviously referring to Colonial's high debt-equity ratio. But in *Arapahoe* the fault lay in the consent decree which allowed pipeline companies with high debt-equity ratios to reap large returns on invested capital as long as profits on total assets did not exceed seven percent. The Supreme Court merely called a spade a spade, which is what it should have done.

Mr. Vickrey either does not understand or does not want to understand what is the appropriate measure of profit for the setting of "reasonable" rates. The primary role and justification of profit in a competitive market economy is as a signaling device to attract capital away from pursuits which garner a relatively low return on investment (because of inadequate consumer demand to support marginal production) and into pursuits realizing a relatively high return on investment. In this fashion, capital is employed to infuse competition—and thus prices approaching marginal cost—into the production of those particular goods and services for which consumers are most desirous of casting their dollar votes in the marketplace. Such measures of profitability as return on sales volume, corporate profits as a percentage of GNP, or return on total assets bear no relationship to the profit function of allocating scarce capital resources efficiently among alternative productive uses according to relative consumer demand. Only the return on invested capital adequately gauges the signaling function of profit.

In the unregulated competitive or potentially competitive sector of our economy, it is assumed that free entry will quickly drive down the profit on invested capital to a level below which investors would withdraw their capital and place it in some more profitable enterprise. As long as returns on investment are barely sufficient to induce investment, there is no need for consumers to pay higher prices providing additional windfall or monopolistic profits. In the rate-regulated sector of the economy, on the other hand, the assumption is often that natural

monopoly or oligopoly characterized by high economies of scale pose such barriers to entry that competition cannot be effective in driving down profits to the level which barely induces investment. Thus, regulatory commissions such as the I.C.C. are empowered to limit pipeline profits—to render them “reasonable”—ideally by dictating the return on investment which would prevail if vigorous pipeline competition were possible. In this context the following statement of Mr. Vickrey is quite puzzling: “to suggest that the I.C.C. has *no authority* to regulate pipelines is to concede that they [sic] also cannot regulate railroads, trucks, ships or freight forwarders, which are all covered by the same basic Interstate Commerce Act [emphasis added].” Nowhere in my testimony did I suggest or imply that the I.C.C. has “no authority” to regulate pipelines. What I did say was that the I.C.C. has abdicated its responsibility to ensure that pipeline rates are held to reasonable levels. This abdication has taken the form of applying a 10 percent profit maximum to the return on total assets rather than applying the limitation to the return on invested capital (with some adjustment for interest payments on debts exceeding a certain level.¹

Thus, the fact remains that Colonial does earn a 140 percent pre-tax combined profit and equity appreciation and that such a return is far out of line with risk, especially since the risk of pipeline failure or substantial excess capacity has always been minimal because of the throughput requirements of Colonial's owners. To put it simply, Colonial is reaping very high monopoly profits. It is no answer to point out, as does Mr. Vickrey, that Colonial has reduced its rates by 14 percent, when those rates could have instead been reduced by 44 percent with Colonial still earning a 13 percent return on investment. Nor is it relevant that “pipeline rates generally are about $\frac{1}{2}$ rail rates and $\frac{1}{8}$ truck rates.” It is fortunate that pipelines have not been directly subsidized and are inherently more efficient for transporting oil than railroads or trucks, but in a competitive market economy the benefits of this blessing (above those minimally necessary to attract the requisite capital investment) are supposed to flow to consumers, not producers.

2. *Colonial's Rate Structure.* I had contended that Colonial's rate structure coupled with the rate-cost differential discriminates against non-owner shipments to the Southeast, a market dominated by the owners of Colonial and Plantation, in that Southeast rates exceed cost per mile to a substantially greater degree than the Mid-Atlantic rates which face potential tanker competition. This is precisely how a rational monopolist prices. He will price as low as marginal cost where competition forces him to do so, but he will extract economic rents and thus misallocate resources where the absence of competition enables him to discriminate.²

Mr. Vickrey apparently agrees with this assessment, for he says that “[t]he initial tariffs were designed to compete with the then T-2 tanker rates . . . to the New York Harbor area, and with a rate structure on inland hauls designed to amortize the cost of the project,” although he failed to add: “plus a 95 percent pre-tax return on investment.” When Mr. Vickrey attempts to “refute” my contention that Colonial's rates in the southeastern parts of the United States are “too high”—although my specific contention related to discriminatory rate structure, not to “too high” rates. His vehicle is a farcically irrelevant comparison of Colonial's rates with the alternative rates of the Plantation Pipeline, railroads, and combination tanker-rail transport. The reason why Colonial's rates are lower than Plantation's is that Colonial's cost is much lower than Plantation's—due to the fact that Colonial's pipe diameter and capacity are substantially greater than Plantation's. It is a simple matter of economies of scale. Likewise, an oil pipeline's inherent advantages over non-pipeline transportation modes explain why Colonial's (and Plantation's) rates are lower than rail, truck, airplane, automobile, mule train, or pedestrian bucket-carrier rates. Mr. Vickrey distastefully ignores cost—the basic standard by which it must be ascertained whether or not rates are “too high.”

With respect to a factual issue of trivial significance, Mr. Vickrey brands as “absolutely false” my statement that “Colonial had given priority to short-haul carriages to Atlanta over long-haul carriages to the Mid-Atlantic, since its owners

¹ Indeed, the I.C.C. probably regulates pipelines not as poorly as it regulates surface freight transportation. Economist T. G. Moore has estimated a \$4.0–\$8.8 billion annual direct loss to the economy from the I.C.C.'s crippling and inefficient regulation of surface freight transportation, and together with secondary effects the total loss may be as high as \$10 billion annually.

² Cf. *Utah Pie Co. v. Continental Baking Co.*, 386 U.S. 685 (1967).

collectively market most of their throughput to the [S]outheast." I did not intend to convey the impression that Colonial makes "space allocations in its system between short-haul or long-haul movements," which practice Mr. Vickrey denies. Rather, as the qualifying clause of the quotation suggests, I was merely observing that the bulk of Colonial's shipments are delivered throughout the Southeast, where Colonial's and Plantation's owners dominate the market and where the rate-cost differential to non-owner shippers is of the greatest magnitude. Mr. Vickrey counters with the contention that 82 percent of Colonial's shipments move to destinations beyond Atlanta. Sophistry again. How far beyond Atlanta do the shipments move?—beyond Spartanburg, Charlotte, Greensboro, or other points within the southeastern market to which I referred? It is difficult to conceive of the bulk of Colonial's shipments moving to the Mid-Atlantic rather than to the Southeast, inasmuch as Colonial's throughput is 1,152,000 barrels per day from Houston to Greensboro and 768,000 barrels per day from Greensboro to Linden, N.J., and the throughput from Baton Rouge to Atlanta has recently been increased to 1,584,000 barrels per day.

3. *Non-discriminatory Access to Colonial by Non-owners.* Mr. Vickrey attempts to label as inaccurate my statement that "until recently all shipments through Colonial were made through its owners [emphasis added]." It is contended that there are now 13 non-owner oil companies originating shipments through Colonial. Yet, Mr. Vickrey points to only two non-owner companies that connected with Colonial prior to 1970, at which time Colonial had been in full operation for five years and in partial operation for six years. One of these two companies, Shell, is an owner of the parallel Plantation Pipeline, and thus already a full-fledged member of the southeast cartel. It appears that the large majority of the non-owner connections with Colonial are of very recent origin indeed. In recent testimony before the Senate Antitrust and Monopoly Subcommittee, Colonial's president Fred F. Steingraber did not deny that during the 1970 over 92 percent of Colonial's revenues were derived from its owners' shipments. Mr. Steingraber added that now, approximately one year later, owner shippers account for about 78 percent of Colonial's revenues. My sources indicate that Colonial's abrupt about face with respect to access by non-owners was calculated to ward off possible antitrust prosecution.

That 13 non-owners now ship through Colonial only begins the inquiry into whether access is non-discriminatory. How many of these 13 are Plantation owners? Is Colonial counting as non-owner shippers any companies that ship through it via exchange agreements with Plantation? To what points do these non-owner shipments move? Do they generally compete with Colonial's owners in the southeast, or are these shipments largely to the Mid-Atlantic states? In that regard, for what percentage of total barrelage input do the non-owner shippers account, as opposed to their contribution to total pipeline revenues? How conveniently located are Colonial's 194 marketing terminals for owners as opposed to non-owners? Since the answers to most of these critical questions cannot be accurately gleaned from publicly available information, this Subcommittee might wish to direct the appropriate inquiries to Mr. Vickrey.

The most important question is how much does access to Colonial *cost* non-owners relative to owners. It should be pointed out that a minimum tender of 75,000 barrels is required, and Mr. Steingraber has testified that even this quantity is accepted only from "regular" shippers. The most relevant measure of non-discriminatory access would be the weighted average cost per barrel of inputing to Colonial for all non-owners combined as compared with all owners combined. My testimony described how two non-owners, Tenneco and Murphy, had to pay 4¢-5¢ more per barrel than Texaco, an owner. Mr. Vickrey correctly points out a single factual error on my part—my statement that Texaco's feeder pipeline from Convent, La. is owned by Colonial and provided to Texaco without charge. That might as well be the case, however, for the lower through rate which Colonial has afforded Texaco (but not Tenneco-Murphy) operates to absorb the cost of the Texas Pipeline Company. And largely on account of this through rate the 4¢-5¢ discrimination in favor of Texaco remains unchallenged by Mr. Vickrey.

Mr. Vickrey also contends that "[c]ertainly there is no law or regulation, requiring two carriers to establish a through rate, or that such a rate be less than the combined local rates." Yet once having established precisely that type of joint through rate for Texaco, it is difficult to characterize Colonial's failure to establish a similar preference for Tenneco-Murphy as other than an illegal discrimination. Mr. Vickrey's explanation that Tenneco-Murphy did not request a joint through rate is less than compelling.

Perhaps the Subcommittee should request that Colonial provide an analysis of the average access cost to owners and non-owners. In what other instances do owners, but not non-owners, receive joint through rates lower than the combined local rates? Another important question involves Colonial's 1,487 miles of lateral lines (compared with 1,540 miles of main line). Much of the lateral mileage reaches out to marketing terminals, but how much of it consists of spurs reaching out in the direction of owners' refineries, having the effect of reducing the cost of these refineries' feeder lines while not similarly benefiting non-owner refineries? Look at, for example, the spur which reaches out in the direction of Mobil's facilities at Beaumont. And even assuming, heroically, that the evidence revealed that none of the numerous above listed access costs fell discriminatorily upon non-owner, the 30 percent excessive rate-cost differential is quite effective discrimination itself.

4. Mr. Vickrey also challenges the notion that Colonial can function "as a vast storage tank to keep supplies out of the hands of independent terminal operators and non-branded retail dealers." He says that "the products are moving at approximately seven miles per hour, which hardly constitutes 'storage.'" Yet at a given moment, Colonial's linefill and working tankage contain 14,500,000 barrels of petroleum products and the recent expansion increases this figure to 17,500,000 barrels. More importantly, Colonial's synchronized operations serve to regularize and stabilize marketing channels, which naturally tends to favor the permanent marketing relationships established through vertical integration from wellhead to pump.

In sum, Mr. Vickrey's contentions, even those few that are relevant and logically coherent, do not pierce the central theses of my previous testimony—Colonial's monopoly profits, its cartel-cementing role as a market share stabilizing device, its discriminatory access costs, rate structure and rate-cost differential. While I proudly accept Mr. Vickrey's appellation of "professional critic," I do not concede that a single marginally significant factual error relegates me to the status of an "amateur" causing "a tragic waste of taxpayers [sic] money at a time [sic] the country needs sober judgment and can ill afford such sport." Unlike Mr. Vickrey, who questions my motivation, I do not have a vested economic interest in maintaining a monopoly situation. I do confess an ideological motivation. Fundamentally, I believe that our present economic system of monopoly capitalism and government protectionism can be restructured so as to conform to the model of perfect competition—with optimum efficiency and progressiveness, with full employment and a high growth rate without significant pollution or product-related accidents, and with declining consumer prices. I think it fair to say that we would all be a great deal better off, and would possess much more control over our own lives, if that state of affairs could be brought about—all of us, that is, except the present beneficiaries of economic privilege and corporate power.

Sincerely yours,

BEVERLY C. MOORE, Jr.

OIL PRICES AND PHASE II

WEDNESDAY, JANUARY 12, 1972

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON PRIORITIES AND
ECONOMY IN GOVERNMENT OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m., in room 1202, New Senate Office Building, Hon. William Proxmire (chairman of the subcommittee) presiding.

Also present: John R. Stark, executive director; Courtenay M. Slater, economist; and Walter B. Laessig, economist for the minority.

OPENING STATEMENT OF CHAIRMAN PROXMIRE

Chairman PROXMIRE. The subcommittee will come to order.

As we begin the concluding day of these hearings on oil prices and phase II, I would like to summarize some of the major policy issues which have been stressed by our previous witnesses.

Oil policy is so complex that even those who follow developments closely and with great concern are continually finding themselves confronted with new information as to who is helped and who is hurt by Federal policy. Certainly I am more fully aware of the implications of our tax and antitrust policies as well as of import policies than I was when those hearings began; and, I should add, more concerned than ever to see that reforms are made which will bring relief to the consumer, the taxpayer, and the independent businessman.

The first major issue that has been raised is the oil import quota. This is a familiar issue. The fact that these quotas cost the consumer \$5 billion or so per year has been well publicized previously. Witnesses at our current hearings have confirmed that this number is still accurate. What our witnesses have also brought out, and this may be even more disturbing than the enormous cost we are paying, is that these quotas are not effective. We do not have a secure domestic supply of fuel. We are not developing one. Exploration, production, and refining are all tending to move abroad while at home we are depleting rather than conserving our proven oil reserves.

The second issue is tax policy. Special tax privileges to the oil industry are costing the Treasury \$3 billion or more per year. Yet the main effect of these tax subsidies seems to be to encourage the major oil companies to invest abroad. This is the exact opposite of the intended effect of encouraging domestic exploration. Yesterday we heard representatives of the oil industry—independent producers, refiners, and marketers. None of them felt they were benefiting from

these special tax privileges. Indeed, some of them felt they were hurt so badly by the tax system that they needed import quota protection to compensate for their unfavorable tax treatment.

The third big issue which has been raised is antitrust policy. Three specific instances have been identified of pipeline ownership which may violate the antitrust laws: the Colonial Pipeline, the Explorer Pipeline, and the proposed Alaska Pipeline. In two of these three cases the Justice Department has failed to act on the recommendations of its own staff to pursue formal investigations. The larger issue of the anticompetitive effects of common ownership of production, transmission, refining, and marketing of oil has come up again and again. Divestiture has been recommended as the ultimate solution but, short of this, revision of the tax regulations to discourage artificially high pricing of the oil which vertically integrated producers sell to themselves could significantly improve the situation.

Our first witness this morning, I am very happy to say, is Representative Silvio Conte, of Massachusetts. He will be followed by the Assistant Secretary of the Interior and the Deputy Assistant Attorney General, and then by Mr. Richard Gonzalez, representing the American Petroleum Institute.

Obviously, we have many, many questions we want to ask these gentlemen, so I will ask all the witnesses to be brief in their prepared remarks, holding them to 10 minutes if possible.

Congressman Conte, I am very pleased that you could appear here this morning. You have a distinguished, well deserved reputation as an extraordinarily competent Congressman and an expert in this area. I recognize that New England has an even more serious problem than the Midwest in obtaining adequate supplies of fuel; and our mid-western problems seem bad enough. I understand that virtually everyone in New England is united in a determination to do something about your fuel shortage. I am hopeful this determination represents a driving force that will help us obtain fair treatment for the consumer of oil and oil products.

Please go right ahead.

STATEMENT OF HON. SILVIO O. CONTE, A REPRESENTATIVE IN CONGRESS FROM THE FIRST CONGRESSIONAL DISTRICT OF THE STATE OF MASSACHUSETTS

Representative CONTE. Mr. Chairman, before proceeding, I would like to submit a prepared statement by my colleague, Representative Les Aspin, of Wisconsin, who has been a forceful colleague of ours in the fight against oil quotas.

Chairman PROXMIRE. Yes, indeed; I am delighted to have that prepared statement. Les Aspin is an old friend of mine. He was on my staff before he ran for Congress, and we are very happy to have that.

Incidentally, if you abbreviate your statement in any way, your entire statement will be printed in full in the record.

Representative CONTE. Thank you, Mr. Chairman.

(The prepared statement of Representative Aspin follows:)

PREPARED STATEMENT OF HON. LES ASPIN, A REPRESENTATIVE IN CONGRESS FROM
THE FIRST CONGRESSIONAL DISTRICT OF THE STATE OF WISCONSIN

Mr. Chairman, it is a privilege for me to present my prepared statement to the Committee today. These hearings on the government's oil policies are as vital as those policies are misconceived. The oil industry, the federal government's oil policies and this country's energy needs are all tremendously complex and intricate. Because of their complexity, and because of the oil industry's truly remarkable public relations network, the Congress and the press have been too timid in the past in publicly analyzing our oil policies—explaining their costs and benefits—to the American people. The result of this timidity is a federal oil policy which costs the American people billions of dollars each year, but gives them precious little in return. I can think of no other government policy where so many give so much to so few and get so little in return.

I would like today to focus on only one of several major government oil subsidies, but the one that probably costs the consumer the most and makes the least amount of sense: the oil import quota system. Other members of the House from the Midwest, whose names are included at the end of this statement, have cosigned the statement with me.

The oil import quota system, as you know, is designed to severely limit the import of petroleum products to America, and by thus lowering the supply to increase the price of oil, and thus promote the exploration and development of domestic oil supplies so that in a national emergency—if our foreign supplies of oil were cut off—domestic supplies would be sufficient to see us through. So the rationale goes.

There are several things wrong with this justification of the oil import quota system, which costs American consumers at least \$6½ billion each year. The first thing is that the vast majority of our imported oil presently comes from friendly and stable nations, such as Canada, Mexico, and Venezuela. At present, we depend on Mideast nations for only about 5% of our total domestic consumption of oil per year. It is, of course, important for the United States to develop its domestic oil potential, but that need should be put in the proper perspective; abolition of the oil import quota system would in no appreciable way whatsoever adversely affect our national security.

In fact, the import quota system is something of a fraud; it is not even effectively accomplishing what it is supposedly designed to do. To truly insure the national security in the most unlikely event that we were without adequate sources of foreign oil, it is not sufficient to simply encourage exploration for domestic oil. It is also necessary to insure that after the oil is discovered, a sufficient amount of it be kept on hand to be used in a genuine national crisis. The import quota system does encourage the rapid exploration for oil; there is no doubt about that. But it also encourages the rapid marketing and consumption of oil. In other words, we are presently depleting our own domestic sources of oil at a much faster rate than we would if the import quota system were not in effect. If a free market system were in effect, however, we would be importing far more of the foreign oil presently available to us. In short, if insuring the national security is our purpose, it makes much more sense to use as much of the foreign oil as we can while it is available to us, and save as much of our domestic oil as necessary for when (and if) we truly need it—i.e. when our foreign sources of oil dry up. The proper incentives necessary for getting the oil companies to *explore* for oil without marketing some of it could easily be designed at minimum cost.

A national defense petroleum reserve system, proposed in the House by Congressmen Silvio Conte and Michael Harrington, would keep a one year's supply of oil in reserve within the U.S. for use in a national emergency. This proposal would accomplish at least what the import quota system does and save billions of dollars per year to consumers.

If we abolish the import quota system and imported and stored underground enough oil to see us through a national emergency, this too would cost far less than the present import quota system.

Another alternative: A tariff instead of the present quota system, as proposed by the Cabinet Task Force on Oil Import Control, would also be a far more rational and less costly way of promoting the national interest.

The greatest contribution the Joint Economic Committee could make through these hearings might very possibly be informing American consumers how much this strange, contrived oil import quota system costs them each year. How many people, or even Congressmen for that matter, know what the import quota system costs an average family? For instance, that the average family of four in Wisconsin pays \$108 each year in unnecessarily high fuel costs, or that a family of four in North Dakota pays \$156 extra each year, or in Iowa \$120 per year. These are typical of the extra costs that families in other states pay as a direct result of the present oil import quota system. A chart of what the import quota costs the average family of four in each of the Midwestern states is included at the end of my testimony. The figures used in the chart are taken from the Cabinet Task Force Report and, being almost two years old, are probably on the conservative side.

Mr. Chairman, the Midwestern Congressmen signing this statement believe that if the American people became aware of the convoluted and largely irrelevant reasoning used to justify the oil import quota system, Congress would abolish it in a month. Simply put, the import quota system is a crystal clear example of a subsidy of the rich. The New Economic Policy won't be much of a long range policy, and won't be truly new, until we start getting rid of subsidies like this. We believe there is no better place to start than the abolition of the oil import quota system.

LES ASPIN, *Wisconsin*
FRANK DENHOLM, *South Dakota*
DONALD FRASER, *Minnesota*
LEE HAMILTON, *Indiana*
ABNER MIKVA, *Illinois*

DAVID OBEY, *Wisconsin*
JAMES O'HARA, *Michigan*
JOHN SEIBERLING, *Ohio*
CHARLES VANIK, *Ohio*

What the oil import quota system costs an average family of four in the midwest per year

Illinois	\$88
Indiana	108
Iowa	120
Kansas	100
Kentucky	80
Michigan	96
Minnesota	116
Missouri	100
Nebraska	116
North Dakota	156
Ohio	84
South Dakota	132
Tennessee	84
Wisconsin	108

Representative CONTE. It is a great pleasure for me to appear before you today to participate in this important inquiry. As a critic of our Government oil policy for more than a decade, I am well aware of the outstanding contribution you have made to increasing public awareness of the need to reverse that policy in nearly every respect. I might interject here it has also been my pleasure to work with you in the fight against the SST.

These hearings examining the relation between oil policy and wage and price controls could not be more timely. When we consider the massive way that Government has now involved itself in the daily economic life of the Nation in order to retard inflation, it is absolutely astonishing that nothing has been done to roll back prices in an industry that has been a pace-setter in the inflation sweepstakes. Indeed, nothing has been done to curb its power to achieve its purpose of even higher prices for all energy sources in the future. Such inaction is inexcusable when we reflect that these prices and this power are the direct result of Government policies which insulate the industry from the normal pressures of free enterprise competition, but provide nothing in its place.

It takes no imagination to list a number of steps that could be taken to reverse runaway oil prices. The President could have a significant and immediate effect on consumer prices either by greatly increasing imports or even eliminating quotas completely, or by suspending the Connally "Hot Oil" Act which makes possible the State production controls that are today employed primarily to maintain high prices.

I need hardly note that such action is not likely. The record of four administrations since the quotas were imposed in 1959 is not encouraging. But while these are the regrettable facts of life today, we must continue to press, as you do here, for a fuller and more realistic understanding of the relationship, or lack of it, between the stated purpose of these controls and their actual effect.

In the meantime, we must also be on the alert for any moves toward further price increases. There are clear signs in the trade press that we can soon expect requests for oil price hikes. We must be prepared to see that the Price Commission resists all such efforts.

We cannot, of course, lay all the responsibility for our present senseless policy on the executive branch. This is why I have opposed oil import quotas in the Congress since 1959.

There are now 90 cosponsors to my bill to abolish oil quotas and a similar number who support my bill to repeal the Connally "Hot Oil" Act.

It is also incumbent upon us to come up with realistic alternatives to the quota system. After studying the proposal of Professors Mead and Sorenson, Congressman Harrington and I introduced a bill, based on that study, with more than 40 cosponsors to create a National Defense Petroleum Reserve. Instead of perpetuating a system which does not enhance our national security but actually threatens it by more rapidly depleting our domestic reserves, we need to examine alternatives that will truly strengthen our reserve position and, at the same time, inject some healthy competition into an industry so badly in need of it.

As you know, Mr. Chairman, the House Small Business Committee on which I serve as senior Republican has become increasingly concerned about the concentration of ownership of competing fuels. With the strong support of our chairman, Joe Evins, a subcommittee chaired by Neal Smith of Iowa has been conducting an inquiry in this area with particular attention to the movement of oil companies into the coal and uranium business. Major oil companies now control well over 20 percent of domestic coal production and 25 percent of uranium milling capacity. The coal reserve picture is even more alarming. Humble Oil, for example, controls over 7 billion tons of domestic coal reserves but has opened only one mine. When we add this to the majors' present dominance over the supply of both oil and natural gas, it is not hard to foresee the day when all our basic energy sources will be controlled by a handful of companies, free to manipulate at will the whole range of supplies and prices of the energy on which our entire economy relies.

While we continue to work toward these long-term goals, we must also continue to try to make the present system less intolerable. This is a special burden on those of us from the Northeast who pay the highest fuel prices in the Nation and yet perennially face the danger of inadequate supply as well. The need to end this fuel price and supply squeeze has been the driving force behind our efforts to increase im-

ports of No. 2 home heating oil. The situation is even more serious with respect to residual oil, used by utilities, factories, schools, and hospitals, where increasingly strict air pollution controls have created a great demand for low-sulfur fuel.

In a moment I want to discuss a relatively new development, the direct burning of crude oil by utilities in place of residual which, I believe, could greatly improve the present picture. Before doing so, however, I want to say that concern for declining interfuel competition should not blind us to other anticompetitive mechanisms within the petroleum industry itself. In particular, I refer to the proliferation of joint ventures among large oil companies, especially noticeable in their production and transportation operations.

It is a curious fact that the number of joint ventures between major oil companies should be so great, when you consider that these same majors have such tremendous cash flows and are generally in such strong financial positions that they could hardly plead poverty. When enterprises whose individual assets total billions of dollars say they must pool their resources because of "risks," the public and its representatives, I suggest, should be somewhat skeptical. None of these "risks" in the 25 postwar years have significantly interrupted their unbroken chain of ever-improving yearly profit reports.

Take transportation, for example. Every businessman knows that in any industry the movement of raw materials to a factory and of products to a market are a large part of his costs of doing business. Every other industry, however, relies heavily on the public transportation system of regulated carriers. In oil, however, the industry has its own transport system, the pipeline, supplemented by barges and tankers, increasingly owned and operated on a joint venture basis because, they assert, the risks are great, the capital requirements immense.

Here my skepticism suggests the need for careful study. In the more than three-quarters of a century that oil has been transported by pipeline, I am told that out of the hundreds built there is one possible example of a pipeline that went broke. Now the one-half billion dollars that the Colonial Pipeline Co. cost is a lot of capital, but 90 percent of that came as loans from banks and insurance companies—companies not known as takers of great risks—and the 10 percent its nine owners put up was only a small proportion of the routine annual investment program of any one of them.

Why, then, did these companies feel the urge to join hands? I think the testimony given to you yesterday by Mr. Moore suggests some of the answers. By the way, I am pleased this subject was raised in your hearings and I intend to examine your previous testimony closely on this subject. While I hope this committee can pursue the matter further, I also hope to have this problem examined by our Small Business Subcommittee.

I am particularly interested in the impact that Colonial has had on the east coast. While any conclusions at this time must be very tentative, indications are that Colonial has served to stabilize both prices and market shares, that, for example, it has been a major cause of increases in No. 2 oil prices in the Northeast, that it has stimulated the epidemic of acquisitions of independent terminal operators by major oil companies—since 1959 their numbers have virtually been cut in half,

and that it now actually threatens the survival of 90 percent of the American flag fleet of independent tankers.

Among the questions that must be asked about Colonial are these:

(1) Has it been owned and operated in such a way as to stabilize markets and prices? Its nine owners, companies with well over half the refining capacity serving the east coast, sit on Colonial's board and discuss tariff rates, shipping points and the like. Is this too tempting an opportunity to pass up without discussing their individual marketing policies at the same time?

(2) Has Colonial, in fact, been operated as a true common carrier available without discrimination to all competitive shippers? Have independent refiners and marketeers had a reasonable opportunity to use its services at anything close to equivalent costs?

(3) What effect does Colonial's jointly agreed on tariff structure have on transportation competitors? You have had testimony that Colonial's tariff is unfairly designed to make tanker competition from the gulf to New York Harbor impossible. The unusual and growing number of independent tankers laid up shows that something is clearly wrong. There seems to be a growing awareness that the very survival of independent tankers is at stake. Should this happen, the independent terminal operators will be forced to deal exclusively with Colonial. And the major expansion of the line, now underway, seems certain to aggravate the problem.

There are many other questions that need to be examined. To cite just one more, what effect has Colonial had on the curious recent history of No. 2 fuel oil supplies to the Northeast? Is it simply accidental that the nearly annual series of shortage dangers began soon after the Colonial Line was pumping all the way to New York?

With so many questions yet unanswered, one cannot be sure about the best solution. As previous witnesses have stated, however, the simplest and most effective answer may be the divestiture of all oil company ownership of product pipelines. I do not believe that any group of allegedly competing oil companies should be able to collectively determine their transportation costs by pooling their shipping business and excluding others from the benefits of the pool.

Mr. Chairman, if this situation is as serious as I and others have indicated, why has so little attention been given to it? It is not a new problem. The Justice Department, I am told, has had the matter under study for at least 8 years. I am convinced that one major problem here is a fear of retribution felt by competing forces in the industry. Terminal operators, independent tanker owners, even independent refiners, all depend on the majors who own Colonial for much of their business. Should they take action themselves to redress their grievances, they face the possible loss of that business. I would hope, Mr. Chairman, that the interest of this subcommittee and that of the House Small Business Subcommittee will induce more of them to speak out. Each year, however, fewer remain to speak.

I want to turn now from the complex subject of pipelines to the more immediate problem of securing adequate supplies of low-sulfur industrial fuel. The great demand for such fuel has placed great pressure on supplies of both natural gas and residual oil, and even to some extent on No. 2 oil supplies. No. 2, which is naturally a low-

sulfur product, is increasingly being used to blend with residual to meet air quality standards.

As I noted earlier, I believe that the direct burning of crude in place of residual by utilities offers an immediate partial way out of the present supply crunch.

Since 1966, oil import regulations have permitted the unlimited importing of crude to be used as residual on the east coast. Unfortunately, almost nothing has been done to implement this program.

Increasingly, utilities are burning residual oil to generate electricity. In New England residual oil is now virtually the only fuel burned by utilities.

The ability to substitute more readily available crude oil offers many advantages: first, it would provide vast new amounts of low-sulfur fuel; second, it would make more low-sulfur residual available for small industrial users, schools and hospitals; third, it would help alleviate the shortage of natural gas; fourth, it would improve our balance of payments, since low-sulfur crude in recent months has been cheaper than residual oil; fifth, it would reduce the need to blend limited supplies of No. 2 oil with residual to meet air quality standards; sixth, it would alleviate some concern about exporting our refining capacity; and, seventh, the availability of another fuel source can only improve the competitive picture across the board.

The use of crude in place of residual, however, is not without disadvantages. The principal problem is one of safety, and it must not be underestimated. From the point of storage to its injection into burners, the tanks, the pipes, the pumps, and the nozzles, all of these must be made more secure against leakage.

Nevertheless, Mr. Chairman, there is good evidence that crude can be burned safely and economically. Japan has been doing it for 10 years now. For its current fiscal year, the Japanese Government has approved a 74-percent increase in direct burning at a level of 207,000 barrels per day.

Even more importantly, the Philadelphia Electric Co., has now been burning crude for over a month at one station and is about to do the same at another station.

Officials at Philadelphia Electric tell me they made this move after a successful, 6-week test in 1970. Crude burning still represents only about 5 percent of the fuel they burn, but results so far indicate it can be burned more cheaply than residual even with the considerable expense of increased safety precautions required. It was stressed to me, however, that it was concern about the adequacy of residual supplies, more than price, that led to this conversion.

Philadelphia Electric and the three or four other utilities who have decided to burn crude all get their supply from Continental Oil. No other oil company has either imported crude for burning or encouraged domestic crude burning. What in the reason for this nearly unanimous failure?

Undoubtedly, the majors will express great concern about safety. But the experiences I have referred to suggest this problem can be overcome. The majors may also claim it is wasteful to burn a product that can be refined into other needed fuels. What is really on their minds, I suspect, is their reluctance to lose profits. To some big oilmen any suggestion of bypassing the refining process borders on the

sacrilegious. But the simple fact is that it is not wasteful to use a cheaper, more readily available fuel source.

It may be too early to ask whether this collective failure has anti-trust implications. I understand that more and more utilities are examining Philadelphia Electric's experience. It remains to be seen whether their interest will be encouraged or discouraged by the major oil companies.

In the meantime, however, I believe it is incumbent on the oil policy committee and other officials concerned about fuel supplies to promote the more widespread use of crude for direct burning.

Mr. Chairman, in closing, let me thank you again for this opportunity to participate in these hearings. It is one more measure of the absurdity of our Government oil policy that the consumer himself and those of us who seek to assist him must involve ourselves in details which should rightly concern only the industry itself. But as long as Uncle Sam remains in the oil business or, more accurately, as long as this industry has the benefit of unprecedented Government protection and privileges, we who oppose that system are compelled to invest this effort.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Congressman Conte, thank you for a very fine statement and I appreciate the constructive manner in which you have presented your position.

We are aware of the fact that tax privileges, of course, the most conspicuous in our tax laws for the oil industry, that they cost \$3 billion a year. In addition, the oil import quota, of course, in order to raise prices costs another \$5 billion and is inflationary. In addition, as you point out, the prorationing system, the Connally Act, increases the prices to consumers and costs in addition several billion dollars.

In addition, as you say, there has been weak antitrust action as a result of permitted mergers and joint ventures that obviously hold up prices and are highly inflationary. All of these things are fundamental if we are going to get a grip on inflation and be able to hold down the cost of living while, at the same time, stimulating employment.

One of the aspects that I like very much about your presentation is that you present what may seem to many radical but nevertheless are very sensible and balanced recommendations. You don't simply recommend that you abolish the import program and that we knock out the Connally Act, although you recommend that we create a National Defense Petroleum Reserve. You just mentioned that in a sentence in passing. Do you want to say a little bit more about that, because I think that does represent a most constructive kind of an approach. Recognizing the whole purpose of all this, the only justification ever given by anybody we have had before us in that we need these reserves in order to protect this country economically and militarily.

Representative CONTE. Well, under the bill I filed with Congressman Harrington and 40 others, the President would be required to set aside Federal land with enough petroleum producing capacity to protect the United States against a 1-year continuous interruption of oil imports from all those noncontiguous countries, excluding, therefore, Canada and Mexico, which he determines to be insecure.

Chairman PROXMIRE. Insecure or secure?

Representative CONTE. Insecure. The burden would be on him to determine which countries are insecure sources. Wells would be drilled, gathering capacity installed and all the other necessary steps taken so that, should these imports be halted, all we would have to do in effect, is turn a valve to replace the foreign oil.

I think that this makes a lot of sense. I can't see any reason at all for the administration to oppose such a bill. They have all given us this argument, going back to 1959, that the original intent of the import quota system was to assure national security. If we ever got into a bind, we would have to rely on domestic oil.

Chairman PROXMIRE. What is the cost of this kind of program? How do you estimate it or do you estimate it?

Representative CONTE. We don't have any firm estimates at all, but that could be easily developed.

Chairman PROXMIRE. My staff tells me that we estimate \$1 billion to \$2 billion which is, of course, a small fraction of the \$3 billion plus \$5 billion plus additional cost to the consumer and taxpayer. It may be 25 percent.

Representative CONTE. Yes, that was the best estimate we arrived at. It is a very small fraction of that \$5 to \$8 billion in artificial costs we pay now because of the quota system and under the quota system that money is just burnt up. If this program would cost, say \$2 billion, at least we would have something tangible; we would have oil in the ground and we could turn the valves on when we needed it.

Chairman PROXMIRE. The presentation yesterday by Mr. Moore, I agree with you, was most useful to us and one of the points he stressed in addition to the points you stressed so well today for regulation of pipelines, was the colossal return that Colonial enjoyed. He estimated it was between 110 and 140 percent per year, a pretty handsome return.

Representative CONTE. Utterly fantastic.

Chairman PROXMIRE. Incidentally, you are the first witness who addressed himself to the practical solution of using crude for direct burning and I am delighted to get that. That had not been given to us by any other witness and I am glad you went into some detail on that.

Representative CONTE. Thank you, Mr. Chairman.

Chairman PROXMIRE. I want to congratulate you on the work of the Small Business Committee. It has done fine work in calling attention to the concentration of fuel ownership.

You feel, and I agree, we need much more vigorous antitrust action by the Department of Justice, and yet the Antitrust Division of the Justice Department has some fine, capable staff lawyers. The Division has been headed by a capable, conscientious Assistant Attorney General, Mr. McLaren. Unfortunately, Mr. McLaren was unable to testify this morning because he is in the process of leaving office. He was over-ruled on some important issues while he was there and now he is leaving.

We have had other distinguished people in the same anti-trust office before and yet so little gets accomplished.

Where does this system break down, in your view, Congressman Conte?

Representative CONTE. Well, let me first—you mentioned Mr. McLaren and I would like to clarify my statement on that, if I may, Mr. Chairman.

Chairman PROXMIRE. Yes.

Representative CONTE. While I have often been critical, especially in our Small Business hearing, about the Justice Department's inaction in the antitrust field as it relates to petroleum, what I am referring to is a sorry pattern that goes back two decades, through several administrations.

In fairness it should be noted that in many ways, dealing with the conglomerates, for example, Mr. McLaren's tenure at Justice has been quite an improvement.

Chairman PROXMIRE. I agree.

Representative CONTE. I particularly appreciate, and I want to make this known for the record, his contributions to the oil import task force where he made clear his position against quotas; and I believe he may have also had something to do with promoting the idea that as long as we have quotas the level of imports should be flexible, increasing each time that state production controls are clamped down tighter. This floating import ceiling could deal a death blow to market-demand prorationing, and that would be a great boon to the consumer.

In short, I feel—and I say this in all sincerity because I have watched the man—I feel Mr. McLaren will be greatly missed and I certainly wish him well in his new judicial position. I only hope that the President will see fit to appoint someone worthy to try to fill Mr. McLaren's shoes.

Chairman PROXMIRE. What I am asking, though, is, as you point out, for 20 years we have had it. We not only had it in the Nixon administration but the Johnson, the Kennedy, and the Eisenhower; we have had this on and on and no matter who is President of the United States. How can we get at this situation so that we can get a Department of Justice that will act on the basis of the law?

Representative CONTE. Well, first of all, we certainly need a lot more McLarens in the Justice Department. I think I can draw an analogy here. I have been fighting since I came to the Congress to put a \$20,000 ceiling on subsidy payments to farmers in this country and I have lost for 14 years. Now many people say to me, "How can you lose a battle like that; it is so logical." Why should a farmer be paid up to \$3 million a year, such as one company in California, not to plant crops? This is ridiculous, especially while millions of people are going to bed hungry every night throughout the world. My point, Mr. Chairman, is that the oil industry has a most powerful lobby; I would say it is the most powerful unit that we have in the United States. Second to them are the farmers. I think that is the answer.

Chairman PROXMIRE. Oh, the farmer is really pale by comparison.

Representative CONTE. They are pale.

Chairman PROXMIRE. Yes; when you look at farm income compared to the income of these oil boys.

Representative CONTE. I agree they pale by comparison.

Chairman PROXMIRE. Farmers are the most depressed group in the country.

Representative CONTE. I quite agree with you. When I speak about farmers I am not talking about the poor dairy or grain farmers; I am talking about the large corporate cotton farmers.

Chairman PROXMIRE. So long as you lay off the dairy farmers I am with you.

Representative CONTE. Mr. Chairman, I have many dairy farmers in my district, and you couldn't find a harder working group of people in the United States. They are up at the crack of dawn; they work until dark, and they get a very, very meager return.

Chairman PROXMIRE. The cow has to be milked twice a day, 7 days a week, 52 weeks a year. They work an average of 12 hours a day; their income is less than \$1 an hour. The farmer works; his wife works; his children work, and dairy farming is a family proposition. There are practically no corporate dairy farms.

Representative CONTE. That's right. If they could only get a little bit, just a little bit of these large subsidies that we give to the cotton farmers and to the oil producers in this country, this would be a much better place to live.

Chairman PROXMIRE. That ends our colloquy on a kind of irrelevant note but I wanted to thank you very much for a fine presentation.

Representative CONTE. Thank you very much, Mr. Chairman.

Chairman PROXMIRE. It was most useful.

I am going to ask our next two witnesses to come up together.

Our next witness will be Mr. Hollis Dole, Assistant Secretary of the Interior for Minerals Policy. He will be followed by Mr. Bruce Wilson, the Deputy Assistant Attorney General for Antitrust.

Mr. Wilson, I want to apologize if I seemed to infer that you were an inadequate substitute in any way for Mr. McLaren. We are delighted to have you and very happy that you are here this morning, and we know that your testimony is going to be most useful to us.

Mr. Dole, if you are ready, you can go right ahead.

STATEMENT OF HON. HOLLIS M. DOLE, ASSISTANT SECRETARY, MINERAL RESOURCES, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY VINCENT E. McKELVEY, DIRECTOR, U.S. GEOLOGICAL SURVEY; RALPH W. SNYDER, ACTING DIRECTOR, OFFICE OF OIL AND GAS; AND RALPH E. WILLIAMS, STAFF ASSISTANT

Mr. DOLE. Mr. Chairman, it is a pleasure to be here to contribute what we can to your inquiry into oil prices and phase II.

In view of the President's aggressive efforts to arrest the progress of inflation, the subcommittee's interest in oil prices and competitiveness in the fuel industry is understandable and to be commended.

Defending the dollar's purchasing power is certainly an appropriate concern of us all.

I have a prepared statement which, with your permission, I offer for the record at this time, Mr. Chairman.

Chairman PROXMIRE. Yes, we are happy to have the entire prepared statement, including the tables which are most useful, printed in full in the record at the end of your oral statement, and we would appreciate it if you could abbreviate your remarks.

Mr. DOLE. I will, sir.

I have also brought with me today, Mr. Chairman, Mr. Vincent McKelvey, Director of the U.S. Geological Survey; Mr. Ralph Snyder, at the end of the table, Acting Director of the Office of Oil and Gas; and Mr. Ralph E. Williams, immediately to my right, a staff assistant in my immediate office, to assist me in responding to your questions.

Few, if any, of the areas of Government energy policy have been given as much attention as oil imports. The question of imports has been linked to almost every discussion that has been held on oil prices in recent years and, to be sure, this is one area where Federal policy has a direct effect upon the money cost of oil to the Nation and to the consumer.

The Secretary of the Interior is charged with administering the oil import program along policy lines determined by the chairman of the Oil Policy Committee with the advice of the other members of the committee and the Secretary of the Interior has one seat on this eight-member group.

Since 1959 it has been the policy of four administrations to restrict the flow of imported oil into the U.S. market.

It was acknowledged that oil from domestic sources would be more costly in the short run than oil from abroad and this added cost has been characterized as a premium paid for the benefit of maintaining a secure supply of a critically important form of energy.

As an official in the Department of the Interior, however, I am much concerned with another aspect of the present oil import control program; namely, its effect upon domestic oil supply.

In view of the great concern that has been voiced in recent years over the state of our oil and gas reserves in the United States, it is quite logical that the Nation's import policy should be called into question.

Reserve-to-production ratios for both oil and natural gas are the lowest in living memory if only the lower 48 States are considered.

But it is here that I suggest that we need to look at our problem from a different perspective, for it is not merely the lower 48 States that are involved in our calculations although we have become habituated to thinking in these terms.

If the Prudhoe Bay field had been found in Kansas instead of Alaska in 1968, it would have been extensively developed by now and the 10 billion barrels of proved reserves with which it is credited would probably be doubled as a result, and we should be comparing 1971 production of 4 billion barrels with proved reserves of perhaps as much as 50 billion barrels and feeling quite satisfied with the resulting reserve-to-production ratio of 12 to 1.

We would, in all probability, have to contend with an excess of productive capacity rather than the deficit we now face, and we would have concluded that our policy of encouraging domestic exploration by restricting oil imports had been a huge success.

My point is that it is not true to say that the oil import control program has failed to achieve its objective of encouraging the discovery of new oil reserves in the United States.

The discoveries just did not occur in the places where we might have wished, or where we have been accustomed to looking for them. But the fact is that they did occur and this would not have happened—at least at this particular point in history—if the oil discovered under such enormously difficult and costly circumstances had had to compete with an unrestricted flow of foreign oil to the U.S. market.

In view of the limitation of oil imports in the interest of national security, we believe that energy costs can best be kept at reasonable

levels by measures designed to increase the availability of domestic supplies.

The Department of the Interior is, therefore, engaged in a number of actions designed to help expand the discovery, development, and utilization of domestic energy resources.

Almost all of these efforts, however, look toward results obtainable only after the termination of phase II as we understand it.

Two features of Interior's responsibilities, however, deserve comment with respect to phase II; namely, the Connally Hot Oil Act and the regulation of oil production from Federal offshore lands.

The Connally Act has been a Federal statute since February 22, 1935. While it prohibits the interstate shipment of any oil produced in violation of any State law, it was specifically intended to aid States which impose restrictions upon their oil production by forbidding the interstate shipment of oil produced in excess of State allowables.

The Department of the Interior has had the responsibility for enforcement of the Connally Act. Although the law is still on the books, the active Federal role in enforcing it was curtailed in 1965 following a long period during which there were few violations; and it was concluded that the States were capable of enforcing their own conservation laws and regulations and that the conditions in the oil industry which prompted the law's enactment no longer justified Federal attention.

The regulation of oil production rates on Federal offshore lands was, until December 1970, linked to the production regulations of the States adjacent to the Federal lands in question.

Since then the Department of the Interior has assumed exclusive control of oil and gas production rates on the Federal lands offshore Texas and the undisputed areas of the OCS off Louisiana.

The principal effect of this assumption of production controls by Interior has been to increase production of crude oil from the undisputed Federal areas off Louisiana as shown on table I of the written statement.

We are in the process of settling the longstanding dispute with the State of Louisiana over the ownership of the Continental Shelf lands seaward of the lands mutually acknowledged to be exclusively owned by that State.

When the final court action is taken, the Department of the Interior will extend its producing regulations to these areas in addition to those it currently administers.

It should be noted, however, that the lifting of Louisiana production allowables on these leases is unlikely to result in any significant increase in the flow of oil from them.

Production from these areas for the period April through June 1970 averaged 528,000 barrels a day when the Louisiana market demand factor—MDF—was set at 50 percent of the 1953 depth bracket allowable.

In the period June through August of 1971, with the MDF at 75 percent, production was 524,000 barrels a day.

The inability of wells on these leases to respond to greatly increased market demand factors indicates that the reservoirs involved are already producing at capacity and in the absence of large new discoveries, these areas are unlikely to contribute any more to the Nation's oil supply than they are already doing.

This is also basically true of producing leases on Federal lands onshore.

Production of oil from this source has been static in recent years in the face of rising demand for domestic crude oil, indicating that these fields are producing at their practical capacity.

Table 2 of the prepared statement shows the annual production from Federal and Indian lands onshore between 1965 and 1970.

To summarize, there is no action available to the Department of the Interior that will increase the available supply of oil and gas to the Nation during the expected duration of phase II of the President's stabilization program.

The Connally Hot Oil Act has been moribund for many years and the only two States which have any remaining excess production to prorate, that is, Texas and Louisiana, have shown themselves fully competent to police their own directives.

The lessees of lands in the undisputed Federal areas of the Gulf of Mexico have been free to produce at MIER for more than a year, and some increase in production has resulted from the voiding of the Louisiana allowables there.

Most of the wells on Federal lands onshore and in the disputed areas of the OCS off Louisiana are producing at capacity and the lifting of any production restrictions which may be applicable to them would have little or no effect. All other actions available to the Department involve time schedules extending far beyond the time period contemplated for phase II.

Looking beyond phase II of the things that the Department of the Interior can do to help promote the availability of additional domestic energy supplies, I would like to address some further remarks to the subject of making available the energy resources located on Federal lands.

Of these options, the OCS leasing program promises to yield the earliest results. New leases in well established areas such as the Louisiana offshore can mean additional oil and gas supplies within 3 to 5 years.

In areas where there is no history of exploration and development the time lag is much longer, on the order of 5 to 10 years.

The uncertainty which cloaks the exploration for oil and gas is greatly magnified as activity begins to shift out of known geologic provinces into those where little detailed knowledge of the subsurface exists.

It is, therefore, understandable that the arguments over royalty versus bonus bidding should be heard anew and with increasing insistence. We recognize the need for continually reassessing these arguments and we are in fact making such a reassessment at this time.

A major study is currently underway, conducted jointly by the Department of the Interior and the Office of Management and Budget, with respect to the possibility and proposed design of royalty bidding terms which might be incorporated in a future lease offering on the OCS.

The prototype leasing program for oil shale resources proposed last June was favorably received by both industry and the public in the States concerned.

We are optimistic that the necessary conditions will be met which permit a lease sale to be held late this year.

Among these conditions are, of course, a final environmental impact statement and public hearings on the environmental aspect of the operations involved in extraction and processing of shale oil from the tracts nominated.

Although significant quantities of oil from shale is a considerable distance away in time, it will be an essential feature of our energy mix during the last two decades of the century.

The resources available are, as you know, enormous. The geothermal resources of the Nation are of a more modest scale but much nearer in time to commercial reality.

The Geological Survey has identified some 1.8 million acres of land, mostly in the West, as known geothermal resource areas and our geothermal leasing program is in the final stages of preparation.

Of all sources of energy, geothermal poses the least number of environmental problems; its contribution to the total energy supply of the Nation will, however, remain small for the foreseeable future.

The Department is engaged in a number of research efforts aimed at converting our abundant coal to liquid and gaseous fuels, which are the forms in which we are experiencing difficulties in supply.

We have joined with the American Gas Association in an effort to accelerate our work in coal gasification over an initial period of 4 years involving the expenditure of \$120 million, with the private sector contributing one-third of the total amount.

While we have received part of the funding authority we need to proceed with the first year of the program, we still need congressional action on our remaining supplemental request to enable us to participate fully in this essential effort.

There are other actions the Department is taking to enhance the availability of domestic energy supplies, among them research on the explosive fracturing of tight formations, the magnetohydrodynamic cycle for generating electricity and better mapping and classification of fuel resources.

These efforts and others are described in a new departmental publication now being printed, entitled "United States Energy—A Summary Review," which, as its subtitle suggests, summarizes the energy problems the Nation faces and the Department's efforts directed toward their solution.

The Department is also in the final preparation of its first annual report to the Congress required by the National Mining and Minerals Policy Act, which reviews the state of the domestic minerals industries, including those engaged in the production of fuel minerals.

We are hopeful that both these reports, when available, will contribute to a better understanding of the problems and issues related to providing the Nation with a reliable and adequate supply of energy.

Mr. Chairman, in concluding I would like to speak briefly to one of these problems that is particularly troublesome to us in the executive branch and, I venture to suggest, to those in Congress as well. This is the lack of any single agency anywhere in the executive branch which has the authority to deal with the whole spread of energy issues and which can be made accountable to the President, the Congress and the people of this Nation for formulating and executing a coherent, rational energy policy.

The President's program to reorganize the executive branch has been before the Congress for the better part of a year.

An integral part of this program is the provision for centering the significant responsibilities of the executive branch for energy matters in an Energy and Minerals Administration within a new Department of Natural Resources.

I would hope that you all, as members of a committee closely concerned with the Nation's economy, will give your strong support to the President's program which has received the endorsement of so many able citizens of both major parties.

This reform of the executive organization is much needed and long overdue.

It is not a partisan affair; adopting it is something we can all do for America.

Thank you very much for allowing me this introductory statement and we would be pleased to respond to any questions.

(The prepared statement of Mr. Dole follows:)

PREPARED STATEMENT OF HON. HOLLIS M. DOLE

Mr. Chairman, members of the subcommittee, it is a pleasure to be here to contribute what we can to your inquiry into "Oil Prices and Phase II."

In view of the President's aggressive efforts to arrest the progress of inflation, the Subcommittee's interest in oil prices and competitiveness in the fuel industry is understandable and to be commended. Defending the dollar's purchasing power is surely an appropriate concern to us all.

Few if any of the areas of government energy policy have been given as much attention as oil imports. The question of imports has been linked to almost every discussion that has been held on oil prices in recent years, and to be sure, this is one area where Federal policy has a direct effect upon the money cost of oil to the Nation and to the consumer. The Secretary of the Interior is charged with administering the oil import program along policy lines determined by the Chairman of the Oil Policy Committee with the advice of the other members of the Committee, and has one seat on the 8-member group.

Since 1959 it has been the policy of four Administrations to restrict the flow of imported oil into the United States market. This policy resulted from the belief that it was counter to the best interests of the United States to become excessively reliant upon oil over which it had no control and which might be abruptly denied for a number of reasons. It was acknowledged that oil from domestic sources would be more costly in the short run than oil from abroad, and this added cost has been characterized as a premium paid for the benefit of maintaining a secure supply of a critically important form of energy.

The size of this cost as well as its propriety have been examined in numerous studies in the past, and undoubtedly these features will continue to be evaluated as long as any controls are exercised upon the free flow of petroleum and its products into this country. So much has been said already on these points, and so much energy and anger expended upon them, that it seems doubtful that I could contribute any additional information on these topics this morning.

As an official in the Department of Interior, however, I am much concerned with another aspect of the present oil import control program: namely, its effect upon domestic oil supply. At the time the mandatory oil import control program was adopted there was the expectation that by having a large part of the U.S. market reserved for domestic oil, the producers of that oil would be encouraged to explore for and develop the necessary supplies within the territory of the United States.

In view of the great concern that has been voiced in recent years over the state of our oil and gas reserves in the United States, it is quite logical that the Nation's import policy should be called into question. The cost is considerable—just how much depends upon the parameters one employs—yet reserve-to-production ratios for both oil and natural gas are the lowest in living memory if only the lower 48 States are considered.

But it is here that I suggest that we need to look at our problem from a different perspective. For it is not merely the lower 48 States that are involved in our calculations, although we have become habituated to thinking in these terms. If the Prudhoe Bay field had been found in Kansas instead of Alaska in 1968, it

would have been extensively developed, by now, and the 10 billion barrels of proved reserves with which it is credited would probably be doubled as a result. And we should be comparing 1971 production of four billion barrels with proved reserves of perhaps as much as 50 billion barrels and feeling quite satisfied with the resulting reserve-to-production ratio of 12 to one. We would, in all probability, have to contend with excess of productive capacity rather than the deficit we now face. And we would have concluded that our policy of encouraging domestic exploration by restricting oil imports had been a huge success.

Yet this is precisely what has happened in the case of the North Slope discoveries. The impact has been blunted because of the delay experienced in getting the oil to market. But once the environmental requirements have been met, and the oil does begin to flow southward, we shall, I trust, stop regarding our Alaskan resources as something separate and apart from those of the rest of the Nation. And when we do, we shall come to look upon the North Slope as simply the newest and most important oil province that has been found in the search that began 112 years ago in western Pennsylvania and has continued to this date.

My point is that it is not true to say that the oil import control program has failed to achieve its objective of encouraging the discovery of new oil reserves in the United States. The discoveries just did not occur in the places where we might have wished, or where we have been accustomed to looking for them. But the fact is that they did occur, and this would not have happened—at least at this particular point in history—if the oil discovered under such enormously difficult and costly circumstances had had to compete with an unrestricted flow of foreign oil to the U.S. market.

In view of the limitation of oil imports in the interest of national security, we believe that energy costs can best be kept at reasonable levels by measures designed to increase the availability of domestic supplies. It is important that supplies and costs of energy be regarded as an entirety, rather than considered as features of discrete commodity groupings, for to a substantial degree fuels are substitutable for one another, and a shortage in one creates added demand upon the others. This is particularly true with regard to the added pressures on oil supply generated by the deficiency in natural gas supplies and environmental restrictions upon the use of high sulfur coal.

The Department of the Interior is engaged in a number of actions designed to help expand the discovery, development, and utilization of domestic energy resources. Almost all of these efforts, however, look toward results obtainable only after the termination of Phase II as we understand it. As an example, the sale of oil and gas leases offshore eastern Louisiana on December 21, 1971, was in response to President Nixon's directive in June of last year to accelerate oil and gas leasing on the Outer Continental Shelf (OCS). As you know, consummation of the sale has been delayed by litigation, but even had no suit been brought, it would have been three years at the earliest before the results of the sale could have been translated into any noticeable increase in supplies of oil and gas available to the consumer. Construction of the Alaska pipeline is estimated to require a minimum of three years after all environmental considerations have been satisfied and the necessary permits issued. Other actions, such as our programs for oil shale leasing and gasification of coal, are considerably further from commercial reality.

Two features of Interior's responsibilities, however, deserve comment with respect to Phase II: namely the Connally Hot Oil Act, and the regulation of oil production from Federal lands.

The Connally Act has been a Federal statute since February 22, 1935. While it prohibits the interstate shipment of any oil produced in violation of any state law, it was specifically intended to aid states which impose restrictions upon their oil production by forbidding the interstate shipment of oil produced in excess of state allowables. The Department of the Interior has had the responsibility for enforcement of the Connally Act. Although the law is still on the books, the active Federal role in enforcing it was curtailed in 1965 following a long period during which there were few violations, and it was concluded that the states were capable of enforcing their own conservation laws and regulations and that the conditions in the oil industry which prompted the law's enactment no longer justified Federal attention.

The regulation of oil production rates on Federal offshore lands was until December 1970 linked to the production regulations of the adjacent states. The Department of the Interior achieved this effect by interposing no objection to the lessees of these lands producing in accordance with the regulations of the state

adjacent to which the leased lands were located. This means, as an example, that the allowable production from the Federal leases offshore Louisiana conformed each month to the Louisiana Department of Conservation allowables.

On December 5, 1970 in pursuance of President Nixon's announcement the preceding day, the Department of the Interior assumed exclusive control of oil and gas production rates on the Federal land offshore Texas and the undisputed areas of the OCS off Louisiana. The two fields in the Federal areas offshore California were not affected, as the Department has always directly controlled these oil and gas production rates. Oil production from the OCS off Texas is small and declining, averaging less than 2,000 barrels a day during 1971. The principal effect of the assumption of production controls by Interior has therefore been to increase production of crude oil from the undisputed Federal areas off Louisiana. The lessees and operators here were authorized as of December 5, 1970, to increase production to the estimated Maximum Efficient Rate (MER) of the reservoirs on these leases. Production thereupon rose irregularly from 414,000 barrels a day in November 1970 (the last month under the Louisiana schedules) to 493,000 barrels a day in October 1971. (This represents a gain of 19 percent, compared with a decline of 9 percent crude oil production for the State of Louisiana, which included the disputed area of the OCS. Table 1 attached shows daily average crude oil production in each month between November 1970 and October 1971 for the State of Louisiana, the undisputed Federal areas offshore, and the areas that have been in dispute, together with the prevailing market demand factors established by the Louisiana Department of Conservation.

We are still in the process of settling the longstanding dispute with the State of Louisiana over the ownership of the continental shelf lands seaward of the lands mutually acknowledged to be exclusively owned by that State.

A 1969 decision by the Supreme Court settled many issues in the case. In this decision the position of the United States was upheld as to a large portion of the disputed area but the court has not yet issued a decree pursuant to its decision. In April of 1971 the United States filed a motion for entry of a supplemental decree under which this portion of the area formerly in dispute would be awarded to the United States along with impounded revenues of approximately one billion dollars. This motion was granted by the Supreme Court on December 20, 1971; however, no decree has as yet been issued. When this is done, the Department of the Interior will extend its producing regulations to these areas in addition to those it currently administers.

It should be noted, however, that the lifting of Louisiana production allowables on these leases is unlikely to result in any worthwhile increase in the flow of oil from them. Production from these areas for the period April through June, 1970 average 528,000 barrels a day when the Louisiana market demand factor (MDF) was set at 50 percent of the 1953 depth bracket allowable. In the period June through August of 1971, with the MDF at 75 percent, production was 524,000 barrels a day. The inability of wells on these leases to respond to greatly increased market demand factors indicates that the reservoirs involved are already producing at capacity, and in the absence of large new discoveries, these areas are unlikely to contribute any more to the Nation's oil supply than they are already doing.

This is also basically true of producing leases on Federal lands onshore. Production of oil from this source has been static in recent years in the face of rising demand for domestic crude oil, indicating that these fields are producing at their practical capacity. Table 2 shows the annual production from Federal and Indian lands onshore between 1965 and 1970.

To summarize, there is no action available to the Department of the Interior that will increase the available supply of oil and gas to the Nation during the expected duration of Phase II of the President's stabilization program. The Connally Hot Oil Act has been moribund for many years, and the only two states which have any remaining excess production to prorate, (that is Texas and Louisiana) have shown themselves fully competent to police their own directives.

The lessees of lands in the undisputed Federal areas of the Gulf of Mexico have been free to produce at MER for more than a year, and some increase in production has resulted from the voiding of the Louisiana allowables there. Most of the reservoirs on Federal lands onshore and in the disputed areas of the OCS off Louisiana are producing at capacity, and the lifting of any production restrictions which may be applicable to them would have little or no effect. All other actions available to the Department involve time schedules extending far beyond the time period contemplated for Phase II.

Looking beyond Phase II to the things that the Department of the Interior can do to help promote the availability of additional domestic energy supplies, I would like to address some further remarks to the subject of making available the energy resources located on Federal lands.

In his Clean Energy Message of June 4, 1971, President Nixon directed the Secretary of the Interior to accelerate the leasing of Outer Continental Shelf lands for oil, and gas exploration and development, to proceed with a program for the orderly development of our oil shale resources, and to expedite pending decisions having to do with a leasing program for geothermal resources.

The initial Interior response was to publish on June 15, a 5-year oil and gas leasing schedule for the Outer Continental Shelf calling for two general lease sales per year. This was followed on June 29 by a prototype program which would involve public and industry participation in selecting up to six oil shale tracts, two each in Colorado, Utah and Wyoming, to be offered for lease by sealed, competitive bid late in 1972. A program for competitive leasing of certain geothermal resources is being readied for publication early this spring.

Of these, the OCS leasing program promises to yield the earliest results. New leases in well-established areas, such as the Louisiana offshore, can mean additional oil and gas supplies within three to five years. In areas where there is no history of exploration and development the time lag is much longer—on the order of five to ten years.

To date, oil and gas have been founded on the U.S. Continental Shelf only off Louisiana, southern California, and Texas, and in Cook Inlet, Alaska. Notwithstanding this, we continue to believe that the continental shelf represents the best remaining place to look for oil and gas in the contiguous United States. It is virtually untouched: less than two percent of the area out to a water depth of 200 meters has even been leased. We know that much of this area is underlain by thick sections of sedimentary rock which are continental in character and origin; that is, they are extensions of the continent, not parts of the oceanic crust. This means that their mineral resource potential is of the same general character as that known to be true of the land. And the land has yielded, so far, more than 120 billion barrels of recoverable oil and almost 400 trillion cubic feet of gas.

The fact remains, however, that only the drill bit can answer conclusively the question as to whether there is oil and gas under the unexplored parts of the continental shelf. The U.S. Geological Survey has been assessing the potential resources of the OCS as one of its responsibilities, relying on both private and public sources for its data. In addition to data obtained through its own efforts, and by purchase from geophysical service companies the Survey has received geological and geophysical information from many sources. The data bank is constantly growing and analyses that are in progress will provide much more definitive knowledge than we now have about the petroleum potential of the OCS. But I repeat, we do not certainly know that any petroleum exists in any areas other than those in which it has actually been found by drilling.

The uncertainty which cloaks the exploration for oil and gas is greatly magnified as activity begins to shift out of known geologic provinces into those where little detailed knowledge of the subsurface exists. It is, therefore understandable that the arguments over royalty versus bonus bidding should be heard anew and with increasing insistence. We recognize the need for continually reassessing these arguments, and we are in fact making such a reassessment at this time. A major study is currently underway, conducted jointly by the Department of the Interior and the Office of Management and Budget, with respect to the possibility and proposed design of royalty bidding terms which might be incorporated in a future lease offering on the OCS.

The proposed prototype leasing program for oil shale resources announced last June was favorably received by both industry and the public in the states concerned. To date 15 firms have applied for informational core drilling permits at 22 locations. Fourteen holes have been completed, and we expect lease nominations to be made in Colorado and Utah. We are optimistic that the necessary conditions will be met which permit a lease sale to be held late this year. Among these conditions are of course a final environmental impact statement and public hearings on the environmental aspects of the operations involved in extraction and processing of shale oil from the tracts nominated.

As I noted at the outset of my remarks, oil from shale is a considerable distance away in time, but it will be an essential feature of our energy mix during the last two decades of the Century. The resources available are, as you know, enormous.

The geothermal resources of the Nation are of a more modest scale, but much nearer in time to commercial reality. A commercial plant under private ownership is in fact already operating in Sonoma County, California. These resources can be quite important to the immediate areas of geothermal activity. Although there is a vast acreage of public lands in the United States which are prospectively valuable for geothermal energy development, the Federal Government lacked the authority to sell or lease these resources until the Geothermal Steam Act of 1970 was passed. The Geological Survey has identified some 1.8 million acres of land, mostly in the West, as known geothermal resource areas and our geothermal leasing program, as I have mentioned, is in the final stages of preparation. Of all sources of energy, geothermal poses the least number of environmental problems; its contribution to the total energy supply of the Nation will, however, remain small over the foreseeable future.

The Department is engaged in a number of research efforts aimed at converting our abundant coal to liquid and gaseous fuels, which are the forms in which we are experiencing difficulties in supply.

A pilot plant is currently operating in Princeton, New Jersey, to prove out the feasibility of processing coal into a high quality synthetic crude oil, plus either a solid fuel for boiler use, or synthetic pipeline gas. Another pilot plant in Cresap, West Virginia, is being modified to convert coal to low-sulfur oil. Construction of a solvent refining coal conversion plant at Fort Lewis, Washington, will begin in the near future.

We are particularly optimistic in regard to the processes we have under investigation for making pipeline quality gas from bituminous coal and lignite. One pilot plant in Chicago, Illinois, is presently engaged in shakedown operations, another is just being completed in Rapid City, South Dakota, and construction of a third will begin this spring at Homer City, Pennsylvania. We have joined with the American Gas Association in an effort to accelerate our work in coal gasification over an initial period of four years involving the expenditure of \$120 million, that the private sector contributing one-third of the total amount. While we have received part of the funding authority we need to proceed with the first year of the program, we still need Congressional action on our remaining supplemental request to enable us to participate in this essential effort.

There are other actions the Department is taking to enhance the availability of domestic energy supplies—among them research on the explosive fracturing of tight formations, the magnetohydrodynamic cycle for generating electricity, and better mapping and classification of fuel resources.

These efforts and others are described in a new Department publication now being printed, entitled *United States Energy—A summary Review* which, as its subtitle suggests, summarizes the energy problems the Nation faces and the Department's efforts directed toward their solution. The Department is also in the final preparation of its first annual report to the Congress required by the National Mining and Minerals Policy Act, which reviews the state of the domestic minerals industries, including those engaged in the production of fuel minerals. We are hopeful that both these reports, when available, will contribute to a better understanding of the problems and issues related to providing the Nation with a reliable and adequate supply of energy.

Mr. Chairman, in concluding I would like to speak briefly to one of these problems that is particularly troublesome to us in the Executive Branch, and, I venture to suggest, to those in Congress as well. This is the lack of any single agency anywhere in the Executive Branch which has the authority to deal with the whole spread of energy issues, and which can be made accountable to the President, the Congress, and the people of this Nation for formulating and executing a coherent, rational energy policy. What we have, as you know only too well, is a number of bureaus, offices, agencies, administrations, and commissions, whose energy functions and responsibilities were assigned at various times in the past to deal with specific problems. There is no where, below the office of the President, the authority to assert the leadership required to unify and coordinate the actions of the Federal Executive hierarchy addressed to energy matters.

The President's program to reorganize the Executive Branch has been before the Congress for the better part of a year. An integral part of this program is the provision for centering the significant responsibilities of the Executive Branch for energy matters in an Energy and Minerals Administration within a new Department of Natural Resources. We in the Department of the Interior view this integration of energy responsibilities as the single most important thing that can be done with respect to solving the problems that have become far too complex, too important, and too urgent to be settled in the loose and

uncoordinated fashion which was good enough in the days when energy was plentiful. The old conditions no longer apply, and we must now address ourselves to new ones which will not be nearly so generous or forgiving as the old. I, therefore, would hope that you, as members of a committee closely concerned with the Nation's economy, will give your strong support to the President's program, which has received the endorsement of so many able citizens of both major parties. This reform of the Executive organization is much needed and long overdue. It is not a partisan affair; adopting it is something we can all do for America.

Thank you very much, Mr. Chairman. We are now ready for any questions you or the members of the Committee may care to ask.

TABLE 1.—CRUDE OIL PRODUCTION—LOUISIANA AND FEDERAL LEASES OFFSHORE

[Thousand barrels per day]

Month and year	Market demand factor (percent)	Total Louisiana ¹	Disputed area ²	Federal OCS undisputed
November 1970	75	1,961	573	414
December 1970	75	1,953	545	423
January 1971	75	1,908	525	406
February 1971	75	1,895	534	456
March 1971	75	1,891	535	437
April 1971	75	1,879	536	468
May 1971	75	1,875	523	484
June 1971	75	1,857	523	461
July 1971	75	1,874	524	460
August 1971	75	1,866	524	488
September 1971	73	1,748	471	432
October 1971	70	1,791	511	493

¹ Includes both onshore and offshore, including disputed areas.

² Includes the principal portions of the area designated zones 2 and 3.

Source: Louisiana Department of Conservation; U.S. Geological Survey.

TABLE 2.—PRODUCTION OF CRUDE OIL AND CONDENSATE FROM FEDERAL ONSHORE AND INDIAN LANDS—1965-70

[In millions of barrels]

	Federal	Indian	Total
Year:			
1965	195	34	229
1966	201	33	234
1967	211	36	247
1968	216	35	251
1969	216	32	248
1970	210	33	243

Source: U.S. Geological Survey.

Chairman PROXMIRE. Thank you, Mr. Dole.
Mr. Wilson, please proceed.

STATEMENT OF HON. BRUCE B. WILSON, DEPUTY ASSISTANT ATTORNEY GENERAL, ANTITRUST DIVISION, DEPARTMENT OF JUSTICE, ACCOMPANIED BY DUDLEY CHAPMAN, ASSISTANT CHIEF, FOREIGN COMMERCE SECTION, ANTITRUST DIVISION; WILLIAM J. LAMONT, ATTORNEY, ANTITRUST DIVISION; AND ARTHUR CANTOR, SPECIAL ASSISTANT TO THE ASSISTANT ATTORNEY GENERAL, ANTITRUST DIVISION

Mr. WILSON. Thank you, Mr. Chairman.

We are pleased to respond to your invitation to discuss with you certain antitrust aspects of the oil industry and related energy matters.

With me this morning are Dudley Chapman, Assistant Chief of our Foreign Commerce Section; William J. Lamont of our Public Counsel Section; and Arthur Cantor, Special Assistant to the Assistant Attorney General.

I understand the committee is particularly interested in two subjects. The first of these is the joint construction and operation of pipelines by competing oil companies; and the second, the series of acquisitions of coal companies by oil companies during the past several years.

Mr. Chairman, I will attempt to condense my prepared statement in the interest of expedition.

Chairman PROXMIRE. Very good. We are happy to print the full prepared statement in the record.

Mr. WILSON. Thank you, sir.

Chairman PROXMIRE. I take it the attached statement by Walker Comegys, that was submitted on July 15 to the House Committee on Small Business, do you want that in the record, too?

Mr. WILSON. I would appreciate that. That still reflects the current situation.

Chairman PROXMIRE. Fine, we will do that. It will be placed in the record with your prepared statement.

Mr. WILSON. With respect to the two subjects I mentioned, I think it would be useful to note that antitrust policy in this area operates as one of a rather complex series of policies, which exert differing influences on price and supply patterns in the oil industry.

The first serious Government intrusion into the marketplace was prorationing of oil by the States, and this policy received Federal sanction under the Connally Hot Oils Act of 1935.

In the late 1950's, in progressive stages, a system of oil import controls was established for national security purposes. This program inevitably reinforced the price-stabilizing effects of the State rationing system. Both programs limit the total supply of oil available to meet current demand.

The oil import program, designed to avoid excessive dependence on foreign oil, was implemented by the creation of a quota system which, in turn, created valuable import licenses and the problem of how to distribute them equitably. There was understandable pressure to allocate the licenses and to create special exemptions in ways that would serve objectives not necessarily related to the national security purpose in limiting oil imports. The ensuing decisions led to increasing complications in the program, and to even further distortions in market mechanisms.

Since 1969 our problems have been further complicated by pipeline and production interruptions in the Middle East, which led to a worldwide tanker shortage and higher fuel prices.

More recently, a unified group of oil exporting countries known as OPEC has adopted certain concerted bargaining practices and through them has repeatedly increased the price of oil from those countries.

These problems have really been accumulating for over half a century; they do not lend themselves to instant solutions although they have had our constant attention. In February 1969 the President appointed the Cabinet Task Force on Oil Import Control and, after many months of study, this task force produced a comprehensive report.

One of the clear conclusions to be drawn from that study is that oil policy affects many important segments of our Government and our national life, and in different ways. The particular concern of the Department of Justice has been with the competitive implications of the program rather than with its security aspects. If competition were the only relevant criterion it might be possible to make more rapid progress toward a more coherent national policy. But we recognize that there are other important considerations as well, which include both the security aspects and the fact that substantial planning and investments have been made on the basis of these prior policies.

Nevertheless, some reforms have begun, and a number of actions have been taken that should improve competition and take care of some of the more undesirable effects of past policies.

The first action was to implement the task force's recommendation that all agencies which are concerned with the effects of the oil import controls should have an active role in setting oil policy. Accordingly, the Oil Policy Committee was established under the leadership of the Office of Emergency Preparedness. There are representatives of seven other agencies on that committee.

One of the first actions of that committee was to correct some of the most obvious distortions in the method of allocating import licenses. The task force report, for example, was highly critical of allocations made on the basis of individual firms' importing histories. These were eliminated from the program in 1970.

The same problem existed with respect to Canadian imports and, as recommended by the task force, this arbitrary system has been eliminated in favor of an openly announced quota and allocation system.

In June 1970, quotas were first established for imports by independent marketers of home heating fuel for the east coast market. This provided an additional source of supply for independent marketers in that area. The program was made permanent this year, and the level of the allocation was raised to a total of 45,000 barrels per day.

Efforts at reform have not been confined to imports. Federal offshore land were removed from production limits imposed by neighboring State prorationing controls. This appears to be another step in the right direction.

Again last summer a new import plan for petrochemicals was announced. We think this action should have a beneficial effect on fuel prices for at least two reasons. The first is through saving natural gas since petrochemical firms will now find it practical to use imported heavy liquid feed stocks to meet their expansion needs. At the same time, residual fuel oil is likely to be produced in increasing quantities as a byproduct of petrochemical production.

Another proposed reform would be the free sale of import tickets rather than requiring, as at present, the exchange of physical quantities of oil. Public comments have been received on this proposal and it is still under consideration within the committee.

All of the actions I have described thus far involve regulatory action by the Government, as distinguished from traditional antitrust enforcement. I think that is significant, in that it shows the extent to which Government policies have been a primary obstacle to free competition in the oil and gas industry. We have, however, brought enforcement actions against private restraints.

In 1965 civil and criminal proceedings were brought against eight major oil companies for fixing retail gasoline prices in New York, Pennsylvania, and Delaware. The court accepted *nolo contendere* pleas in the criminal case and approved a consent decree in the civil case in 1971.

In 1970, in the *Asiatic-Sprague* case the Antitrust Division filed a merger suit to preserve the largest independent fuel oil marketer in New England. That case is pending.

Finally, our challenge to the proposed merger of British Petroleum and Standard of Ohio was resolved by a consent decree calling for substantial divestiture designed to prevent a lessening of competition in and to deconcentrate the very highly concentrated Ohio market.

With that background, let me turn to two matters I mentioned at the outset, joint pipelines and mergers in the energy fields.

Questions involving pipeline control are deeply embedded in anti-trust history. Almost from its outset petroleum—uniquely among major industries—has controlled the layout and operation of a transportation system dedicated to its exclusive use.

During all of that time the industry has been the subject of frequent allegations that, through ownership and control of pipelines, the major units have dominated and restrained the competition of smaller companies and independents. Misuse of pipelines was a significant restraint charged in the early 1911 *Standard Oil* case.

Pipeline abuses led to the establishment of a limited regulatory system over their operation, declaring them to be common carriers as defined in the Interstate Commerce Act. They were subjected to rate control by the ICC though not to the certification authority usually accompanying utility type regulation.

Pipeline operations were included in the practices challenged in several suits. Unfortunately, none of these proceedings resulted in a judicial determination of the pipelines' antitrust status.

During the past half century there have been many hearings which aired but did not resolve a wide variety of alleged pipeline abuses affecting competition. ICC regulation, the legal basis for which was settled in the *Pipeline* cases, has been sparingly used. Moreover, the post-World War II *Camplin Refining* cases propounded the rather confusing concept that certain pipelines could be required as common carriers to file reports, yet not required to behave as common carriers in posting rates and accepting shipments.

Beginning and during World War II, and largely as a result of wartime cooperative use of pipelines constructed in the emergency, the industry has turned to so-called industry lines. These are typically organized as joint ventures by the dominant firms interested in providing a transportation link between producing and refining areas, or between refining and marketing areas.

For the most part, these are large volume facilities of high efficiency and low cost. They are usually financed by loan capital to the extent of 90 percent of their costs and the loans are secured by the owners' formal commitments that they will provide sufficient shipping business to generate enough revenue to meet operating and capital costs.

In this pattern the industry has constructed and operates by far the largest share of the new pipeline capacity added since World War II. This includes some 35 or more lines now operating, and half a dozen more in the proposed or construction stages.

Clearly close order cooperation, among ostensibly independent, highly integrated and very large competitors, in planning, building and operating these units of the transportation system, can raise important antitrust considerations. The terms and conditions under which both members and outsiders gain access to these lines, with the striking economies of scale inherent in their large capacities and guaranteed volumes, can be a significant factor with respect to entry into or survival within the market areas served.

The Antitrust Division has approached each of these proposals on a case-by-case basis, eliciting evidence as to the manner in which the pipeline in question is organized, constructed, and operated.

As is the case with most questions, competing considerations must be weighed. On the one hand, the companies concerned insist that without such joint pipeline ventures efficient transportation facilities would not be built; that the industry has expended the large capital investments represented by new facilities in reliance upon the fact that the Division has not challenged previous joint venture projects, that to question such arrangements at this late date would destroy public confidence in Government policy determinations; and, finally, that these lines did not unfairly prejudice nonowners, both because the latter are permitted the option of joining as owners if they wish, or if they do not, are assured fair treatment by the common carrier status of the lines and the regulatory controls over their operation.

On the other hand, though, none of the joint pipeline projects has been submitted to the Department for clearance under its business review procedures and, in at least two cases, as noted more fully below, proposed joint pipeline ventures have been abandoned when the Department threatened suit.

Thus, there is no warrant for assuming that joint venture pipelines are lawful *per se* under the antitrust laws.

Concerning specific adverse effects that some of the pipelines may generate, it should be noted that the ability of the owner companies to determine the particular points the lines will serve, and the size and the expandability of the facility, can be a considerable initial advantage to owners over other potential shippers. Indeed, it can be argued that the ability to configure the pipeline route to bypass or reach particular fields, refineries or terminals, and to fix the rates for service over the facilities so designed, can constitute a crushing discrimination in particular cases.

There is also doubt as to the possibility of redress for outside shippers through resort to ICC regulation, for that agency, lacking certification authority, does not supervise the layout or the sizing of pipelines, nor does it insist upon the installation of additional physical facilities necessary to serve particular shippers.

Moreover, to the extent that companies divert shipping business to joint venture pipelines, either because of cost advantages resulting from ownership or because of their financial guarantees, competing independent transportation companies could be foreclosed.

Two of our investigations of pipeline projects recently culminated in decisions that antitrust violations were involved. In the face of expected litigation these projects were abandoned. These were the Gateway pipeline and the Glacier pipeline projects.

We are also examining other pipeline projects, including the proposed Trans-Alaska pipeline system. In our statement filed with the

Cabinet task force in 1969, we noted our concern with the possibility that joint venture control of production, sale, and transportation could minimize competition in the large and important portion of domestic supply which is expected to be derived from Alaskan oil.

Since that time we have undertaken a full and active investigation of this matter. However, until all the relevant documents and information have been received, assembled, and evaluated, I think that any discussion of the particular antitrust implications of that system would be fragmentary and premature. We are, however, giving the matter our close and careful attention.

The second matter in which this committee has expressed an interest is the question of mergers in the energy field. Although the Federal Trade Commission has been asked to study this matter in depth, I would like to offer some brief remarks on this point.

The Department is aware of the continuing interest of the Congress in the question of mergers among various energy companies. Testimony on this subject was given by Deputy Assistant Attorney General Comegys last July before the House Small Business Committee.

A major problem in our enforcement efforts in this field has been the lack of firm data concerning the effects of mergers among fuel producers. Reasonable arguments have been made that such mergers are both procompetitive and anticompetitive. Consequently, we are particularly anxious to see the results of the FTC study of this field.

This study is divided into four parts. The first is an attempt to measure the extent to which various fuels—oil, coal, gas, and nuclear energy—compete with one another. I am informed that this phase of the study is now nearing completion.

The second part of the study will seek to measure market concentration; and the third will consider the effects of mergers on profitability and investment levels in the energy industry.

The fourth part—probably the most vital portion of the entire study—will investigate the effects of mergers in the energy field upon the level of research and development spending and the rate of innovation, particularly with respect to the area of synthetic fuels and new energy sources.

We are confident that the Federal Trade Commission will provide the Congress and other interested agencies with a most valuable report, and I want to assure you that we stand ready and are assisting the FTC in any way we can.

Thank you.

(The prepared statement of Mr. Wilson and the testimony of Mr. Comegys before the House Committee on Small Business on July 15, 1971, follow:)

PREPARED STATEMENT OF HON. BRUCE B. WILSON

Mr. Chairman and members of the subcommittee, I am pleased to respond to your invitation to discuss with you certain antitrust aspects of the oil industry and related energy matters.

I understand the Committee is particularly interested in two subjects. The first of these is the joint construction and operation of pipelines by competing oil companies. The proposed Trans-Alaska pipeline is perhaps the best known current project of this kind.

The second matter is the series of acquisitions of coal companies by oil companies during the past several years and, more broadly, the prospects for competition in energy markets.

In simplest terms, the primary objective of antitrust is to preserve competitive markets in order to increase the quality and reduce the cost of goods and services in a self-regulating free economy. But it is a fact that our national oil policy has had to recognize other essential interests as well, especially the national security interest in an assured supply of oil. And so antitrust policy operates here not in the setting of a fully free market but rather as one part of a complex of policies which serve a variety of objectives. These several forces exert different influences on price and supply patterns.

I think it would be useful, therefore, to begin with a description of the regulatory background against which antitrust operates in this field.

I.

Oil prices and related problems have probably received more serious attention in the last three years than at any time in the past. A number of events have exerted upward pressure on oil prices. Within the limits of practicality, the Administration has acted to offset or minimize the impact of these events on consumers.

Half a century's accumulation of government controls and restrictions has interfered with the free working of the marketplace. As a result, plans and investments have been made on the basis of policies long in effect. The development of those policies is illustrative of the degree to which free market mechanisms have been disrupted in this area.

The first significant government intrusion into the marketplace was the prorationing of crude production by the states. This policy received federal sanction under the Connally "Hot Oil" Act of 1935. The stated purpose of prorationing was the conservation of our oil resources. But a system of production control based on perceived market demand—which is what prorationing is—cannot help but affect prices to some extent.

In the late 1950's, in progressive stages, a system of oil import controls was established for national security purposes. This program inevitably reinforced the price-stabilizing effects of the state prorationing system. Both programs limit the total supply of oil available to meet current demand.

But not all government policies have tended to increase energy prices. At the same time that prorationing and import controls tend to prop up the price of oil, government regulatory policy has held down the price of natural gas.

Oil and gas explorations pose essentially the same kinds of costs and risks and they are often produced from the same wells. The economies of oil and gas are thus highly interrelated.

Since the *Phillips* decision¹ in 1954, however, which held that the Federal Power Commission is required by law to regulate the price of interstate gas, government policy has been to exert downward pressure on gas prices, at the same time that prorationing and quotas exerted upward pressure on oil prices. The evident results of these several policies are higher than free market prices for oil, and lower than free market prices for gas.

The Oil Import Control Program, designed to avoid excessive dependence on foreign oil, was implemented by creation of a quota system which, in turn, created valuable import licenses and the problem of how to distribute them equitably. There was understandable pressure to allocate the licenses, or to create special exemptions, in ways that would serve objectives not necessarily related to the national security purpose in limiting the oil imports. The ensuing decisions led to increasing complications in the program and to even further distortions of market mechanisms.

Since 1969, our problems have been further complicated by pipeline and production interruptions in the Middle East, which led to a worldwide tanker shortage and higher fuel prices. More recently, a unified group of oil exporting countries known as OPEC has adopted concerted bargaining practices and through them has repeatedly increased the prices of oil from those countries.

II.

While these problems have been accumulating for a long period of time and do not lend themselves to instant solutions, they have had our consistent attention. In February, 1969, the President appointed the Cabinet Task Force on Oil

¹ *Phillips Petroleum Co. v. Wisconsin*, 347 U.S. 672 (1954).

Import Control. After many months of intensive effort, the Task Force produced a majority and a separate report, and some additional individual views.

One of the clear conclusions to be drawn from that Report was that oil policy affects many important segments of our government and national life, and in different ways. The particular concern of the Department of Justice has been with the competitive implications of the program, rather than with its security aspects. If competition were the only relevant criterion, it might be possible to make more rapid progress toward a more coherent national policy. But we recognize that there are other important considerations, which include both the security aspects and the fact that substantial planning and investments have been made on the basis of prior policies. Nevertheless, some reforms have begun, and a number of actions have been taken that should improve competition and ameliorate some of the undesirable effects of past policies.

The first action was to implement the unanimous recommendation of the Task Force that each government agency concerned with the effects of oil import controls should have an active role in setting oil policy, and that the primary responsibility should be vested in the agency most concerned with the security objectives upon which the program is based. Overall policy responsibility was given to the Director of the Office of Emergency Preparedness, acting with the advice of the Oil Policy Committee, consisting of the seven other agencies most immediately concerned. A second reform implemented from the outset has been a conscientious observance of the requirements of the Administrative Procedure Act, which requires public notice and an opportunity to comment before important changes are made in the program.

One of the first actions of the Oil Policy Committee was to correct some of the most obvious distortions in the method of allocating import licenses. The Task Force Report, for example, was highly critical of allocations made on the basis of individual firms' importing histories. These were eliminated from the program in 1970. The same problem existed with respect to Canadian imports. Under an agreement with the Canadian Government, imports of Canadian oil were limited and allocated largely on the basis of importing histories. As recommended by the Task Force, this arbitrary system was eliminated in favor of an openly announced quota and allocation system.

The next major action occurred in June 1970, when the first quotas were established for imports by independent marketers of home heating fuel for the East Coast market. This provided an additional source of supply for independent marketers in that area. That program was made permanent this year, and the level of the allocation was raised to a total of 45,000 barrels per day.

Efforts at reform have not been confined to imports. Federal offshore lands were removed from production limits imposed by neighboring state prorationing controls. It appears to be a step in the right direction.

Another major decision taken in the Oil Policy Committee was a new import plan for petrochemicals, announced last summer. This action should have a beneficial effect on fuel prices for at least two reasons. One is through saving natural gas, since petrochemical firms will now find it practical to use imported heavy liquid feedstocks to meet their expansion needs instead of domestic natural gas feedstocks. At the same time, residual fuel oil is likely to be produced in increasing quantities as a by-product of petrochemical production, which should increase our supply of this important fuel.

Another proposed reform would permit the free sale of import tickets rather than require, as at present, the exchange of physical quantities of oil. Public comments have been received on this proposal, and it is still under consideration within the committee. For this reason, I would prefer not to make any further comment on it at this time, except to say this: some small refiners have opposed the free sales of tickets on the ground that they would be unable to purchase crude supplies if producers were not forced to swap physical quantities of oil. This, of course, was not the reason for prohibiting sales in the first place, but we at Justice are disturbed by the apparent difficulty which some refiners have had in obtaining crude. If this turns out to be a real problem, we intend to look into it more closely.

III.

All of the actions I have described thus far involve regulatory action by the Government as distinct from traditional antitrust enforcement. I think this is significant in that it shows the extent to which government policies have been a primary obstacle to free competition in the oil and gas industry.

But there have also been enforcement actions against private restraints in the oil industry. Let me mention just three of them. In 1965, civil and criminal proceedings were brought against eight major oil companies for fixing retail gasoline prices in New York, Pennsylvania and Delaware;² the court accepted nolo contendere pleas in the criminal case, and approved a consent decree in the civil case in 1971. In 1970, in the *Asiatic-Sprague* case,³ the Antitrust Division filed a merger suit to preserve the largest independent fuel oil marketer in New England, which frequently undersold the majors, as a separate competitor; that case is pending. Finally, our challenge to a proposed merger of British Petroleum and Standard of Ohio⁴ was resolved by a consent decree calling for substantial divestiture designed to prevent a lessening of competition in and to deconcentrate the highly concentrated Ohio market.

IV.

Let me turn now to the two matters I mentioned at the outset of my remarks—joint pipelines and mergers in the energy fields.

Questions involving pipeline control are deeply embedded in antitrust history. Almost from its outset, petroleum—uniquely among major industries—has controlled the layout and operation of a transportation system dedicated to its exclusive use. During all of that time, the industry has been the subject of frequent allegations that through ownership and control of pipelines the major units have dominated and restrained the competition of smaller companies and independents. Misuse of pipelines was a significant restraint charged in the 1911 *Standard Oil case*. (221 U.S. 1 (1911)).

Pipeline abuses led to establishment of a limited regulatory system over their operation, declaring them to be "common carriers" as defined in the Interstate Commerce Act. They were subjected to rate control by the ICC, though not to the certification authority usually accompanying utility-type regulations.

Pipeline operations were included in the practices challenged in several suits, but none of these proceedings resulted in a judicial determination of pipelines' antitrust status.

During the past half-century, there have been many hearings—legislative, administrative and judicial—which aired but did not resolve a wide variety of alleged pipeline abuses affecting competition. Interstate Commerce Act regulation, the legal basis for which was settled in the *Pipe Line Cases*, 234 U.S. 548 (1914), has been sparingly used. Moreover, the post-World War II *Champlin Refining* cases propounded the confusing concept that certain pipelines could be required as "common carriers" to file various reports, yet not required to behave as common carriers in posting rates and accepting shipments.⁵

Beginning during World War II, and largely as a result of wartime cooperative use of pipelines constructed in the emergency, the industry has turned to so-called "industry lines." These are typically organized as joint ventures by the dominant firms interested in providing a transportation link between producing and refining areas or between refining and marketing areas. For the most part, these are large volume facilities of high efficiency and low cost. They usually are financed by loan capital to the extent of 90% of their construction cost, and the loans are secured by the owners' formal commitments that they will provide sufficient shipping business to generate enough revenue to meet operating and capital costs.

Typically, also, ownership is carefully divided among the shareholder companies on the basis of the anticipated use of the line by each company, the estimates being supported by detailed schedules of the proposed shipments of the respective shareholders from and to particular points over a 10 to 20 year future span. Usually, the ownership shares established by the proportionate use calculations may not be sold or transferred to outsiders without the consent of the other owners. And the predominant share of shipments handled by these lines—in some instances, all—have been those tendered by the owners.

In this pattern, the industry has constructed and operates by far the largest share of the new pipeline capacity added since World War II. This includes some 35 or more lines now operating, and a half dozen more in the proposed or construction stages.

² *United States v. American Oil Co., et al.*, Civil No. 370-65, Criminal No. 153-65, D.N.J.

³ *United States v. Asiatic Petroleum Corp., et al.*, Civil No. 70-1807-M, D. Mass.

⁴ *United States v. Standard Oil Co., et al.*, Civil Action No. C-69-954, N.D. Ohio.

⁵ See *Champlin Refining Co. v. U.S.*, 329 U.S. 29 (1946); *U.S. v. Champlin Refining Co.*, 341 U.S. 290 (1951).

Clearly, close-order cooperation among ostensibly independent, highly integrated and very large competitors, in planning, building and operating these units of the transportation system, can raise important antitrust considerations. The terms and conditions under which both members and outsiders gain access to these lines, with the striking economies of scale inherent in their large capacities and guaranteed volumes, can be a significant factor in entry into, or survival within, the market areas served.

The Antitrust Division has approached each of these proposals on a case-by-case basis, eliciting evidence as to the manner in which the pipeline in question is organized, constructed and operated.

As is the case with most questions, competing considerations must be weighed. On the one hand, the companies concerned insist that without such joint pipeline ventures, efficient transportation facilities could not be built; that the industry has expended the large capital investment represented by new facilities, in reliance upon the fact that the Antitrust Division has not challenged previous joint-venture projects; that to question such arrangements at this late date would destroy public confidence in Government policy determination; and, finally, that these lines do not unfairly prejudice non-owners, both because the latter are permitted the option of joining as owners if they wish, or, if they do not, are insured fair treatment by the common carrier status of the lines and the regulatory controls over their operation.

On the other hand, none of the joint pipeline projects has been submitted to the Department for clearance under its business review procedure and, in at least two cases, as noted more fully below, proposed joint pipeline ventures have been abandoned when the Department threatened suit. Thus, there is no warrant for assuming that joint venture pipelines are *per se* lawful under the antitrust laws.

Concerning specific adverse effects that some of the joint pipelines may generate, it should be noted that the ability of the owner companies to determine the particular points the line will serve, and the size and expandibility of the facility, can be a considerable initial advantage to owners over other potential shippers. Indeed, it can be argued that this ability to configure the pipeline route to bypass or reach particular fields, refineries or terminals, or to fix the rates for service over the facilities so designed, can constitute a crushing discrimination in particular cases.

There is also doubt as to the possibility of redress for outside shippers through resort to ICC regulation, for that agency, lacking certification authority, does not supervise the layout or sizing of pipelines, or insist upon installation of additional physical facilities—pumps, tanks, meters and pipe—necessary to serve particular shippers.

Moreover, to the extent that companies divert shipping business to joint venture pipelines, either because of cost advantages resulting from ownership or because of their financial guarantees, competing independent transportation companies (either operating pipelines or other modes of transport) could be foreclosed.

Two of our investigations of pipeline projects recently culminated in decisions that antitrust violations were involved. In the face of expected litigation, the joint projects were abandoned. These were the Gateway Pipeline and Glacier Pipeline projects.

We are also examining other pipeline projects, including the proposed Trans-Alaska Pipeline System. In our statement filed with the Cabinet Task Force in 1969, we noted our concern with the possibility that joint venture control of production, sale and/or transportation could minimize competition in the large and important portion of domestic supply to be derived from Alaskan oil. Since that time, we have undertaken full and active investigation of the matter. However, until relevant documents and information have been received, assembled and evaluated, any discussion of the antitrust implications of that system would be fragmentary and premature. But you may be sure we are giving the matter close and careful attention.

V.

The second matter in which this Committee has expressed an interest is the question of mergers in the energy field. Although the Federal Trade Commission has been asked to study the matter in depth, I should like to offer some brief remarks on this point.

The Department of Justice is aware of the continuing interest of the Congress in the question of mergers among various energy companies. Testimony on this

subject was given by Deputy Assistant Attorney General Walker B. Comegys, last July, before the House Small Business Committee. A copy of his testimony is attached to my prepared statement, and I would ask that it also be entered into the record.

A major problem in our enforcement efforts in this field has been the lack of firm data concerning the effects of mergers among fuel producers. Reasonable arguments have been made on both the procompetitive and anticompetitive aspects of such mergers. Consequently, we are particularly anxious to see the results of the FTC's study of the entire energy field.

As you may know, this study is divided into four parts. The first is an attempt to measure the extent to which various fuels—oil, coal, gas and nuclear energy—compete with one another. I am informed that this phase of the study is well under way.

The second part of the study will seek to measure market concentration; the third will consider the effects of mergers on profitability and investment levels in the energy industry.

The fourth part—probably the most vital portion of the entire study, in view of the nation's current concern with the question of a possible "energy shortage" in the future—will investigate the effects of mergers in the energy field upon the level of research and development spending and the rate of innovation, particularly with respect to the area of synthetic fuels and new energy sources.

We are confident that the Federal Trade Commission will provide the Congress with a most valuable report. We stand ready to assist the FTC in any way we can.

TESTIMONY OF HON. WALTER B. COMEGYS, ACTING ASSISTANT ATTORNEY GENERAL, ANTITRUST DIVISION, BEFORE THE SUBCOMMITTEE ON SPECIAL SMALL BUSINESS PROBLEMS OF THE HOUSE COMMITTEE ON SMALL BUSINESS ON JULY 15, 1971

I am happy to appear before this Committee today to discuss an aspect of energy fuel problems that you are studying.

Officials of the Federal Trade Commission have already appeared and discussed in detail the scope of the Commission's present broad study of concentration in the energy sector. As a corollary to this, the FTC is also investigating the estimating and reporting procedures of natural gas reserves and re-evaluating the competitive effects of a series of acquisitions by oil companies of coal firms over the past several years. I will not undertake to retrace this ground here. As I understand it, you wish only a brief supplemental statement of our views, addressed solely to the question of coal-oil mergers.

The Department of Justice shares the concern expressed in many quarters over the developing trend of major integrated petroleum companies moving into other energy fuels such as coal. As I emphasized in my testimony last year before the Senate Antitrust Subcommittee, we are undertaking to scrutinize with great care any future proposals for such interfuel mergers. Our concern involves anti-trust implications in at least three areas.

First, today there is direct competition between coal and petroleum in certain specific markets. The oil industry produces, refines and markets gasoline, heating oils and residual fuel oils. The major integrated oil companies also produce the bulk of domestic natural gas supplies. Residual oils compete with coal in the utility and general industrial market, while heating oils compete strongly in the industrial, commercial and residential space heating markets in which coal has by now been reduced to a minimal direct factor. Natural gas serves all three markets, though here direct competition is from interstate gas pipeline companies to whom gas is sold at the wellhead by the oil companies. Nevertheless, gas producers can strongly influence market competition through their power, collectively, to control available supply by management decisions on the pace of exploration and development and the extent of diversion of new supplies to intrastate markets.

Second, new research technology for conversion of coal into petroleum products and pipeline gas could eventually enable coal producers to compete against these fuels in their end markets. This technology, once theoretical, now seems only about five years away from commercial application. If coal is absorbed by oil and gas interests the spur to speeding technological breakthroughs could be dulled from fear of threatening fixed investments in existing petroleum sources. But if, on the other hand, new technology remains in the hands of an independent coal industry a new source of oil and gas from coal would put competitive pressure on the existing petroleum industry.

There is concern, finally, about the utility industry which relies for raw materials on the coal, oil, gas and nuclear industries to power its generation of electricity. Petroleum industry absorption of coal and nuclear fuel could put electric utilities at the mercy of a single group of fully integrated petroleum companies. While competing in end user markets with the petroleum companies' oils and gas for residential and commercial space and water heating—a large and fast growing field for electric utility expansion—the utility companies would become price-dependent on these same petroleum companies for coal, residual oil and other raw materials to fire their boilers. The price a utility would have to pay for boiler fuel would determine its ability to compete against oil and gas interests in these markets.

Against the background of these current concerns, the trend towards major petroleum company acquisitions of coal firms started to appear in the late 1960's. These mergers were appraised by the two antitrust agencies—the Antitrust Division of the Department of Justice and the Federal Trade Commission—pursuant to a longstanding inter-agency liaison procedure which, simply stated, reserves jurisdiction to the one which first takes investigative action in the matter or which already had under study a prior investigation to which the matter is related. The FTC, for example, took jurisdiction over the 1968 merger between Occidental Petroleum Co. and Island Creek Coal Co. (with 5 percent of 1968 coal production) and Occidental's acquisition a year later of Maust Coal and Coke Corp. (1 percent of production), which it still has under investigation. The remainder were examined by the Antitrust Division.

These included the forerunner, the 1963 acquisition by Gulf Oil of Spencer Chemical Co., one of whose subsidiaries was Pittsburg & Midway Coal Mining Co., now the twelfth ranking coal company with 2 percent of production. More recently, there was the 1968 merger of Old Ben Coal Corp. (2 percent of production) with Standard Oil Company of Ohio. These were found on examination at the time not to warrant antitrust action. But the principal merger we considered, and the one on which primary attention has been focused, was the 1966 merger of Consolidation Coal Co., one of the two largest coal producers, with Continental Oil Co., then the ninth and now the tenth largest of the so-called 20 major integrated oil companies.

This matter was brought to our attention in October, 1965, not by press reports, but directly by the parties involved. At a meeting solicited by the parties Assistant Attorney General Turner was asked informally what the Antitrust Division's position would be as to the prospective merger. Materials on the merger were furnished and, after a staff was assigned, additional data were requested and submitted. Following a thorough study it was concluded in March 1966 that no antitrust action was warranted at that time and the parties were so advised. The merger was thereafter consummated in September of that year.

The Antitrust Division decided that the two companies were not in significant actual competition with each other in specific geographic and industry markets. It was also believed at that time that the potential for possible competition between them and for significant increased concentration in the energy market as such did not rise to the level of a reasonable probability. As Mr. Turner later stated:

"We did not attack the acquisition of the Consolidation Coal Co. by the Continental Oil Co. for the following reasons. Only insignificant amounts of Continental's gasoline are sold in Consolidation's market area. Although natural gas and residual fuel oil—which Continental produces—may sometimes compete with coal, Continental sold these products for use only in areas of the country in which Consolidation does not operate and Consolidation did not sell in areas in which Continental's products were sold.

"Moreover, Consolidation and Continental are not significant potential competitors. Heavy residual fuel oil requires water transportation if it is to be shipped far from where it is produced. It is thus unlikely that Continental could expand its residual fuel oil sales into Consolidation's markets. Similarly transportation costs made it unlikely that Continental's natural gas would be sold in Consolidation's markets or that Consolidation's coal would be sold in Continental markets.

"We were, of course, fully aware that Consolidation was trying to develop a process for making gasoline out of coal. Even if it develops such a process, however, it is unlikely that it would have competed significantly with Continental. Consolidation operates primarily in Pennsylvania, West Virginia and Kentucky and presumably would sell gasoline in that area. Continental's sales in that area account for only 8/10 of 1% of its total domestic gasoline sales. There is no indication that either company intends to expand its marketing territory significantly.

Moreover, if Consolidation succeeds in converting coal to gasoline, it should be anticipated that other companies can do the same and are potential competitors in the gasoline market to the same extent as is Consolidation. In our judgment, therefore, the removal of one of them as a potential competitor was unlikely to affect significantly the behavior of companies that now sell gasoline, or have any significant adverse long-run effect on competition."¹

It should be noted that in 1966 the oil company movement into other energy fuels, a trend now clearly apparent, had not yet begun and past events gave no reason clearly to foresee its occurrence. Moreover, the potential for competition from conversion of coal into oil products and pipeline gas, now clearly foreseeable from research and development results, was then only theoretical. Pilot plant studies of processes to do this were then only beginning.

In any event, the Conoco-Consolidation merger and others, under our inter-agency liaison procedures, have recently been transferred to the Federal Trade Commission for re-examination in connection with its broad study of concentration in the energy sector, called for by Congress. We are, of course, undertaking to cooperate in every way possible in these studies.

While the broad and general FTC study is going forward, however, the Antitrust Division is prepared, as I have stated, to examine with especial care any future coal-oil mergers or other interfuel acquisitions. The Antitrust Division and the FTC will deal with any such mergers on a case by case basis in accordance with our usual inter-agency liaison procedure. Moreover, we believe that the existing law on the subject, Section 7 of the Clayton Act, is presently adequate to deal with such acquisitions which may arise. I would like to assure the Committee of our concern over this trend and to emphasize that we will scrutinize with great care any future proposals for such interfuel mergers. Our review will encompass not only the earlier traditional grounds for questioning horizontal mergers under Section 7, but also the possible applicability of the conglomerate merger principles and policies which this Administration has developed. These would test whether the acquisition would eliminate potential competition, entrench a leading firm, enhance reciprocity power and tend to encourage even further mergers. We believe our theories on conglomerate acquisitions are sound and we will continue to enforce the Clayton Act in line with them. We have full confidence that they will be upheld by the Supreme Court when an appropriate case reaches it for decision. Should our confidence eventually turn out to be misplaced, however, then and only then, we believe, would be the time to consider whether existing law governing coal-oil and other mergers should be strengthened.

ADDENDUM

Mention has been made in these hearings of alleged price-fixing in the coal industry and our failure to impanel a grand jury to investigate. In the Spring of 1971 the Antitrust Division was urged by the American Public Power Association, the Emergency Committee of the Tennessee Valley and the Tennessee Valley Public Power Association to institute a grand jury investigation of the sharp coal price increases during 1970. We had been following closely the supply-demand situation in coal for some time, and were aware of the background factors leading to an unanticipated upsurge of demand in the last couple of years and the impediments to the ability of the industry to meet this demand. This reached the point in late 1969 and early 1970 where utilities were beginning to draw heavily on their coal inventories to meet the growing consumption.

The complainants furnished little in the way of hard facts to support a price conspiracy charge beyond (1) an alleged statement by a National Coal Association vice president to the effect that we raised the price of coal and you [utilities] gotta pay it; and (2) the fact of the price increase itself. In effect, various allegations of misconduct by coal producers were deduced from an essential and erroneous premise that in fact there had been no coal shortage in 1970 and that therefore the price rises could only have been the result of collusion. This premise was supported by an economic analysis prepared for the complainants, with which on examination we disagreed completely.

Of course the existence of a 1970 coal shortage was recognized by Government agencies responsible for aspects of energy supply who were actively working

¹ Letter of April 28, 1967, to Senator Wayne Morse, in response to questions asked at an appearance before the Senate Small Business Committee.

to mitigate its impact on the fuel situation for the winter of 1970.² It was also clearly recognized by statements of officials of the American Public Power Association itself. In any event a more thorough economic analysis undertaken by the Antitrust Division after receiving the complaint clearly confirmed the fact of the shortage.

Based on a month to month study of utility inventories, purchases and consumption, correlated with monthly average prices, our study showed the depletion of utility inventories and the unusually severe buying pressures on coal prices from April 1970 through the last half of the year in a scramble to replenish stocks. Indeed, monthly utility purchases of coal went from 22.4 million tons in January 1970 to 31.1 million tons in December—a 50 percent increase which was greater than the percentage increase in coal prices during the same period.

It was concluded that the 1970 price rises could be attributed to this interaction of supply and demand rather than to conspiracy. In the absence of any more persuasive specific evidence of conspiratorial behavior by coal producers, it was accordingly determined that no adequate foundation had been presented at this time on which to request authority for a grand jury investigation.

Chairman PROXMIRE. Thank you, Mr. Wilson. Thank both of you gentleman very much.

Mr. Dole, I am glad you stressed toward the end of your statement, the importance of your organization in consolidating responsibility for our energy resources in a single agency. I favor that and I support that and I have said so. I favor the President's whole reorganization program. But I think that, No. 1, unfortunately it is unlikely to be consummated this year, and I hope I am wrong; No. 2, if it were, I doubt if it would reach any of the really important matters that we are talking about within the next year or two. Reorganization is helpful but it can hardly be substantive in terms of what we are discussing here. You say:

There is no action available to the Department of the Interior that will increase the available supply of oil and gas to the Nation during the expected duration of phase II.

You sound as if you knew how long phase II was going to last and if you do, I would like to be let in on the secret. We have had a lot of hearings on that and we have not been able to find out. The President says he doesn't know.

Mr. DOLE. Mr. Chairman, I cannot give you any definitive time on the length of duration of phase II. I read the papers the same as you, and I would only remark there that it has been stated that it would be no longer than a year or so, and the actions that we would take contemplate results in at the closest, 3 to 5 years, and most of them, 10 to 15 years.

Chairman PROXMIRE. Well, I disagree that it is going to take that long to get any action here, I certainly hope it won't take that long. Whenever you talk about 3 to 5 years or longer you are talking about several administrations which tend to take time to get organized and decide what they want to do. It seems easy to stall these things, and to prevent effective action, especially when you have a concentrated, vested interest which has a real reason, economic reason, for preventing effective action.

² See the statement issued by the Chairman of the Council of Economic Advisers and the Director of the Office of Emergency Preparedness, in Hearings on "The Impact of the Energy and Final Crisis on Small Business" before the Subcommittee on Special Small Business Problems, House Small Business Committee, 91st Cong., 2d sess., Oct. 6-8, 1970, pp. 16-17.

Mr. DOLE. Well, I would like to explain, Mr. Chairman, if I may, why I make these estimates, and I think these will come about regardless of the administrations. We have started this offshore leasing program, accelerated offshore leasing program, and already have had one successful sale, one sale is held up by the court but we have every reason to believe it will be consummated. These are down off the Louisiana coast and it will take 3 to 5 years to bring about the drilling and bring the oil and gas to shore. On our other actions, the liquids, and gases from coal, oil shale, geothermal, we figure with the accelerated program we are in that the technology will be available later on in this decade, and that significant quantities of energy materials will then be available in any case.

Chairman PROXMIRE. Let me indicate what we are talking about. We can start right away with oil import quotas.

Of course, the Interior Department can't do these things. But the President can.

Even short of these major actions, there are things that could be done right away. The administration can remove restrictions on oil imports from Canada. That could be done now. It can be done tonight. The administration can remove restrictions on oil imports for petrochemical companies. Both of these actions would increase the available supply of oil and gas to the Nation during the expected duration of phase II. In fact, it would increase the supply of oil and gas at once.

The administration can allow greatly expanded imports of home heating fuel for the east coast. I know you personally cannot make these decisions, but the administration can. I think you have been too negative in indicating what is possible, what can be done now.

Mr. DOLE. Well, Mr. Chairman, that may be your view. I cannot agree with you. As you know, the imports of oil from Canada have been increasing and we have actually made applications as far as gas goes in larger quantities than Canada has felt that they should send down to us. Just recently they have rejected some of the applications for import of gas, of natural gas, to the United States.

Chairman PROXMIRE. As long as we have a policy of any kind of restriction of oil from Canada, of course, it is very hard to encourage the kind of development, the kind of exploration of Canadian oil fields that we could expect if they had an assured market here with a firm policy of not restricting their importation of oil into this country.

Mr. DOLE. I think it quite unlikely that Canada could send us down any more oil than they are now doing. However, I think it will be with some pleasure to you to know that the State Department does contemplate further talks with Canada, and I am sure that either the State Department or the chairman of the Oil Policy Committee would be glad to talk to you on it.

Chairman PROXMIRE. I understand that Canada itself has indicated that they have an enormous supply that could be available to us.

Mr. DOLE. We would be very glad to get it from them, both oil and the gas, we would like to get both of them from them.

Chairman PROXMIRE. Well, the expressed policy, however, under the oil import quota is to limit the amount of importation of oil from Canada.

Mr. DOLE. Well, my records indicate that we are receiving an increasing quantity of oil from Canada. As a matter of fact, their production of oil in 1970 was 1,414,000 barrels per day of which we used 608,000 of it, about half of it. The other half went for their own use.

Chairman PROXMIRE. I don't deny the fact from time to time there will be an increase in oil from Canada. What I am saying, is the whole basis for restricting the oil from Canada does not make any sense.

Mr. DOLE. I am not sure we are restricting it.

Chairman PROXMIRE. The purpose is to make us militarily secure. Isn't that Canadian oil secure?

Mr. DOLE. Certainly, and I am not so sure we are restricting it.

Chairman PROXMIRE. Well, what does the Canadian quota mean? Why not abolish it?

Mr. DOLE. There is no Canadian quota other than for planning purposes.

Chairman PROXMIRE. Well, that is not the understanding of our staff. Let me go into that a little later.

Mr. Wilson, in your very clear and candid statement, you identify oil import controls as an anticompetitive factor which keeps domestic prices artificially high. You list certain actions taken since the cabinet task force report which you claim improve the situation. These actions, good or bad, are relatively minor.

The central conclusion of the task force report, as David Freeman reminded us on Monday, was that the import quota system was no longer acceptable. That conclusion was endorsed by a vote of 10 to 3. I am not talking about importations from Canada; I am talking about importation of oil from all over the world.

Did both of your agencies participate in this task force, both Interior and Justice?

Mr. WILSON. Yes, sir.

Chairman PROXMIRE. How did your agency vote on this particular conclusion?

Mr. WILSON. We were an observer, Mr. Chairman, and I do not believe we officially voted. However, as the chairman is aware, we did file the views of the Antitrust Division which analyzed the question solely from a competition point of view. When we analyze that question from that point of view, I think it is pretty clear where we come out.

Chairman PROXMIRE. You come out on the side of the majority of the report?

Mr. WILSON. Yes, sir.

Chairman PROXMIRE. I understand Interior came out on the side of Commerce, FPC in separate views?

Mr. DOLE. Our position, Mr. Chairman, was set forth in the report as separate views; this is correct.

Chairman PROXMIRE. Why has no action been taken on the major recommendation to move from the quota to a tariff?

Mr. DOLE. To whom are you addressing that, Mr. Chairman?

Chairman PROXMIRE. All right; we will address it to you since your agency was on the task force and not as an observer but as a voting member.

Mr. DOLE. AS I mentioned earlier in my statement, Mr. Chairman, the oil import policy is under the Chairman of the Oil Policy Committee which is Mr. Lincoln, and he makes the decisions on the advice of the Oil Policy Committee itself. It would be, then, in response to your question, the deliberations of this committee that has guided it so far.

Chairman PROXMIRE. You have indicated that so far as your concern you don't see any reason why we should have restrictions on the importation of Canadian oil. Unfortunately, it does not seem to be the policy of our country although you seem to disagree on the practical effect of the limitation.

Why should we restrict oil imported for petrochemical use?

Mr. DOLE. Restrict oil for petrochemical use?

Chairman PROXMIRE. Yes, sir; what security is involved?

Mr. DOLE. There are many reasons why we should restrict oil for petrochemical use and a good many of these have to do with how the oil should be imported and how it might be exchanged. Right now we have gone to a heavy liquid importation program for the petrochemical program which is practically an unlimited amount for the heavy liquid petrochemical user.

Chairman PROXMIRE. Are you aware, Mr. Wilson, of Mr. McLaren's memorandum, which we were able to procure and release on Monday, indicating that the national security was not involved in providing imported oil for petrochemicals?¹

Mr. DOLE. Yes, I read that in the paper, Mr. Chairman.

Chairman PROXMIRE. Would you like to comment, Mr. Wilson?

Mr. WILSON. Is the date of that memorandum March 19, Mr. Chairman?

Chairman PROXMIRE. That is correct.

Mr. WILSON. That memorandum, sir; was prepared as a draft by the department. It was circulated to other executive branch agencies to secure their comments. After those comments had been secured, certain changes were made in the memorandum and it was transmitted to the President as the advice of the President's legal officer.

With respect to the March 19 draft, sir; I would like to say we analyzed this question in competition terms, looking at the petrochemical situation. We concluded there should be no presumption of a national security interest attaching to imports for petrochemical purposes as opposed to imports for energy purposes.

Chairman PROXMIRE. Well, I think your statement was quite a bit clearer than that. I think you put it awfully well in that draft. You say:

The use of petroleum as a chemical raw material is different in kind when it is used for energy. No presumption of security importance can attach to a product by reason of its manufacture from petroleum. A trash bag or a plastic toy is no more essential to national security because it is made from petroleum rather than paper or metal.

And I think this kind of conclusion is very logical and very sensible.

Mr. WILSON. Sir, we would not presume to make the ultimate national security determination. We do not have the information or the resources to make that kind of a determination. What we were saying

¹ See p. 344 for text of draft memorandum.

is that petrochemicals appear to us to be quite different than imports for energy purposes and—

Chairman PROXMIRE. Well, do you know of any finding that has been made contrary to this finding in this memorandum?

Mr. WILSON. The finding has not yet been made, sir. The proposed petrochemical regulations are now pending, and if a finding is to be made, it would be made at that time. However, having stated the presumption that we did, we then proceeded to analyze this question in terms of competition and in terms of its effect on exploration and development. We concluded that petrochemical imports would not have an adverse effect.

We were concerned from a competition point of view with a situation where the chemical companies are becoming dependent upon the oil companies for feedstocks. The oil companies in that situation may very well in their chemical operations be competitors of the chemical companies. We did not think that was a particularly healthy situation and were further concerned about potential distortions in the international competitive picture for our own petrochemical companies.

Chairman PROXMIRE. Are not import controls logically inconsistent with tax subsidization of foreign oil? We have been up against this the last 2 days. It just seems so obvious if we are going to permit a foreign credit, if we are going to permit full depletion deduction to encourage the development of foreign oil at considerable expense to the American taxpayer, does it make it any sense for us then to have an import quota restricting the importation of oil into this country so that we can make this available? We can't have it both ways, it seems to me. Does it seem logical? I know that neither one of you gentlemen are responsible for tax policy; that is the Treasury's cup of tea, but I ask you as experts in this area who have studied this, can you see any justification for having both?

Mr. DOLE. Well, I would like to address myself to that, Mr. Chairman. Indeed I do. I think that the oil import policy has, as I reflected in my statement, resulted in many new finds here in the United States.

Chairman PROXMIRE. I vigorously dispute that, but I will go into that a little later. My question was not related to that.

My question was whether it made sense for us to have a tax system which encouraged exploration abroad at a cost to the Treasury Department and, therefore, cost to the taxpayer; and then when this oil is developed abroad, produced abroad on the basis of encouragement from American taxpayers it is not permitted to be imported into this country.

How does that make any sense?

Mr. DOLE. Well, in the first place, we have to look at this on a broader scale than just the United States. We have to find out what the world resources are insofar as the world has a demand for energy. Furthermore, there is a lot of tax money coming back to the United States from the earnings of these companies overseas.

Chairman PROXMIRE. A whale of a lot less because we have these credits and because we have all of the benefits that go to domestic firms solely justified on the basis of providing a domestic supply, secure militarily, of oil; but then we give it to the exploration in Saudi Arabia and in Abyssinia and in other parts of the world which are not secure. What is the justification for that?

Mr. DOLE. Well, there is this; Mr. Chairman: That our U.S. companies do make less dollars per barrel of oil from a foreign country than they do here; and I do not think that we are discouraging exploration one bit here in this country and I do think it will make sense for them to look overseas just like our mining companies are looking overseas.

Chairman PROXMIRE. Maybe it does. It does make sense for us to encourage the development of oil overseas if we would permit that oil to come into this country in substantial amounts so that we can conserve our own oil but we are not doing that.

We are permitting a tax bonanza, a most substantial loophole, the most notorious loophole in our law for oil companies and then not permitting the fruits of that policy, the oil that it developed, to come in.

Mr. DOLE. We are letting a substantial amount of foreign oil come into this country—about 23, 24 percent—as of 1970, and there is a good chance that will rise to 40 or 50 percent by 1985 to 1990.

Chairman PROXMIRE. Well, if we have that, of course, then that would probably represent a great failure on the part of our—

Mr. DOLE. A great what?

Chairman PROXMIRE. A great failure, because the whole purpose, as I understand it, of our present oil policy is to develop domestic sources of oil.

Mr. DOLE. Yes; and as I pointed out in my statement, Mr. Chairman—

Chairman PROXMIRE. I want to come to that; I think it is ridiculous to argue and we can make a very solid argument on this, that the Alaskan oil find would not have taken place without the oil import quota; but let me come to that a little bit later.

Would you say import controls are effectively protecting our national security or are we “Draining America First” as Mr. Freeman put it—

Mr. DOLE. Oh, no.

Chairman PROXMIRE (continuing). The other day?

Mr. DOLE. I think very definitely that the restriction of oil imports is of great benefit to our national security because it maintains our domestic economy and allows us to manufacture and go about having all these good things that require energy. By having firm control over our energy resources, I think that we are then in a position where we are more secure.

Chairman PROXMIRE. Mr. Dole, you say that Interior and OMB are presently conducting a study of the possibilities of royalty bidding for offshore oil. Could you supply a little more detail about this study?

Mr. DOLE. Yes, I would like to—

Chairman PROXMIRE. When will it be completed?

Mr. DOLE. I beg pardon.

Chairman PROXMIRE. When will it be completed?

Mr. DOLE. Mr. Chairman, I would like to refer this to Mr. McKelvey who is director of the geological survey, who is a member of that committee. Would you like to respond to that?

Mr. McKELVEY. Yes, sir; Mr. Chairman, such a study is underway and it is hoped that a plan for experimental royalty bidding can be completed in time for use in the next Louisiana sale, not the one that is under injunction at the present time but the next one.

Chairman PROXMIRE. It will be available when?

Mr. MCKELVEY. In time for use by the next offshore sale.

Chairman PROXMIRE. When will that be?

Mr. MCKELVEY. Well, it was originally scheduled, I believe, for May, but I am not sure now whether it will be undertaken then.

Chairman PROXMIRE. That is this coming May?

Mr. MCKELVEY. Yes.

Chairman PROXMIRE. Very good.

Mr. Wilson, you have given us a good summary of the history of pipeline regulation and litigation. The picture I get is almost one of total confusion. Does the ICC regulate pipelines or doesn't it?

Mr. WILSON. It regulates them partially, sir.

Chairman PROXMIRE. Partially?

Mr. WILSON. Yes, sir.

Chairman PROXMIRE. What does that mean? What part?

Mr. WILSON. Well, in some areas, sir, as I pointed out in my statement, as a result of *Champlin Refining* cases the situation is quite confused. Those cases held that for some purposes, such as filing certain reports, the pipelines were subject to regulation. For other purposes they are not. I agree with the chairman that the situation is rather confused at this point.

Chairman PROXMIRE. For filing purposes. What does that mean? Is there a control of rates charged—

Mr. WILSON. It is really—

Chairman PROXMIRE (continuing). To any extent?

Mr. WILSON. It is really more of a filing of information reports, sir, rather than—

Chairman PROXMIRE. What is done with the information?

Mr. WILSON. I would have to defer to the ICC on that, sir.

Chairman PROXMIRE. Are pipelines common carriers or not?

Mr. WILSON. Yes, sir; in most respects I think the pipelines have to be deemed common carriers.

Chairman PROXMIRE. Will the proposed trans-Alaska pipeline meet the legal definition of a common carrier? Let me just say that the witness whom we had yesterday, Beverly Moore, from Ralph Nader's group, said that it would not because nonowners would have to ask each owner individually for access to the pipeline.

Mr. WILSON. Sir, that is a matter which we are investigating and on which I would not care to comment at this time.

Chairman PROXMIRE. Is it correct, as was testified here yesterday, that a recommendation was forwarded within the past year from the Assistant Attorney General to the Attorney General that a formal investigation of the legality of the proposed trans-Alaska pipeline be undertaken?

Mr. WILSON. That investigation has been undertaken, sir. I saw in this morning's paper some comment upon the manner of our investigation and I would deem it not appropriate to get into the internal decisionmaking functions of the Department.

Chairman PROXMIRE. Let me just say the testimony before us was that the recommendation was made but the Attorney General indicated this is not the time for it.

That was a few months ago. You say since then the investigation has been undertaken; is that correct?

Mr. WILSON. The Antitrust Division concluded that this pipeline transaction should be investigated. We determined the nature of the information which we would need in order to evaluate it from an anti-trust point of view. At that point there were a number of alternatives available to us ranging from requesting voluntary submissions on the part of the companies through civil investigative demands, all the way to a grand jury.

Chairman PROXMIRE. So at the present time will it be an investigation? The nature and purpose of the investigation and so forth has not yet been determined?

Mr. WILSON. Oh, yes, sir. The purpose of the investigation is to study the potential anticompetitive consequences of this arrangement. At this point we are proceeding on the basis of receiving voluntary submissions from the companies. Our preliminary investigation was of this nature and it was fairly successful. We have received, I understand, substantial submissions from all of the companies except one at this point.

If in the future it is determined that we are not getting the information which we need on the present basis, then we will have to reconsider the question of CID's or even a grand jury.

Chairman PROXMIRE. How does this work? I understand this is a voluntary submission.

Mr. WILSON. Yes, sir.

Chairman PROXMIRE. So, if the facts are not as you find them, if they are inaccurate, do you have any recourse, any basis then for action against the company?

Mr. WILSON. Oh, certainly, sir. This voluntary submission route is a rather common one in the Antitrust Division. I do not have the figures but I would guess a substantial number of our investigations are made using that investigative technique.

For people who falsify the information under that kind of an investigation, we have available the obstruction of justice statutes and the false statement to the Government statutes. They are quite severe sanctions there.

Chairman PROXMIRE. Is it correct that a recommendation was made to institute antitrust proceedings against Colonial pipeline that has been pending for about 6 years now, and no action has been taken?

Mr. WILSON. That is a matter, sir, that we still have under investigation.

Chairman PROXMIRE. Six years?

Mr. WILSON. Yes, sir.

Chairman PROXMIRE. How long do you investigate these things?

Mr. WILSON. Frankly, sir, with respect to a transaction of this type, it is impossible really to make a prediction as to how it is going to operate.

Chairman PROXMIRE. This investigation was begun toward the beginning of the Johnson administration. It looks like it is going to continue through the Nixon and, perhaps, the Muskie administrations.

Mr. WILSON. I hope to have an answer before 1980, sir. [Laughter.]

Chairman PROXMIRE. Well, I hope you have some results long before that.

Mr. WILSON. Seriously, on this point, one thing that we can do is wait and observe the pipeline in its actual operation to see if, in fact there are going to be anticompetitive consequences.

Chairman PROXMIRE. Well, in the Colonial pipeline case we had some very dramatic examples of anticompetitive action brought to our attention yesterday, and I would recommend that you take a look at the transcript.

Mr. WILSON. We will do that, sir.

Chairman PROXMIRE. Perhaps you are familiar with them, but these seem to be to this Senator, at least to be certainly very anticompetitive.

What studies are you making of the Explorer pipeline which is presently being constructed?

Mr. WILSON. That is another transaction, sir, which we have under investigation. We have received substantial returns of documents, the last of those being in August, and a recommendation, I understand, is currently being prepared at the staff level.

Chairman PROXMIRE. I wish both you and Mr. Dole would comment on the possible environmental impact of that pipeline and whether or not the Corps of Engineers should be required to file environmental impact statements on this and other pipelines.

Mr. DOLE. I would be glad to comment on the environmental impact of the Alaska pipeline, Mr. Chairman.

Chairman PROXMIRE. I am talking about the Explorer pipeline.

Mr. DOLE. I beg your pardon.

Chairman PROXMIRE. I am talking about the Explorer pipeline, and specifically the filing of an environmental impact statement which is required by law and which has not been done.

Mr. DOLE. For the Explorer pipeline?

Chairman PROXMIRE. That is correct.

Mr. DOLE. I haven't any idea what the Explorer pipeline is.

Chairman PROXMIRE. That is a pipeline that was discussed by our last witness yesterday. It is a pipeline that—it is not the Alaskan pipeline—runs through the central part of this country.

Mr. DOLE. I am sorry; I can't discuss the environmental impact of that because the pipeline is not under our jurisdiction. This is the first time I have heard of it.

Chairman PROXMIRE. Let me give you the situation. Let me ask you, Mr. Dole, Mr. Heddix was the man who called our attention to it. So far it was a joint venture owned by eight oil companies. They are Cities Service Oil Co., Gulf Oil Co., Shell Oil Co., Texaco, Inc., Sun Oil Co., Phillips Petroleum Co., Apco and Continental Oil Co. Of these, Apco is the only small refiner. Now, under construction is a 28-inch line from Lake Charles, La., to Tulsa, a 24-inch spur to Dallas-Fort Worth. Initial capacity is to be 282,000 barrels per day to Tulsa and 185,000 barrels per day to Chicago, ultimate design capacity is 614,000 barrels per day to Tulsa and 416,000 barrels per day to Chicago.

You never heard of it; is that right?

Mr. DOLE. No, I have never heard of it, Mr. Chairman. This is a product line not a crude line and this would come under the Department of Transportation and I would recommend to the Chairman that that question be directed to them. We have nothing to do with it.

Chairman PROXMIRE. You wouldn't be concerned with the environmental implications of that?

Mr. DOLE. I think we are all concerned with the environmental implications.

Chairman PROXMIRE. Seriously challenged by the witness?

Mr. DOLE. But the Environmental agency, I am sure a statement to that one is filed.

Chairman PROXMIRE. It has not been. We have been very unsuccessful in getting environmental impact statements filed. I would say in less than 1 percent of the cases where environmental impact statements are required by law to be filed have they been. It is very discouraging.

Mr. DOLE. Within the Department of the Interior we looked over about 6,000 of them last year and we are having them come in at the rate of hundreds a month within the Department. I don't see how we missed that one. I am sure that eventually we will be involved in it, but right now I know nothing about it and I still refer you to the Department of Transportation.

Chairman PROXMIRE. Mr. Wilson, would you agree that the Corps of Engineers should be required to file an environmental impact statement under the law with respect to construction of pipelines?

Mr. WILSON. I am afraid, Mr. Chairman, that I am not sufficiently familiar with that statute either to agree or disagree.

Chairman PROXMIRE. Well, let me ask you a question that is within your competence, I think.

Several witnesses have recommended separation of major oil companies through vertical divestiture. That seems to be the most popular position. I think it may be unrealistic to expect we could achieve it within a reasonable time, but it is very powerfully argued and seemingly a logical position. That is separating oil production from the rest of the petroleum operation, oil transmission, oil refining, the economists have testified before us yesterday—and they seem to be very competent economists—there are no significant economies of scale being realized by the existing vertical integration and that vertical integration is a very, very tough problem, not only for the consumers but also for the small businessmen who are refiners and marketers and so forth.

In such divestiture, in your view, feasible?

Mr. WILSON. I suppose it is theoretically feasible, Mr. Chairman. In these situations there is really a range of alternative forms of relief, and if we are dealing with practices which we can prevent by other means rather than divestiture, I think we ought to try some of these other things first. I think divestiture would be a rather drastic—it is the most drastic, I suppose—form of relief.

Second, I am not sure that that would represent a unanimous agreement by any means among economists that there aren't some pretty significant economies in this type of integration which in themselves are desirable. So I think this is really one of the most difficult questions of antitrust law and one which is currently receiving a great deal of attention.

Chairman PROXMIRE. Well, I persistently asked the economists about that question because I think that is the heart of it to a considerable extent: Can you justify economically vertical integration and they seem to be uniform in their argument that there were no economies of scale. So if you know economists who disagree with that who are not directly employed on the payroll of major oil companies, I would appreciate getting a citation.

I would like both of you gentlemen to comment on this question: Has the Oil Policy Committee examined the extent to which tax sub-

sidization of the foreign operations of U.S. oil firms may be increasing our dependence on foreign oil, and if so, what was the conclusion?

Mr. DOLE. Well, Mr. Chairman, once again, I feel that a question such as this should be addressed to the chairman of the Oil Policy Committee. I will say this, though, that this question has not been discussed within the committee.

Chairman PROXMIRE. Don't you think it should be?

Mr. DOLE. I think that all matters relating to oil and sufficiency of oil as it affects our economy are of interest to the Oil Policy Committee.

Chairman PROXMIRE. Let me tell you that this question bothers this Senator on the basis of the hearings we have had so far as much as almost any other. The tax policies we are following are counterproductive, making us more dependent, not less dependent, on foreign oil sources.

Mr. DOLE. By that, do I understand, Mr. Chairman, that you feel that the oil industry should be given higher depletion allowances or something like that?

Chairman PROXMIRE. No; I am arguing quite the reverse; they should not be given any depletion allowances on any foreign oil. They shouldn't be given tax credit; they should be given the usual deduction, business deduction, for their royalty payments rather than a credit.

Mr. DOLE. As you pointed out earlier, these questions are probably outside the purview of the Department of the Interior and perhaps people from Treasury should be asked about that.

Chairman PROXMIRE. Mr. Wilson, let me ask you this legal question:

It is my understanding the tax credit granted for foreign royalty payments to U.S. companies for foreign oil could be reduced or abolished simply by a new internal revenue ruling. Do you think this could be done or do you think it can be done?

Mr. WILSON. If the present system is that it is contained in a ruling, I suppose it could be done. I, really, in this area am speaking as one who came within a gnat's eyelash of flunking his law school course in taxation. [Laughter.]

Chairman PROXMIRE. That is why you were hired by the Department of Justice. [Laughter.]

Mr. WILSON. That is why I am working in the Antitrust Division and not in the Tax Division, sir.

Chairman PROXMIRE. Well, I know you are a very able man.

Mr. Dole, we have heard a lot about the cost of a trans-Alaska pipeline versus the cost of a trans-Canada pipeline. I would like to ask you a few questions about it.

Mr. Charles Ciccehetti of resources for the future estimated that if the trans-Canadian line were built, it would reduce Midwestern oil prices from \$3.82 a barrel to \$3.40 a barrel and east coast prices from \$4.07 a barrel to \$3.60 a barrel.

West coast prices, which he estimates would drop from \$3.17 a barrel to \$2.40 a barrel if the Alaska pipeline is built, would still be lower than Eastern and Midwestern prices ever if the trans-Canadian line were built instead. That certainly indicates to me that a trans-Canadian line would be far more anti-inflationary and far more beneficial for the entire country than the trans-Alaska pipeline.

Is that correct or not?

Mr. DOLE. I certainly, Mr. Chairman, am not that familiar with Mr. Ciccehetti's analysis but I would like to point out to you that the trans-Alaska pipeline, that the oil it would furnish is certainly needed on the west coast in district V and district V is that area generally west of the Rocky Mountains.

At the present time the west coast is 24.3 percent dependent upon imported oil and without the Alaskan oil, without the Prudhoe oil, it is estimated that by 1985 this dependency would increase to 73.1 percent.

Chairman PROXMIRE. You dispute the fact that the west coast prices would be a great deal less than the east coast and the Midwest and even below what they would be, even if the trans-Canada pipeline were built?

Mr. DOLE. Well, my point here, Mr. Chairman, is that the need for the oil is in district V, and as I mentioned earlier, there is a great deal of relaxation and a greater amount of imports of oil from Canada into the Midwest. I feel very strongly that the best place for that Alaskan oil to go would be to the west coast.

Chairman PROXMIRE. I got a letter from the Interior Department stating that they had been told by the owners of the trans-Alaska pipeline that they would probably ship no more than 5 percent of its flow to foreign countries. I am curious whether the Department of Interior made its own independent estimate of the amount of oil that would be exported.

The reason I ask this is because when Prime Minister Sato of Japan was here he said, and I quote: "We will, of course, be purchasing oil in the event the pipelines are completely laid."

Mr. DOLE. It would seem to me that about the only oil that would go, if the trans-Alaska pipeline or Alyeska pipeline, however you want to refer to it, if the Alyeska pipeline were built, it would seem to me only distressed oil or oil that had to be moved because of some aberration in the movement of oil, that would be about the only oil that would be exported. The fact remains that the cost of oil on the west coast, as you pointed out, the price of oil on the west coast is much higher than that of, say, Japan or someplace in the Mideast, and it would seem to me that it would be logical that that oil would move to a place where it would demand the highest price; so I would say that the 5 percent estimate would be nothing more than an estimate and it doesn't seem logical to me it would be so.

Now, as to the Department of the Interior making its own study on that, I believe a study was prepared in the Office of oil and gas on just this subject.

Chairman PROXMIRE. I understand the Interior Department has not released its preliminary estimate of potential oil for Cordova in Alaska.

Are you familiar with the report Mr. William Pecora made to the Oil Policy Committee on July 22, 1971, in which he estimated that the so-called Cordova field contained an estimated 50 billion barrels of oil, approximately five times the official estimates of the North Slope field?

Mr. DOLE. Well, Mr. Chairman, I am not familiar with that report from Mr. Pecora but your reference to the Cordova field comes as a

great surprise to me. I saw that in the paper here some time back and there is no such thing, to the best of our knowledge, and I will refer to the director of the survey here shortly. There is no such thing as a Cordova field and I was very interested in—

Chairman PROXMIRE. Well, I recognize that, of course.

Mr. DOLE. Where your people got that information.

Chairman PROXMIRE. There is no Cordova field?

All I am saying is a very able geologist, an outstanding expert in all respects, Mr. Pecora, estimated there was a potential, unproven, not proven reserves but potential, for 50 billion barrels in this field if it develops as a field.

The reason I raise that point now is that if that does develop, and as I say this man has an excellent reputation, then you would have an entirely different ballgame so far as the availability of oil for the west coast is concerned and a far stronger argument for a trans-Canada pipeline.

Mr. DOLE. All right, Mr. Chairman. There is no question about the qualifications of Mr. Pecora who is now the Under Secretary of the Interior.

Chairman PROXMIRE. Right.

Mr. DOLE. On the other hand, we have with us today the Director of the Geological Survey, who replaced Mr. Pecora, and I would like to have him respond to it. But before he does that, I think it should be pointed out, and I would like very much to see the report corrected to this extent, that there is no such thing as a Cordova field; and that there are no 50 billion or 50 million or five barrels of proven oil in the Gulf of Alaska.

Chairman PROXMIRE. Nobody has ever said there were 50 billion barrels. All we said was a potential on the basis of a competent man, now Under Secretary of the Interior, former head of this office, who said there was an estimated 50 billion barrels of oil as a potential here.

Mr. DOLE. Well, let's let the Director of the Survey, who is a very competent and very reknowned geologist, answer that.

Mr. McKelvey.

Mr. MCKELVEY. Well, Mr. Chairman, I am not familiar with the report to which you referred, of Mr. Pecora's. I presume it would have been based, however, on estimates prepared by the Geological Survey. I am not familiar with an estimate of potential that would be as large as you mentioned, but certainly in the Gulf of Alaska region there is a substantial potential.

My recollection of the estimates that have been made of the potential would indicate that it is of the order of a few to several billion barrels; but whatever its magnitude certainly there is a potential in that area. But unless oil is actually found, just how much is present and what its exploitability may be are matters of conjecture.

Chairman PROXMIRE. I don't deny that. All I am saying is that we may or may not find oil there. If we do not find oil you can still make a strong case for the trans-Canada pipeline on various bases and environmental is one perhaps, and economic is very clearly an argument for it. If you do find oil the case is just overwhelming it would have been a better decision to build the trans-Canada pipeline rather than the trans-Alaska pipeline.

MR. DOLE. Well, Mr. Chairman, our need for energy and our need for oil and gas is so great that it is not a matter of either/or; it is a matter of trying to get all that we possibly can. So I do not think that even if there is oil in the Gulf of Alaska or elsewhere off the coast of Alaska or elsewhere off the west coast or off the east coast, it is a matter of whether or not one would decide whether the pipeline would be built or not. It is a matter that we need all the oil we possibly can get.

As I pointed out to you, if we do not get the oil from Alaska by 1985, it is expected that the west coast will be 73-percent dependent upon foreign oil.

CHAIRMAN PROXMIRE. Mr. Dole, we have heard a lot of testimony to the effect that the only data which the Interior Department as well as the rest of the Government has regarding the oil industry is that which the industry itself supplies. Although the American Petroleum Institute and the National Petroleum Council have provided some very valuable studies, don't you feel that with our national security at stake and so much money involved it makes sense to have the Government develop its own data? After all, how can you regulate an industry on the basis of unaudited industry data, let alone protect our national security?

MR. DOLE. Well, Mr. Chairman, I would have to agree with you in some respects on that, that it would be much better if we could gather our own data and information, and we are progressing in that field to try to gather more of our information.

I would point out to you that the cost is great. We have no reason to believe so far that the information that they have given us is wrong, but we expect to find out.

CHAIRMAN PROXMIRE. Can you give us any estimate of the cost and how you are progressing in gathering your own data?

MR. DOLE. No; I cannot give you any estimates on the costs other than it would be quite substantial.

CHAIRMAN PROXMIRE. What does that mean?

MR. DOLE. On whether or not we will be able to gather this information is going to depend on Congress response to our requests for money in this area, and it would probably take 2 or 3 years of extensive study to determine.

CHAIRMAN PROXMIRE. Well, when you correct your remarks, if you can give us any more specific information as to the cost, as to what kind of information you could determine, and so forth, we would appreciate it for the record.

MR. DOLE. We will be glad to do so.

(The following information was subsequently supplied for the record:)

Because it has been the practice under our system of Government, and indeed is a requirement under the Minerals Policy Act, to encourage industry to undertake the task of exploration for producible minerals, no estimates have been prepared of what it would cost the Government to acquire its own data on the magnitude and distribution of oil and gas resources. If the objective were simply to audit industry estimates of proved reserves by the use of a statistically acceptable sampling technique and if the Government were given access to proprietary data, the annual cost probably would be of the order of several million dollars. If the objective were to conduct the geologic, geophysical, and drilling exploration necessary to develop its own data on the distribution and magnitude of oil

and gas reserves and resources, the cost would be comparable to the petroleum industry's expenditures for these elements of its exploration progress which in 1970 totalled about 1.5 billion. Even granted that the scope of these expenditures would be limited to Federal lands, the total would still amount to several hundreds of millions of dollars a year.

Chairman PROXMIRE. That brings me to one other point:

If the Geological Survey prepared and published fairly complete geological data for all Federal lands being put up for lease, wouldn't that increase competition by allowing the independent oilman who can't risk all the money necessary to do the geological work on Federal lands before bidding on them to bid on lands that look promising to him?

Mr. DOLE. I think the independent oil producer is engaged in bidding on offshore lands. In the sale we had off western Louisiana on December 15 of last year, out of the 50 bidders, 33 of them were independents. As they operate now private companies go together for group shoots.

Chairman PROXMIRE. That is an encouraging statistic but then when you recognize the fact that the independents seem to be fading, their numbers, their proportion of the exploration that they are able to do, is diminishing, I wonder if we shouldn't take further action to encourage them?

Mr. DOLE. By that you mean through the tax laws, give them a higher depletion allowance or something on that order?

Chairman PROXMIRE. I proposed a lower depletion allowance for the big firms and the same depletion allowance we have now for the smaller ones. We didn't get much support from the administration.

Mr. DOLE. I think we ought to do more to encourage the independents. I feel that we are losing a large number of our independent explorers, the wildcatter, and I would be much in favor of finding out more of our basic energy resources in this country through some method of encouraging them to do the work.

Chairman PROXMIRE. Apropos of that, wouldn't a royalty bidding system for Federal offshore lands increase competition and income to the Federal Government by allowing independent oil men to bid on otherwise unavailable lands?

Mr. DOLE. Well, as Mr. McKelvey responded to you earlier, this is under study at the present time. I cannot give you any definite knowledge whether it would or not encourage them, but it should be encouraging to you that we are studying this and it could very well be possible that the next offshore lease sale might have this in it.

Chairman PROXMIRE. All right, sir. I realize the hour is late. I just have a very few more questions I would like to ask Mr. Wilson about the Alaska pipeline.

Mr. Wilson, recently questions have been raised about the Antitrust Division's performance in regard to the trans-Alaska pipeline. Mr. Beverly Moore, who, as you know, testified here yesterday, testified that the antitrust division recommended a formal investigation into the ownership structure of the trans-Alaskan pipeline but were rejected by the attorney general.

Have you commented on that?

Mr. WILSON. Yes, sir; I believe I did this morning.

Chairman PROXMIRE. I believe you did, yes.

In 1969 I wrote to Mr. McLaren asking whether joint ventures between large oil companies to bid on Federal lands constituted a violation of the antitrust laws and was told the division was studying the issue. What has happened since 1969?

Mr. WILSON. Since 1969, sir; we had a rather large investigation which was conducted by our Los Angeles office. It was a very broad inquiry, and that inquiry has now terminated with the view that we would continue to consider individual cases in this area on a case-by-case basis. And we would bring such cases as we believed to be justified.

Chairman PROXMIRE. So that really we are not getting any change in policy. It is just that a study was conducted? I have a copy of a letter to Mr. McLaren from me and a copy of the letter to me by Mr. McLaren of September 24, saying they were conducting an inquiry and you say the results of the inquiry are that you will just proceed on a case-by-case basis; is that right?

Mr. WILSON. Sir, the area of joint venture antitrust law is one which has not had a tremendous amount of development in the past. If I had to pick one area of the law involving antitrust which was the fuzziest, I think I would have to say it is joint venture law.

As a result of that study, we found that it would be extremely difficult to come up with any standards which would be applicable across the board. These questions concern the need for the joint venture, the question of access to the joint venture at the time it is formed, the question—if access is denied to the joint venture—what kind of access are we going to provide to the results of that joint venture for those who do not participate in it. All these are variables which depend on the case, and we were unable to come up with any generalized standards in the area.

Chairman PROXMIRE. I am disappointed. I think it is too bad that this area which does seem to be a situation in which very large companies, any one of which would seem to have the resources to make the bid without having to collaborate with others are able to work together and combine in a way that would seem to have an adverse effect on competition and on prices.

Mr. WILSON. Well, part of this, I think, sir; goes back to the question which you asked Mr. Dole. In some of these cases there is obviously a very substantial risk, even granted that these are very substantial companies. Not all of these cases, however, involve questions of that substantial risk. But what happens in this area is that if you let them get together to make a bid which does involve a substantial risk, it tends to become a way of life in the industry and it slops over into areas where they really would not have to make a joint bid. I think this is very unfortunate. I think, solely from a competition standpoint, the royalty bid system, as we said in our submission to the task force, would be preferable to the bonus bid, which does increase the risk.

Chairman PROXMIRE. I wish you would make a copy of that study available to the committee. We would like to have it if you could, the study you told us about the inquiry Mr. McLaren has made and which you say has been completed?

Mr. WILSON. I will check on that, sir; and see if we can make it available. We do have some statutory structures on studies which may have been produced under civil investigative demands and I am

not sure whether information of that type was contained in that investigation. But I will check it and be in touch with you, sir.

Chairman PROXMIRE. I hope that you can make it available because we would like to see if there are historical examples of where it has been necessary to combine these enormous companies in order to minimize a risk which otherwise would have made it impossible to have them make a bid.

Mr. WILSON. I would add, sir, with respect to joint ventures in this industry, that although our investigation showed the problem to be a very difficult one and one which we have not yet solved, we have not yet given up on the problem of trying to come up with some kind of standards that we could apply to the various joint ventures which seem to recur in this industry. As I said, I will check on that, sir, and see if we can make it available.

Chairman PROXMIRE. Fine.

(The following information was subsequently supplied for the record:)

DEPARTMENT OF JUSTICE,
Washington, D.C., February 3, 1972.

Hon. WILLIAM PROXMIRE,
Chairman, Joint Economic Committee,
U.S. Senate,
Washington, D.C.

DEAR SENATOR PROXMIRE: During testimony on January 12, 1972 before your Committee by Mr. Bruce Wilson for this Department, you asked about our 1969 investigation of joint bidding on offshore leases, and requested that the investigation report be furnished for the record, if possible.

As Mr. Wilson stated to you, this Division's investigation of offshore bidding practices was a broad inquiry covering several of the more important recent lease sales, both state and federal. That basic inquiry, as Mr. Wilson noted, has been completed, with a determination that it would be more appropriate to handle such matters in our more usual pattern of individual case-by-case investigation and enforcement.

After careful examination of the report closing the broad investigation, however, I have concluded that we can not properly furnish you with a copy of the investigative report filed with reference to the initial broad investigation. The report contains a substantial amount of raw investigative data concerning individual company operations secured by our staff under assurances that it would be maintained confidential if not used in an enforcement suit. More importantly, much of the material concerns matters subject to ongoing open investigations. Under these circumstances I am sure that you will understand our inability to furnish the requested report.

Sincerely yours,

WALKER B. COMEGYS,
Acting Assistant Attorney General, Antitrust Division.

Chairman PROXMIRE. Well, gentlemen, I want to thank both of you and the people who accompanied you this morning for your very responsive and helpful testimony here.

I think that from my standpoint, looking at it as a critic, it just seems to me we are not getting results. Here we have an oil import program, a tax program immensely expensive, and we do not seem to be developing the reserves that we would develop under a more rational, logical program that was aimed precisely at rewarding those who would do the exploring and in proving reserves. I would hope some consideration would be given to alternatives by you gentlemen, and that you would raise your voices in Government to at least recommend much more vigorous exploration of the alternative cost of developing our oil

reserves, recognizing it is an absolutely essential protection for our country both in economic and military terms.

Mr. DOLE. Thank you, Mr. Chairman. I appreciate appearing before you and it is very rewarding to me to see your great interest in the energy problem we are facing here in this country because it is a serious one and it is going to get worse and it is going to be a matter of developing all of our energy resources no matter what they are. I appreciate your interest in this and I agree with you that we must come up with other alternatives which I feel we have, and that we must go about the business of exploiting them to the highest degree.

Thank you very much.

Chairman PROXMIRE. Thank you, Mr. Dole.

Thank you, Mr. Wilson.

Mr. WILSON. Thank you very much.

Chairman PROXMIRE. The final witness is Mr. Richard J. Gonzalez. We are very fortunate to have Mr. Gonzalez before us this morning. He is a consulting economist with long experience in the oil industry. He is appearing on behalf of the American Petroleum Institute.

Mr. Gonzalez, I know you have been following these hearings closely and that you are aware of the numerous criticisms which have been made of the special treatment given by the Federal Government to the major oil companies which make up the American Petroleum Institute.

We are most interested in getting your viewpoint on these many issues. Please go right ahead.

STATEMENT OF RICHARD J. GONZALEZ, CONSULTANT TO THE AMERICAN PETROLEUM INSTITUTE

Mr. GONZALEZ. Thank you, Mr. Chairman.

I have been a consultant to the American Petroleum Institute for the past 2 years. In that capacity I have agreed to appear on its behalf at these hearings.

I have a prepared statement which I have filed for the record but in order to save your time, I would touch on the high points of it.

Chairman PROXMIRE. Fine. We would appreciate that. The hour is late.

Mr. GONZALEZ. This statement presents my own analyses and views. I believe that there is widespread agreement on the key points that (1) consideration must be given to oil and gas together, not to oil alone; and (2) Federal policies should be designed to encourage investments in the discovery and development of U.S. energy resources which are needed to insure that the public interest may be well served with respect to economic progress, increasing productivity, reasonably stable prices, a better environment and national security.

The major energy issue facing the United States is the need for the development of additional supplies of secure energy which will be required for the achievement of many economic and social goals. Consumers prefer clean energy, such as gas, in order to reduce pollution.

The issue of petroleum prices must be considered in terms of adequacy of supplies in the forms desired for environmental reasons as well as of costs bearing on prices and inflation. Oil and gas are joint products of petroleum exploration and development. Gas has become

more important as a source of energy from domestic petroleum operations than oil. Since Federal petroleum policies, including oil import controls, affect supply and price for both of these fuels, my analysis will stress the need to consider oil and gas together.

The extreme proposal made by a few people that the Nation must plan to use less energy to achieve a better environment would mean less output of goods and services, more poverty and a general reduction in living standards. I do not believe that the public will accept these alternatives. The public wants both better economic conditions and a better physical environment with a proper balance between these two goals.

Section II of the prepared statement deals with oil and gas supplies, prices and inflation.

Consumers naturally want to obtain needed supplies of secure energy at the best possible prices immediately and for the long run. However, short-term savings secured at the expense of inadequate future supplies are no bargain. Indeed, misguided short-run policies can result in an increase in the total cost of energy to consumers over a period of years. This situation is now developing for natural gas as shortages caused by Federal price regulation force consumers to use more expensive and less desirable alternates. The public interest is served best by prices that bring forth the desired level of supplies on a continuing basis.

The next section, section III of the prepared statement, deals with the magnitude of the oil and gas supply problems.

The development of new petroleum resources in the United States during the period 1950-70, by discoveries, extensions, and revisions in estimates of proved reserves, averaged about 3.3 billion barrels of crude oil per year and 19 trillion cubic feet of natural gas. These figures include the reserve of Prudhoe Bay which, of course, will not be available until transportation facilities are complete. This rate of development is now exceeded by production.

In the prepared statement I point out the domestic production is near capacity; therefore, steadily increasing demands for oil and gas required to achieve national goals can be met most economically by the right combination of more rapid development of potential resources in the United States plus limited use of additional imports, preferably from areas with minimum risk of disruption of shipments.

We should note that the potential resources of the United States are ample in relation to prospective demands but the amount and rate of discovery and development of potential resources will depend on governmental policies and the prospective profitability of new petroleum investments relative to other opportunities. For example, all leasing of the outer Continental Shelf is subject to Federal control, with the result that decisions to delay or prevent leasing for petroleum exploration would reduce drastically the potential of future domestic supplies of oil and gas.

Imports are another possible source for meeting additional demands. They now supply about 23 percent of the oil used in the United States and less than 4 percent of the natural gas. Venezuela and Canada are our principal sources of supply in the Western Hemisphere but it does not appear likely at this time that they can provide much larger shipments of oil to the United States since their spare

capacity is nominal in relation to our increasing demands. Canada has recently rejected an application for substantial export of gas to the United States in order to maintain assured supplies for its own expanding needs. Venezuela has adopted laws placing control of prices and other costs entirely in the hands of the Government.

In comparing the cost of foreign and domestic petroleum, both oil and gas must be taken into account because the United States needs and wants more gas as well as more oil. Statistics on production and reserves show that domestic petroleum operations supply about 5,000 cubic feet of natural gas per barrel of crude oil produced or discovered. Environmental considerations place even greater emphasis on gas relative to oil for the future. Therefore, the development of additional supplies of secure energy from petroleum at favorable costs and prices must be viewed in terms of both gas and oil and not in terms of oil alone.

Section IV of the prepared statement deals with the relative costs of domestic and foreign oil and gas.

The reliance on foreign oil will lead inevitably to the use of more expensive alternatives in place of U.S. natural gas because imports affect development of both gas and oil. Proposals have already been made for large imports of liquefied natural gas—LNG—from Algeria and for the manufacture of synthetic gas from naphtha, principally from foreign sources. These alternatives will cost in the range of \$1 to \$1.25 per thousand cubic feet delivered to the city gate or to large industrial users. The long-run cost of gas from overseas sources is likely to be above rather than below \$1 per thousand cubic feet.

By comparison, U.S. gas was delivered at average wholesale prices of 35 cents per thousand cubic feet in 1970 as indicated by the cost of 12 trillion cubic feet consumed by industrial users, including electric utilities. These delivered prices ranged from 22 cents per thousand cubic feet in the south-central States, near sources of production, to 50 cents along the east coast. The advantage to U.S. consumers in 1970 of domestic gas over imported liquefied natural gas was about 65 cents per thousand cubic feet. Even a substantial increase in domestic petroleum prices designed to bring forth large additional supplies of domestic oil and gas would still leave average delivered wholesale prices for U.S. natural gas more than 50 percent or 50 cents per thousand cubic feet below the probable cost of imported liquefied natural gas.

This cost differential between U.S. and overseas gas must be considered along with the differential for crude oil in determining what consumers can expect to pay for meeting their additional demands for petroleum in the ratio of 6,000 cubic feet of natural gas per barrel of oil, which has been the actual experience of the past 15 years, 1955 to 1970. The basic choice is between U.S. oil and gas developed in the relationship of 6,000 cubic feet of natural gas per barrel of oil and imports in the same ratio.

Assuming that foreign oil would be available in the quantities needed to meet all additional demands without any disruption in deliveries and at a long-run price advantage of 90 cents per barrel over domestic crude oil at U.S. ports, that advantage would be entirely offset by the use of 6,000 cubic feet over U.S. natural gas. The prospective price advantage of U.S. natural gas over imported liquefied natural

gas of at least 50 cents per thousand cubic feet far outweighs the maximum probable gain in using foreign crude oil in place of the domestic oil that must be developed and produced in order to supply additional gas.

Section V of the prepared statement discusses other considerations affecting the reliance on imported oil and gas.

First, a large increase in imports would seriously impair the U.S. international trade balance at a time when this Nation is working hard to improve that balance.

Second, there are risks and costs involved in increased reliance on imports from distant sources in the Eastern Hemisphere. The east coast is more than 90 percent dependent on imports for residential oil and is approaching 50 percent overall dependence on imported oil. The east coast could be in serious trouble in case of a prolonged disruption of imports.

Third, heavy reliance on foreign oil involves risks to national security and to freedom of action in international affairs. These risks are not limited to situations involving the United States in war. Oil producing countries have imposed embargoes on exports in the past and can be expected to do the same in the future.

Fourth, oil import controls assure the continuation of competition in domestic petroleum operations. In the absence of import quotas, only the large international companies could survive. They could draw on foreign reserves to remain in business, but small operators would have to liquidate and withdraw.

These points are highly crucial and carry weight in favor of limiting reliance on imports even though opinions may differ as to the risks and costs involved in greater use of foreign oil and gas. When oil and gas taken together, in the mix desirable for environmental reasons, are cheaper from U.S. sources than from foreign sources, as would still be the case even with somewhat higher prices, these fuels from domestic sources are a real bargain.

Section VI of the prepared statement discusses the alternatives for limiting petroleum costs and price increases and, of course, these must be considered.

Consideration must be given first to the impact of environmental regulations on the supply and cost of fuels. Air pollution standards limiting the sulfur content of fuels have reduced the choice of using coal, increased demand for gas and low-sulfur fuel oils, and added substantially to the cost of fuels used by utilities and industry.

In the prepared statement I point out that other environmental regulations are also affecting the supply and price of fuels. Measures affecting surface mining of coal, for example, limit output and raise energy costs. Delays and added costs incident to construction of a pipeline to move oil from the North Slope of Alaska postpone the availability of a large new known source of supply and work against the exploration and drilling needed to test the further potential of the North Slope. These delays in Alaska, restrictions on the development of oil off the coast of California, delays in offshore leasing by the Federal Government and opposition to offshore leasing along the east coast all serve to limit future supplies and to increase future prices to consumers. The best chance for limiting future cost and price increases

on domestic oil and gas is for several giant fields to be found and developed promptly in new areas, not only on the North Slope and the Gulf of Alaska, but offshore California and the Gulf of Mexico, and the east coast.

In the prepared statement I point out that the petroleum industry has been pressing for an opportunity to develop resources offshore and in Alaska more rapidly. Such action, if permitted, would make more supplies available and help to control prices. Opposition to these efforts based on environmental considerations has ignored the resulting economic impact on oil and gas supplies and prices and other offsetting environmental costs.

In the prepared statement I talk about the creation of Government-owned reserves fully developed for use only in case of emergencies has also been proposed. Such reserve capacity would involve large investments of billions of dollars and substantial annual interest, maintenance and standby costs.

Furthermore, these plans deal only with oil and not with gas, whereas a correct appraisal of costs must consider both gas and oil. Calculations as to the incremental cost of reserve capacity in the Elk Hills Naval Reserve in California are misleading and of no help in estimating correctly the total cost of endeavoring to establish the millions of barrels daily of reserve producing capacity which would be required if imports were unrestricted and should rise sharply above the current level of about 4-million barrels daily.

Section VII of the prepared statement deals with the question of safeguards against running out of oil and gas in the United States. Actual and impending shortages of oil and gas cause some people to worry that U.S. resources are about to be exhausted. In that case they conclude that it would be a mistake to accelerate discovery, development and production. They suggest instead that U.S. oil resources be saved for future use and that we use as much foreign oil as possible when it is available.

This superficially appealing proposition rests on two incorrect assumptions: (1) that the United States is about to run out of oil and gas, and (2) that the Nation can wait until an emergency arises to develop more oil and gas.

The United States is not about to run out of oil and gas. Potential resources are more than adequate for the relevant planning period of concern to consumers and investors making decisions now with respect to fuel use and supply. Considering synthetic fuels as well, the United States can continue to meet its energy needs for scores of years.

The other point we must consider is the long-leadtime of 5 to 10 years for development of major new supplies, either from new fields or from synthetic plants, means that we must act now to prepare for the possibility of emergencies that hopefully will not come sooner than 5 years hence. In an emergency, only fully developed reserves and facilities capable of immediate use would be of help.

Reliance on foreign oil and gas discourages exploration and drilling required to convert potential, but undiscovered U.S. resources into developed reserves and supplies useful in meeting demands. Potential resources are of no help in holding down costs and prices.

The most effective means of serving the public interest in adequate, secure supplies of energy to promote economic progress and combat

inflation will be to encourage more rapid development of potential U.S. resources of all forms of energy for the long run in keeping with expanding needs.

Mr. Chairman, as you pointed out, I have been following these sessions for the last 3 days and I have a few supplementary comments that I have jotted down which I would like to read at this moment for the record.

Chairman PROXMIRE. All right, sir. How long are those remarks?

Mr. GONZALEZ. They are quite short.

Chairman PROXMIRE. Go right ahead.

Mr. GONZALEZ. Point 1: A shortage of natural gas exists and is of great concern for both economic and environmental reasons. U.S. natural gas is far cheaper than imported LNG and will continue to be cheaper even if U.S. gas prices were to rise substantially. This emphasizes the point made in my testimony that domestic oil and gas are cheaper than foreign supplies in the quantities used and desired by consumers.

Point 2: Oil import controls have provided large benefits to consumers and the Nation in terms of additional supplies of secure energy at attractive prices. U.S. production of oil and gas in 1970 was 31 percent higher than in 1965. In the absence of import controls, production would surely have been lower. The increase in production between 1965-70 was 659 million barrels of crude oil and 5.9 trillion cubic feet of gas, or about 9 MCF of natural gas per barrel of oil. Domestic oil and gas production increased by 13.3 quadrillion B.t.u.'s in 1965-70, from 33.7 to 43.9, and accounted for about 95 percent of the increase in U.S. consumption of energy of 14.1 quadrillion B.t.u.'s.

Without import quotes, I am convinced that: (a) there would have been less exploration for and development of oil and gas in the United States; (b) oil and gas reserves and productive capacity would be far below current levels; and (c) the United States would be importing more oil, with a serious impact on its balance of payments and short of gas by much more than it is now.

All these developments would already have been detrimental to the Nation and to consumers and would continue to be increasingly detrimental over the years.

Point 3: If oil import controls had been changed from quotas to tariffs in 1970, as recommended by the Cabinet task force, the survival of small independent refiners and marketers would have been jeopardized because they would have lost the assured advantage that quotas provide for them as to a large part of their supplies. International companies with foreign supplies could adjust more readily to such transition provided the tariffs set were not used to drive prices down, but the degree of competition from smaller firms would tend to be reduced.

Furthermore, any system whereby the U.S. Treasury collects large tax revenues on foreign production would have been an invitation to exporting countries to raise their taxes on exports so that they, rather than the United States, would realize the added revenues.

The Cabinet task force report provided an additional measure for exporting nations as to the value of their oil resources. As such, it was another factor, in my opinion, contributing to sharp increases in foreign oil taxes and prices in 1970-71. The Venezuelan Govern-

ment has now taken the additional step to fixing oil prices unilaterally on the basis of its needs and evaluation of world markets.

Point 4: the key point about the movement of oil from northern Alaska is that these supplies are needed to meet increasing U.S. demands as soon as possible, preferably not later than 1975, in order to strengthen the position of oil-consuming nations relative to oil-exporting countries when present price contracts expire in 1975. The longer access to these resources is delayed, the weaker the position of major oil-consuming nations will be relative to the oil-exporting countries. The ideal situation would be development of large additional resources in northern Alaska and in the Arctic areas of Canada, as stated in my testimony, so that more supplies of secure oil and gas may be forthcoming within a few years for both Canada and the United States. However, that ideal has little chance of timely realization unless the proposed pipeline across Alaska can be built promptly.

The alternative of a pipeline through Canada would mean further delay of several years at best, but cannot be considered unless and until the Canadian Government indicates that it is willing to authorize construction of such a line on terms acceptable to investors who will have to provide the billions of dollars of capital required for construction.

It is to be hoped that the Arctic areas of Alaska and Canada may develop large resources of both oil and gas at reasonable costs for use in Canada and the United States. Canada will not export oil and gas that it considers necessary for its own future needs. Controls on oil imports into North America are essential to development of potential Canadian petroleum resources. It would be mutually beneficial for Canada and the United States to cooperate in formulating policies for more rapid expansion of North American resources but we must remember that Canada is a sovereign nation sensitive about pressures from us which appear designed to exploit its resources for our benefit.

Chairman PROXMIRE. Let me just ask at that point, does that mean you think that they, as a sovereign nation, appreciate and approve and are enthusiastic about our having an import control program that is designed to keep their oil out of this country?

Mr. GONZALEZ. Canada is following the protection of its own interests and those interests involve its supplies of energy first.

Chairman PROXMIRE. That was not my question. My question is, you seem to indicate that we are doing them a favor by imposing a quota on the amount of oil they can export to the United States.

Mr. GONZALEZ. We are not doing them a favor.

Chairman PROXMIRE. I agree with that; we certainly are not.

Mr. GONZALEZ. But, on the other hand, they are not doing us a favor by simply trying to increase their exports of oil and hold on to their gas.

Now, what I have said to them in Canada is that since they do develop gas in the relation of 6,000 cubic feet per barrel of crude oil, as we do, that we in the United States should be entitled to get proportionately as much gas from Canada as we buy oil and we are not getting it, Mr. Chairman.

Chairman PROXMIRE. That is another issue. That is another issue. All I am talking about is the fact—

Mr. GONZALEZ. It is an issue of supplying energy to the United States.

Chairman PROXMIRE. All right. What I am saying, however, is that you can make an argument which you make—you are an extraordinarily able man and you have made a fine presentation here—you can make an argument that the oil import quota may benefit certain interests in this country but it seems to me you are really stretching it when you indicate it is to the benefit of Canada; that is all.

Mr. GONZALEZ. I did not say—this statement does not say in any way that the restrictions are of benefit to Canada.

I am simply pointing out we have to think in terms of energy, not just oil.

Chairman PROXMIRE. I am referring to, "It would be mutually beneficial for Canada and the United States to cooperate in formulating policies for rapid expansion of North American resources."

The gist of it, the thrust of it seems to be this is something that benefits Canada. My only position is that so far as this great resource is concerned it would be beneficial to both the United States and Canada to recognize that the only justification for the oil import quota is national security, the only one that has been given.

Mr. GONZALEZ. Yes.

Chairman PROXMIRE. On that basis Canadian oil is just as secure as American oil and ought to be treated alike.

Mr. GONZALEZ. I agree with you that Canadian oil is secure and I think that the problem that you have to consider is whether an agreement between the United States and Canada alone would appear to the Venezuelans and other Latins as a situation in which we are discriminating against them. Now, that, too, could affect our international relations and our security because Latin America is quite important to us.

Chairman PROXMIRE. Go ahead.

Mr. GONZALEZ. Point 5: On the issue of differential tax provisions for petroleum and mining, such as percentage depletion and the current expensing of intangible development costs, I have testified on this subject at length before the House Ways and Means Committee, and I have that testimony with me and am prepared to submit it for the record.

Chairman PROXMIRE. Fine. We will be happy to accept it.

Mr. GONZALEZ. Thank you.

(The testimony follows:)

PERCENTAGE DEPLETION FOR PETROLEUM PRODUCTION

By RICHARD J. GONZALEZ

Humble Oil & Refining Company

*Presented To The Committee on Ways And Means
House Of Representatives
December 1, 1959*

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Summary Statement

AS AN ECONOMIST who taught for five years before becoming associated with the oil industry, I can readily appreciate why percentage depletion is widely misunderstood and sometimes severely criticized. Superficially, this tax provision appears to interfere with normal economic processes and to create a tax advantage for producers of minerals. If the facts about percentage depletion were as simple as they appear superficially, Congress would not have consistently maintained this principle in effect as a result of its periodic studies. Instead, the taxation of mineral production is a very complex subject that requires and deserves intensive study.

Any thorough analysis of percentage depletion must take into account many facts. Careful appraisal of all relevant facts over a period of many years has led me to the conclusion that this long-established tax provision continues to be in the public interest, despite superficial impressions to the contrary. Seven major points in my appraisal of the subject are set forth briefly in this summary prepared at the request of the Committee, but the full force of all the points made can be

appreciated only by consideration of the complete paper submitted for these hearings.

1. Petroleum is essential to national welfare

Increasing supplies of oil and gas are essential for economic progress and national security. These fuels have greatly improved our living standards and have been of incalculable value during wars and other emergencies. Each gallon of oil provides the energy base for a dollar of national income. Therefore, petroleum will continue to be of vital importance to our expanding economy.

2. The risks of exploration make petroleum production a unique business

High risks and large losses on unsuccessful ventures are inevitable in petroleum exploration. Only about three per cent of the thousands of exploratory wells that must be drilled

annually discover significant commercial deposits. Furthermore, the results of exploratory drilling are highly erratic and quite unpredictable. Finally, production results in depletion of a wasting asset that can be replaced only by new exploration and drilling, usually at increasing costs. These peculiarities seriously handicap attraction of funds into this business. Nevertheless, petroleum producers must risk about five billion dollars annually to develop enough new supplies of oil and gas to meet the needs of our economy. The necessary amounts of money could not be attracted into the search for petroleum without reasonable tax differentials relative to non-mining investments that are less risky.

3. *Differential tax treatment is necessary for mineral production*

The unique nature of petroleum producing makes it different from other businesses except mining. Most of the receipts from mineral production that appear to be income really represent capital and capital gains. These capital values cannot be taken out of the business or taxed as ordinary income without impairing the reserves of oil and gas required for continuous operation and for economic progress. Therefore, differential tax treatment is necessary for petroleum production and for mining operations generally. *Differential* tax treatment should not be assumed to constitute *preferential* treatment because appropriate differentials are necessary for the unusual conditions in mining in order to avoid an inefficient allocation of capital when income taxes are imposed.

4. *Existing percentage depletion rates are appropriate differentials*

The rate of percentage depletion for petroleum set by Congress in 1926 after careful study was a conservative measure of the capital actually depleted by production. It continues to be a conservative measure at present. A reduction of percentage depletion would encourage operators to realize on their successful ventures through the capital gains route rather than by operation. Sales of reserves in the ground would adversely affect the funds available for development of new resources, the number of operators engaged in the business, and the estimated tax revenues to be realized from such reduction. The decision of the Federal Government to impose mandatory restrictions on imports this year because of concern that further increases in imports would endanger the level of domestic exploration and drilling considered desirable for national security also serves to make clear the fact that any action taken now to reduce the incentive for expenditures on new ventures would be ill advised. Profits on the amounts actually invested in successful petroleum operations are in line with those of other industries. Therefore, any additional taxes on petroleum production would inevitably have to be passed on to consumers because they could not be absorbed without seriously reducing the development of necessary new resources. In deciding whether petroleum producers and consumers pay a fair share of the tax burden, consideration must also be given to the special taxes imposed on petroleum, particularly severance and

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gasoline taxes. The various facts pertinent to this point lead to the conclusion that the long-established rate of percentage depletion is no more than an appropriate tax differential for current conditions.

5. *Proposals for graduated depletion are unsound*

The concept of graduated percentage depletion is economically unsound because it assumes incorrectly that risks can be controlled by size. Actually, the real risk on each venture is the same whether it is undertaken by a small firm or a large one or jointly by two firms of vastly different size. The large firms producing more oil must risk proportionately more money than the small ones in order to offset the depletion of reserves caused by production. The erratic results realized on expenditures even by large firms mean that risks cannot be reduced to a matter of cost accounting or insurance.

6. *A cut in depletion would hurt the economy*

If percentage depletion were reduced, the entire economy would suffer because economic progress would be retarded and tax revenues would decline. Drilling would be reduced sharply, with adverse effects on the use of steel and equipment for new wells, on employment of labor, and on development of new reserves of oil and gas. The minimum reduction in drilling to be expected if percentage depletion

were cut to 15 per cent of gross income would probably cause a loss in total tax revenues of a billion dollars annually. Less drilling would soon cause shortages of domestic supplies, thereby bringing about higher prices for our principal fuel and contributing to inflation. Even a small increase in gasoline prices caused by a reduction of percentage depletion could accelerate the trend toward economy cars and have far reaching consequences on tax collections from gasoline and from the automobile, steel, and rubber industries.

7. *Percentage depletion at existing rates promotes the national welfare*

Percentage depletion has become an integral part of the economic structure of the mineral industries as well as a key factor in economic progress. Existing rates cannot be reduced without serious consequences for all consumers, for millions of stockholders, for thousand of worker in many dustries, and for national security. Therefore, percentage depletion should be continued at existing rates because such action best serves the public interest.

The major points summarized above should serve to correct some of the superficial misconceptions about percentage depletion. They throw new light on the critical view that this tax provision is unsound because it attracts too much capital into petroleum production and allows producers to pay less than a fair share of taxes. Percentage depletion does attract more money to this business than would otherwise be risked

currently, but that does not prove that the relative flow of funds that would prevail in the absence of income taxes has been altered. For reasons set forth previously, a differential such as percentage depletion is required when income taxes are imposed in order to avoid placing the mining industries at a disadvantage in attracting capital because of their unusual risks. Percentage depletion also means that the effective income tax rate on what is reported to be "income" from depletion of mineral resources is lower than on the income of other industries, but it does not follow that mineral producers do not pay a fair share of the tax burden. The unusual element of capital gains in receipts from mineral production means that such receipts cannot be taxed as ordinary income without impairing the supply of minerals required for economic growth. Furthermore, heavy severance and excise taxes must also be taken into account in judging the true burden of taxation on petroleum and its products. These examples serve to illustrate some of the complexities that must be considered in an objective study of percentage depletion.

The paramount economic test of a system of taxation is

that it should interfere as little as possible with the industrial progress that enables the entire population to enjoy the benefits of rising standards of living. Congress must be particularly concerned, therefore, about the effect of taxation on the key factors for industrial progress; namely, (1) capital to provide the machines that multiply our productive capacity, and (2) minerals as a source of materials and energy for an industrial society. Increasing quantities of capital and of minerals are the indispensable requisites for economic progress.

National policies designed to encourage the growth of capital and the development of mineral resources have been the foundation of the rapid economic development of the United States in the past. The future growth of real income will continue to depend on wise policies enabling us to reap the benefits of increasing quantities of capital and minerals per person. Unless such wise policies are continued in effect, the progress which we in the United States have come to believe is inevitable will not be realized and our nation will soon find itself surpassed by others in economic welfare and in military strength.



PERCENTAGE DEPLETION FOR PETROLEUM PRODUCTION

PERCENTAGE depletion deserves the objective study being undertaken by the Committee on Ways and Means. This tax provision should be evaluated rationally, not emotionally, to ascertain whether it continues to be reasonably suited to the special circumstances of the mineral industries and to make a net contribution to the general public welfare.

This paper is designed to present information that should be taken into account in an objective analysis of percentage depletion for minerals generally and for oil and gas in particular. In order to provide an adequate background for an understanding of the issues involved in this complex subject, the importance of petroleum supplies to our economy and the unique nature of oil and gas production will be considered first. These circumstances, together with the large capital requirements essential for adequate supplies, provide the basic reasons for differential tax

treatment. The proper rate for percentage depletion is then considered in both theoretical and practical terms. Finally, the full economic consequences of a cut in depletion are analyzed to show that the economy as a whole would suffer from such a change and that even tax receipts of the Federal Treasury would be adversely affected.

Importance of Oil and Gas to Economic Progress

Oil and gas are essential to the economic progress of industrial nations. They now supply 70 per cent of the inanimate energy used in the United States, compared with 25 per cent in 1926.¹ In 1958, crude

1. U. S. Department of Interior, Bureau of Mines, Monthly Petroleum Statement No. 437, *Crude Petroleum and Petroleum Products*, November 1958, p. 24.

oil, natural gas, and natural gas liquids produced in the United States had a value in excess of nine billion dollars, or approximately 57 per cent of the total value of all domestic minerals produced that year.² More than thirty states now produce crude oil.

Liquid fuels have been particularly important in providing mobile power ideally suited for many purposes, from small engines of fractional horsepower to the huge motors of airplanes and diesel locomotives. These fuels are the basis of our public and private transportation. They have also contributed greatly to mechanization of agriculture and increased productivity in industry. The technological developments and economic progress of the past generation could not have been realized without rapidly increasing production of oil and gas. All of the net increase in energy consumption in the United States since 1926 has been supplied by oil and gas.

In moving mobile equipment and in running all sorts of machines, oil and gas multiply our productive capacity tremendously. Admiral Rickover has described the great contribution to our way of life of machines run by inanimate energy in the following vivid terms:

2. U. S. Department of Interior, Bureau of Mines, "Nation's 1958 Mineral Output Valued at \$16.4 Billion," Press release of December 31, 1958, pp. 1-2.

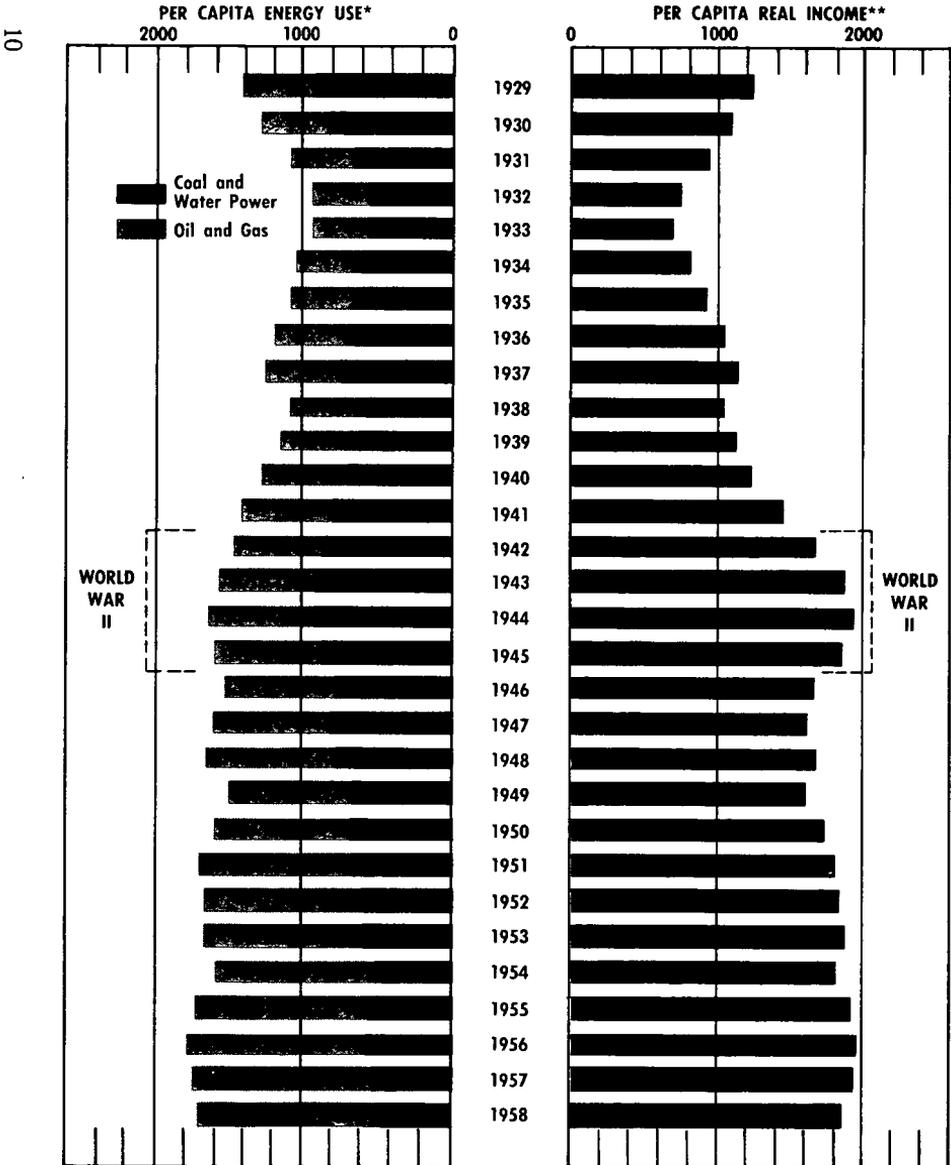
"Man's muscle power is rated at 35 watts continuously, or one twentieth horsepower. Machines, therefore, furnish every American industrial worker with energy equivalent to that of 244 men, while at least 2,000 men push his automobile along the road, and his family is supplied with 33 faithful household helpers. Each locomotive engineer controls energy equivalent to that of 100,000 men; each jet pilot of 700,000 men. Truly, the humblest American enjoys the services of more slaves than were once owned by the richest nobles and lives better than most ancient kings."³

Chart 1 shows the close relationship that has existed between real income and energy consumption per capita in the United States over the past thirty years. All forms of energy have been expressed in terms of gallons of crude oil for this purpose by conversion of other fuels on the basis of heat content measured in British thermal units as reported by the Bureau of Mines in its studies of energy production and consumption. The annual data show a decline in both income and energy consumption during the depression of 1930-1933 and a subsequent upward

3. H. G. Rickover, Rear Admiral, U. S. Navy, "Energy Resources and Our Future," presented May 14, 1957 before the Annual Scientific Assembly of the Minnesota State Medical Association.

CHART 1

REAL NATIONAL INCOME AND ENERGY CONSUMPTION PER CAPITA
HAVE BEEN CLOSELY RELATED IN THE UNITED STATES



* Consumption of oil, gas, coal and water power expressed in gallons of crude oil.
 ** National income in 1954 dollars.
 Sources: Bureau of Mines and Department of Commerce.

trend for both factors. In recent years, a gallon of oil has provided the energy base for slightly more than a dollar of real income. The close correlation between the increase in income and the growth of energy consumption, particularly oil and gas, indicates that the United States must continue to encourage availability of greater supplies of oil and gas in order to achieve rising standards of living for an expanding population.

Chart 2 demonstrates the same close relation between energy consumption and income per capita in countries throughout the world. The data plotted were published by the Joint Committee on Atomic Energy in its report on "Peaceful Uses of Atomic Energy." The bars at the top of the chart show that India and Burma have low energy consumption and income per capita. Many other countries are similarly situated in this respect. About the middle of the scale, the bars for the Netherlands represent energy equivalent to 447 gallons of oil and income of \$447 per capita. The United States has the highest energy consumption and income per capita. Analysis of the relationship by countries shows that a gallon of oil or its equivalent in other forms of energy provides the basis for a dollar of income. Therefore, the development of a barrel of crude oil that contains 42 gallons provide the energy base for about \$42 of income. Thus, crude oil selling for about \$3.00 a

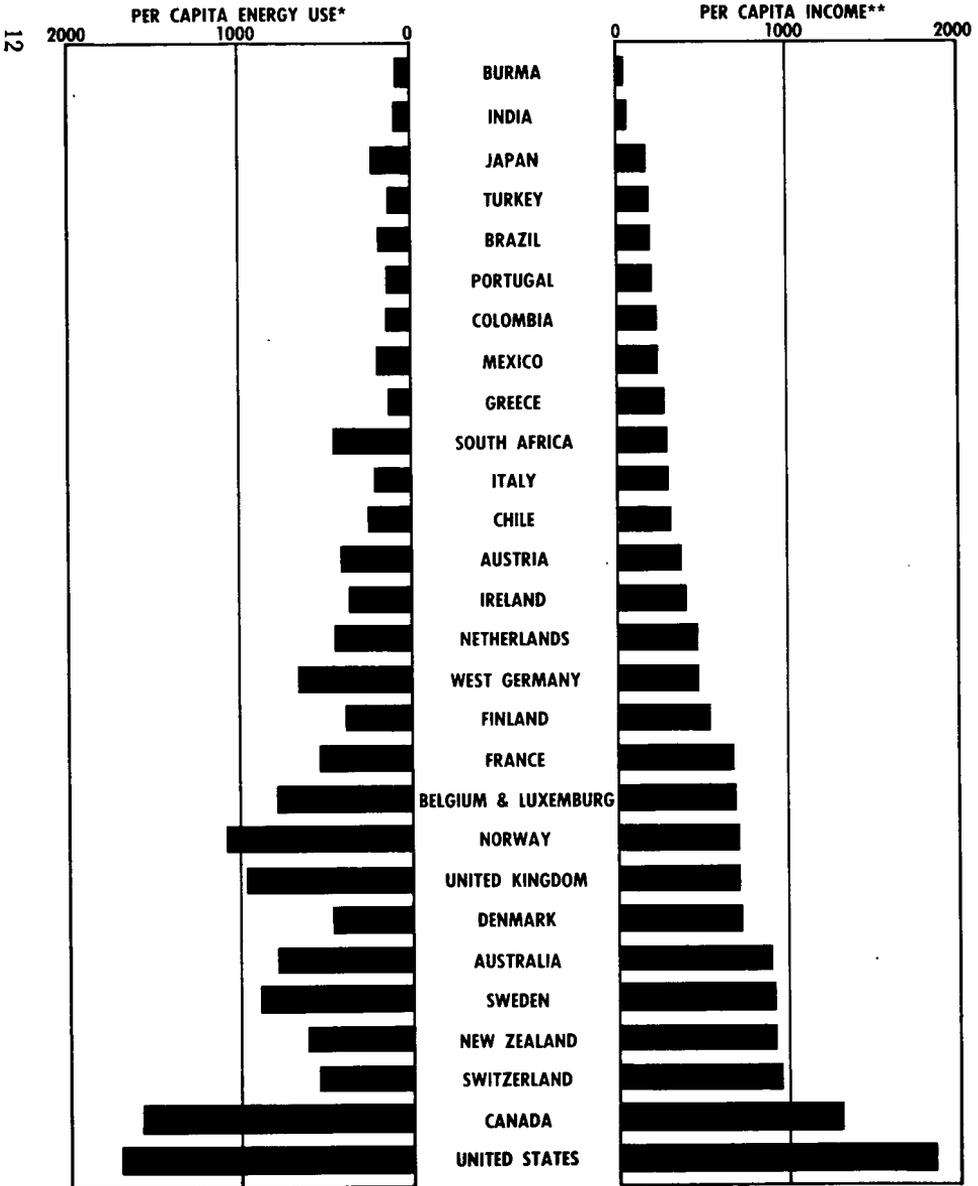
barrel, or 7 cents a gallon, at the well provides great stimulus to economic progress and real income per capita.

Importance of Oil and Gas to National Security

Oil and gas are also essential for national security. In World War II, more than one-half of all the tonnage shipped to our military forces consisted of petroleum products.⁴ Adequate domestic petroleum supplies have been of incalculable value to the United States in other national emergencies as well. During the Korean incident, for example, domestic petroleum supplies were increased sharply to take care of military and civilian requirements, even though prices were frozen. During the Iranian crisis of 1951 and the Suez crisis of 1956, the availability of additional oil supplies in the United States and Venezuela proved of great value. In each of these emergencies, our favorable position with respect to petroleum supplies actually saved us tremendous sums of money, perhaps even averting major wars.

4. *Petroleum in War and Peace*, Papers Presented by the Petroleum Administration for War before the Senate Special Committee to Investigate Petroleum Resources, "Oil in Peace and War," Ralph K. Davies, p. 6.

CHART 2
**ENERGY CONSUMPTION AND INCOME
 ARE CLOSELY RELATED THROUGHOUT THE WORLD**



* Consumption of all forms of energy expressed in gallons of crude oil.
 ** National income measured in U. S. 1952 dollars.
 Source: Joint Committee on Atomic Energy (1952 Data).

The United States has not had to undertake an expensive program of stockpiling petroleum for national emergencies because adequate reserves and productive capacity have been available as a result of private investments. In view of the great quantities of oil that would be needed for even a year of military and essential civilian operations, the cost of stockpiling petroleum would be high if domestic capacity were not adequate for emergency needs. The United States government is reported to have spent \$8.2 billion for stockpiling of strategic materials.⁵ At 4 per cent, the interest cost alone on this investment exceeds \$320 million annually, or as much as the figure often cited as the amount of tax revenue the Treasury might realize by reducing percentage depletion on oil and gas.

Petroleum continues to be highly important to security even with the development of nuclear weapons and intercontinental missiles. The United States must be prepared to fight effectively by conventional means since it does not propose to start a nuclear war. Otherwise, important areas of the world will soon be lost to aggressors who will not hesitate to take advantage of any deterioration in our ability to conduct conventional military operations. The stock-

5. Rep. Albert Thomas, quoted in *The Houston Post*, August 6, 1959, section 6, p. 2.

pile goals of the Office of Civilian and Defense Mobilization are still based on a three-year war. Even in the dire event of a nuclear war, petroleum would be essential to our immediate retaliatory power, to our continued military strength, and to our ability to rebuild rapidly.

Unique Nature of Oil and Gas Exploration and Production

Oil and gas are so important to all of us in the United States that a case can be made for differential tax treatment, even in the absence of any other unusual circumstances, on the basis of the benefits that flow from adequate supplies of these fuels at reasonable prices. Savings in the cost of wars and of defense as a result of adequate petroleum supplies may well have offset fully the theoretical cost of percentage depletion, leaving as a net gain the contribution of oil and gas to a higher rate of general economic progress. An increase of even one per cent in the rate of economic growth attributable to the effects of adequate domestic supplies of oil and gas because of percentage depletion would more than compensate the Treasury for any assumed loss of revenue due to this tax provision. Such a gain has probably resulted from the far-reaching economic effects of reasonably priced petroleum products on

the automobile industry and many other related industries.

If the importance of petroleum were the only basis for percentage depletion, the decision on continuance of present rates would rest on the judgment of Congress whether there is any cheaper or better way of accomplishing the beneficial results that flow from encouraging the development of adequate supplies of oil and gas. In that case, the problem to be weighed would be the same that Congress must deal with every time it decides that certain activities are sufficiently desirable to deserve encouragement by special treatment in the form of tax differentials, price supports, and other means.

Another basic reason exists, however, for differential tax treatment of petroleum production. This reason consists of the unique nature of the exploration and development process for oil and gas resources.

Petroleum production is a mining venture with many characteristics of mining ventures in general and with some peculiarities of its own. Production inevitably depletes a wasting asset that occurs in natural form and that cannot be reproduced by man. The search for most mineral deposits particularly oil and gas, is characterized by great uncertainty and by a long time lag between outlay of funds and eventual recovery of capital and earnings. Mineral production is also subject to the principle of diminishing returns

and increasing costs. All of these circumstances create the need for differential treatment when taxes are imposed on income in order to enable the mining industry to compete effectively with other industries in attracting capital.

Many minerals can be located by surface exploration. Some minerals, such as sand, gravel, and coal, are fairly common and the location of large deposits is well known. Some petroleum deposits have been discovered from surface evidence, but as the search has been extended deeper the industry has had to supplement surface geology with expensive tools designed to provide clues as to subsurface conditions. No direct method exists for ascertaining the location of underground petroleum deposits. Instead, operators must first locate what appears to be structural traps (formations that serve to hold any accumulations of hydrocarbons), and then drill exploratory wells to test whether such traps, if they exist, actually contain commercial deposits of oil and gas. After production is discovered, the size of the field must be determined by further drilling. Finally, oil and gas are produced over a period of years, frequently 20 or more. Revenue from this production must pay for 1) the expenses of lifting the oil and gas to the surface, 2) expenditures on exploration and drilling for both successful and unsuccessful ventures, and 3) a rate of return commensurate with the risks.

The risks in petroleum are illustrated by the experience on drilling. Reports of the Committee on Statistics of Exploratory Drilling of the American Association of Petroleum Geologists show that only about 11 per cent of the 68,700 exploratory wells drilled in the search for new fields in the ten-year period 1949-1958 were completed as producing wells.⁶ In other words, only one exploratory well in nine finds a new field. Many of the new fields prove to be quite small with little commercial significance. Studies by the Committee on Exploratory Drilling show that less than 30 per cent of the new discoveries develop into commercial fields with a million barrels or more of oil reserves or 6 billion cubic feet or more of gas reserves. In fact, out of 1,000 exploratory wells drilled in the search for new fields only about three per cent discover significant commercial deposits of oil and gas.

The erratic results of exploratory drilling are indicated by the fluctuations in the estimates of new discoveries. The range in initial estimates of discoveries reported by the American Petroleum Institute and the American Gas Association during the past ten years was from 890 million barrels of crude

oil in 1949 to 315 million barrels in 1958 and from 2.9 trillion cubic feet of gas in 1950 to 9.0 trillion cubic feet in 1957. While the average results for the industry in terms of the percentage of exploratory wells completed as producers remains fairly constant because of the thousands of wells drilled, even a large company drilling a hundred or more such tests a year can have a wide deviation from the average. Furthermore, the true measure of success is the value of the discoveries relative to the funds spent rather than the proportion of exploratory wells completed initially as producers. By this measure, the results of exploratory expenditures are unpredictable even for the industry as a whole, since there is no way of forecasting the reserves of new fields to be discovered by future drilling.

After the discovery of a field, much exploratory work involving unusual risks remains to be done. During the ten-year period 1949-1958, the industry drilled 37,000 exploratory wells designed to test extensions or deeper sands in producing fields. About 75 per cent of these exploratory tests were dry. The evidence again indicates rather erratic results in the estimated changes in reserves due to exploratory drilling and development in known fields. The estimated extensions and revisions for crude oil were 2 billion barrels in 1950 and 4 billion barrels in 1951, although drilling did not change much. Even greater

6. B. W. Blanpied, "Exploratory Drilling in 1958," *Bulletin of the American Association of Petroleum Geologists*, June 1959, p. 1124.

fluctuations have occurred in the reported extensions and revisions for natural gas, which ranged from 4.6 trillion cubic feet in 1954 to 19.2 trillion cubic feet in 1956, although only about 5 per cent more gas wells were drilled in 1956 than in 1954.

In the face of unpredictable results, the petroleum industry must risk millions of dollars on individual ventures and billions of dollars annually for exploration and drilling. One offshore lease of 2,500 acres was recently purchased from the government for \$26,000,000, and many other leases have been bought for millions of dollars, including some that have later been surrendered as non-productive after the drilling of expensive tests. Exploratory wells range in cost from fairly modest sums at shallow depths to several million dollars for deep tests, particularly offshore and in remote or difficult areas, such as Alaska. The Chief Petroleum Engineer of the U. S. Bureau of Mines estimates that the petroleum industry's exploration costs, including dry holes, were \$2,268,390,000 in 1955. In addition, he estimates that development costs for producing wells and equipment amounted to \$2,859,075,000, raising total expenditures for exploration and development to \$5,127,465,000.⁷ These

7. C. C. Anderson, "Petroleum and Natural Gas In the United States—Relation of Economic and Technologic Trends," Paper presented at the World Power Conference, Montreal, Canada, September 7-11, 1958.

expenditures represented about 65 per cent of the gross revenue from the sale of domestic oil and gas production and exceeded the funds available after paying for current operating expenses and royalties. This evidence as to the relation of receipts and expenditures demonstrates that the industry must risk again in the search for and development of new reserves 1) all the capital recovered from past ventures, 2) most of the reported profits, and 3) substantial additional sums of outside funds. These vast sums must be risked without the ability to calculate in advance an anticipated rate of return because of the highly erratic relation between outlays and value of results. The inevitability of large losses on unsuccessful ventures means that there must be the opportunity in case of exceptional success for commensurate rewards in order to provide a reasonable incentive for funds to be risked in this business.

The inherent uncertainty in the search for oil means that there is no way of predicting what results will be realized on funds risked in this business. One operator may risk only a few hundred thousand dollars and end up with a property worth a million and another may spend millions on one venture and end up with a total loss. The right to deduct losses in computing taxable income helps to cushion their blow if the taxpayer has other income, but this does not provide any reward for risking money in the

business. Unless there is a reasonable hope of retaining enough net income from successful ventures to compensate for all the risks taken, operators would be better off not to take such risks.

The peculiarities of exploration and drilling mean that cost and value usually differ by large amounts for individual ventures. This is in contrast with most non-mining investments for which cost and value at the beginning of operations for individual projects are rather close. This striking difference for petroleum led Congress early in the application of income taxes to decide that value was the proper basis for determining depletion due to production. This decision recognized that the capital depleted by production from different properties was usually measured best by the value of these properties after discovery. The provision authorizing depletion on the basis of discovery value meant little to the high cost operators, but provided more incentive for new ventures by the most successful and efficient operators with low costs.

The time lag between initial exploration and final development of substantial production is generally about five years and is sometimes much longer, particularly in foreign operations. Because of the unusual risks and the long time lag, investments in petroleum involves much more uncertainty concerning prospective returns than most other businesses.

For this reason, price alone is not an adequate incentive for the investment of funds. The President's Materials Policy Commission recognized this fact in its report, *Resources for Freedom*, June 1952, in the following words:

“Because of the past erratic price behavior of minerals and the long interval between initial investment and yield from production, the Commission concludes that incentives provided through the price structure are unlikely to bring about enough exploration and development to meet national needs for domestic production of scarce minerals.”⁸

When an operator finally succeeds in completing a successful well, he immediately begins to deplete a wasting asset by production. He is engaged in selling his capital assets on an installment basis. His receipts above current operating expenses represent a complex mixture of capital, capital gains, and ordinary operating income. The ordinary income is that part of the total which would be required by a purchaser of the property as compensation for his investment and his management of operations. The major part of the income to the successful developer

8. The President's Materials Policy Commission, *Resources for Freedom, Foundations for Growth and Security*, June 1952, Vol. 1, p. 34.

of petroleum reserves ordinarily represents the capital values realized from depletion of his basic assets.

In order to continue in business, a producer of petroleum must seek to offset his production by constant search and drilling. Unlike his counterpart in manufacturing and trade, he cannot predict what it will cost him to replace his productive facilities. Unlike the farmer, he cannot manage his operations in such manner as to realize annual income without diminishing the productive capacity or value of his capital assets. Revenue from the sale of oil and gas represents to an unusual degree a realization from liquidation of the *corpus* itself, rather than ordinary income that can be expected to recur without much decline over a long period of years.

An operator seeking to replace production by spending money on new ventures finds himself up against the principle of diminishing returns and increasing unit costs. The shallower, the larger, and the richer resources are easiest to locate and develop. Therefore, replacement generally requires operators to turn to the development of deeper, poorer, and more expensive resources. Drilling costs increase rapidly with depth, and are much above past experience in new areas, such as offshore and in Alaska. Improved technology is utilized to the fullest degree to offset this tendency toward diminishing returns, but even so petroleum production is still in a less

favorable position than many manufacturing industries and utilities which enjoy constant or decreasing costs as volume expands.

The unique problems of mining in general and petroleum production in particular constitute serious handicaps in attracting capital. Most investors do not like to risk large sums on ventures in which they may lose a substantial part of their capital. They prefer reasonable security for their capital investment, even though they cannot escape the risk that the rate of return may vary from what is anticipated. Many retail stores discontinue operations because they are not sufficiently profitable, but their owners may still recover a large part of the capital invested in buildings, fixtures, and inventories. By contrast, unsuccessful dry holes represent a large and total loss of the funds risked. An average of 20,000 dry holes annually have been drilled during the past five years, and the losses on dry holes are now probably about a billion dollars annually. Under these circumstances, it is unlikely that the necessary amounts of money could be attracted into the search for oil and gas without reasonable tax differentials. Some funds are available for risky ventures from people who are interested in gambling on a long shot, but the amounts available from such sources are far from sufficient to provide the large sums required for exploration and drilling.

The President's Materials Policy Commission

recognized that the preceding factors warrant and require special treatment for mining ventures. Its statement on this point was as follows:

“The Commission believes further that special provision must be made in the Federal corporate income tax structure to meet the unusual problem which confronts many private companies in the minerals field. It is customary under United States tax laws to permit a business to recover tax-free its investment in physical assets as they wear out or become obsolete. Ordinarily the recovered investment can be applied toward replacing physical assets. But for many minerals there is considerable uncertainty as to whether reserves can be replaced, and considerable risk is entailed in attempting to replace them. Moreover, for some major minerals the real cost of replacement keeps rising because of the progressive depletion of natural resources. Percentage depletion is an effective means of meeting this problem, apart from its efficacy as an incentive.”⁹

Large Capital Requirements

A final factor pertinent to the need for differential

9. *Ibid.* pp. 34-35.

tax treatment for petroleum production is the great amount of capital that must be risked annually by the industry to meet the needs of our expanding economy. Annual production in the United States now approximates 3 billion barrels of petroleum liquids and 12 trillion cubic feet of natural gas. At current prices for proved, developed reserves, operators would probably have to pay about five billion dollars to acquire from existing resources enough reserves to replace this production. Expenditures of comparable amount on exploration and drilling may be made in the hope of replacing production, but the results to be realized from such expenditures cannot be predicted in advance.

Since the energy requirements of an expanding economy show a steady upward trend of around three per cent, petroleum producers are called upon not only to replace production but also to expand reserves in order to meet future needs. Even at three per cent, requirements will double in less than twenty-five years. Past experience shows that wells in the United States have been called upon to produce in ten years as much as the total estimate of known reserves at the beginning of the period. Consequently, an aggressive search for new supplies must be carried on constantly in order to keep the United States from beginning to feel a shortage of domestic supplies. The United States Geological Survey and other authorities

are confident that sufficient domestic resources remain to be discovered and developed to keep pace with requirements for a long time to come. Development of these potential resources will require vast expenditures. These expenditures will not be made in the face of uncertainty and unusual risks unless there are strong incentives designed to attract capital into exploration and drilling.

Investors have been encouraged to make tremendous outlays in petroleum production under the tax differentials that have been in effect for many years. There are now about 650,000 producing oil and gas wells in the United States. Within the past ten years alone, over 300,000 successful producing wells have been completed. The gross cost of all producing wells and facilities may conservatively be estimated at around thirty billion dollars. Thousands of individuals and firms operate producing wells, millions of investors own stock in companies with oil and gas production, and many more millions have indirect holdings through mutual investment trusts and mutual insurance companies.

The amounts of investments involved on a cumulative and current basis and the number of individuals concerned as well as the importance of minerals distinguish the extractive industries from other risky types of ventures which are not granted differential tax treatment. Some activities other than mining also

involve high risks but they generally require less venture capital relative to gross income or can be considered less important to economic progress and national security. For research, a high risk activity considered essential to the nation, Congress provides patent rights to reward significant contributions.

For reasons of national economic progress and security, petroleum producers must risk on new ventures nearly as much capital annually as all public utilities, which constitute a highly important activity but of an entirely different character. The attitude of investors toward providing funds for these two activities illustrates the dramatic difference in their appraisal of risks. Utilities can finance large initial projects by borrowing 50 to 75 per cent of the total capital required. By contrast, funds cannot be borrowed for exploratory ventures in mining. Established producers can borrow some funds by mortgaging proved properties with values in excess of the amount borrowed, but even the largest integrated oil companies do not usually consider it prudent to rely on debt for more than about one-fourth of their total capital structure.

Reasons for Differential Tax Treatment

Three reasons emerge from the preceding analysis as the basis for differential tax provisions for petroleum

production: 1) the unique character of the business, which means that a large part of what appears to be ordinary income from successful ventures according to customary accounting represents capital gains that cannot be taken out of the business without impairing the reserves of oil and gas required for continuous operations; 2) the necessity of attracting large sums of capital into a continuing search for new supplies, particularly for an expanding economy; and 3) the incalculable benefits of petroleum to national progress and security. The force of these reasons leaves no doubt that Congress has had logical grounds for differential tax treatment of petroleum production and all other extractive industries engaged in depleting resources.

The critics who argue against any differential tax treatment claim as an ideal neutral taxation which would tax all income equally in order that market price alone would direct capital into what they claim would be its most efficient uses. According to this theoretical approach, the market is the best judge of the relative value of different goods and services to individuals and, therefore, to the general public welfare. As a practical matter, this theory leaves a good deal to be desired. The public and Congress definitely agree that certain activities should be discouraged by heavy taxation, while others should be encouraged by differential or even preferential treat-

ment. For example, liquor and tobacco are heavily taxed because they are considered less essential or desirable than other products. On the other hand, various special devices, including lower tax rates, are used to encourage small business in general. Many other forms of legislation, including complete tax exemption for educational and charitable organizations, tend to refute the theory that government wants to or should adopt a neutral attitude toward all economic activities.

The theory of neutral taxation, if accepted in principle and applied correctly, would require appropriate differentials for unusual conditions in order to avoid an inefficient allocation of capital. Economic theory holds that different risks call for commensurate returns. Two industries can be visualized, therefore, that are alike with respect to elasticities of demand and supply and that have annual sales equal to capital investment, but differ in risk to such an extent that the required rates of return are 8 per cent for industry A and 24 per cent for industry B. In the absence of taxes, the proper allocation of capital between A and B will be guided by price alone. Selling prices for the product from each dollar of investment will include 8 cents profit for A but 24 cents for B. If income taxes are then imposed at a 50 per cent rate, prices will have to be adjusted so that both industries continue to make their former rate of

return after taxes in order to attract the necessary capital input. The income tax would force B to charge its customers 24 cents more for the product from a dollar of investment, but A would need to charge only 8 cents more. These changes would alter the relative demand for products A and B and cause an inefficient diversion of capital from industry B to industry A. In this case, the exemption of 50 per cent of B's net income before taxes would be the differential required for true neutral treatment when income taxes are imposed. Then B would bear the same burden of taxes as A despite a different effective rate. Such differential tax treatment would be essential for industry B to maintain the same attraction for capital relative to A as it had before the imposition of income taxes. A similar differential would be required to achieve neutral tax treatment if the rates of return were 12 per cent for A and 18 per cent for B if B needs twice as much capital per dollar of sales as A. This case would more nearly reflect the true relation because petroleum producing operations have both higher risks and larger capital requirements relative to sales than manufacturing. The important point demonstrated by these illustrations is that *differential* tax treatment cannot be assumed to be *preferential* tax treatment that causes an undesirable allocation of capital resources. In other words, the theoretical assumption that all tax differentials necessarily cause a

less efficient allocation of capital is not correct.

The preceding discussion shows that two different major premises support the system of percentage depletion that Congress has applied to minerals for many years as economically sound and in the public interest. First, the existing provisions may provide no more than the necessary differential in order to maintain the ability of the mineral industries to attract capital in competition with less risky businesses when income taxes at existing rates prevail. Second, the differential established may actually provide some degree of preferential incentive designed to attract capital into mining, compared with true neutrality, because such incentive is considered to be the best way of encouraging the development of sufficient supplies of minerals. The history of the development of percentage depletion and its extension to an increasing list of minerals at rates that were raised for some items as recently as 1954 suggests that Congress has had in mind clearly the desire to encourage exploration and development expenditures in mining because of the importance of minerals to the general welfare and the national security. Whether the means and the rates chosen result in the precise degree of differential required for absolute tax neutrality or in some degree of preferential treatment will always be subject to debate. The data do not exist and cannot be secured in our complex world to permit any accurate meas-

urement of the difference between what has happened and what might have happened in the absence of all taxes. Such debate serves little useful purpose. Attention should be directed instead to the reasoning back of the selection of the present rate of depletion and the various approaches that provide evidence as to the proper rate necessary under current conditions to bring forth adequate supplies of essential minerals.

Development of Percentage Depletion

A brief review of the development of percentage depletion is essential for an understanding of the rates authorized. When income tax rates first reached a substantial level during World War I, Congress became fully aware of the need for differential tax treatment of mineral production. In 1918, it adopted discovery value as a basis for computing depletion for minerals. Under this system, the value of a new producing property was ascertained under conditions prevailing within a period of thirty days after its discovery. That discovery value became the basis of depletion. In other words, Congress decided to allow the developer the same depletion that would be granted without question to a cautious investor who avoided the risk of exploration by purchasing the property after it was proved to be productive.

Discovery value depletion required determination of market value for each new discovery. This provision involved a great deal of work and proved difficult to administer. Congress and the Treasury Department set about to find a simple equivalent that would be easy to administer. They found that the value of discovered oil in the ground was related to the current market price of the oil being produced. Some Congressmen concluded from the evidence that discovery value exceeded 30 per cent of the market price, but others preferred 25 per cent in order to be sure that any doubt would be settled in favor of the government. A compromise was reached which provided that depletion could be calculated on the basis of $27\frac{1}{2}$ per cent of gross income but not more than 50 per cent of net income before depletion. This provision was adopted by Congress in 1926 and has remained in effect for oil and gas production since that time. Subsequently, percentage depletion at varying rates was substituted for discovery value depletion for other minerals.

Percentage depletion now applies to about 100 minerals. The rates on gross income vary from 5 per cent on sand, gravel, and oyster shell up to 10 per cent for coal, 15 per cent for many minerals, 23 per cent for sulphur and uranium, and $27\frac{1}{2}$ per cent for oil and gas, but the same limitation to 50 per cent of net income before depletion applies to all minerals.

The varying rates on gross income appear to be related to 1) relative scarcity, 2) costs and risks of exploration, 3) importance of adequate supplies to welfare and security, and 4) the relation of net income to gross revenue. In practice, the controlling limitation is often based on 50 per cent of net income, and in this respect all minerals receive the same treatment. The exclusion of up to 50 per cent of net income for depletion has the same effect as the exclusion of 50 per cent of long-term capital gains.

The preceding review shows that the rate of percentage depletion for petroleum was fixed by Congress as a result of careful study. The rate has been reviewed numerous times, always with a decision not to make a change. Whether the rate continues to be right for current conditions deserves careful consideration.

The Proper Rate for Percentage Depletion

The major attack on percentage depletion is that the rate for oil and gas should be reduced. The critics who make this attack seem to accept the need for differential tax treatment but propose that the rate of percentage depletion on gross income be cut almost in half or graduated downward with the size of gross income. To support these proposed changes, the critics argue that income tax rates have changed and

that risks are reduced by size. The inadequacy of these points can be shown in both theoretical and practical terms.

The chief theoretical argument for a reduction in depletion stems from the increase in tax rates. Some critics argue that percentage depletion should be cut sharply on the grounds that income tax rates are now about four times as high as in 1926. They look on depletion as a measurable subsidy that should have been kept constant as tax rates changed, contrary to the position taken by Congress that depletion is a valid principle that should be applied consistently regardless of fluctuations in the basic tax rates. The fallacious reasoning of the critics overlooks many facts that must be taken into account in an objective analysis of the proper rate of percentage depletion. First, Congress has provided about the same recognition for capital depleted by oil and gas production since 1918, although tax rates have been changed up and down many times since then. Second, as income tax rates are increased, Congress must exercise great care not to tax capital and capital gains as ordinary income in order to avoid disruption of the capital growth that is essential to economic progress. Third, oil and gas are now much more important than in 1926, providing about 70 per cent of our inanimate energy now compared with only one-fourth in 1926. Fourth, the risks in drilling have increased,

as indicated by the fact that about 38 per cent of all wells drilled currently are dry holes compared with only about 27 per cent in the years preceding 1926. Fifth, the amount of capital that must be attracted into this business has multiplied many times as demand for oil and gas has quadrupled and as the search for new supplies has had to be extended deeper and to remote and inaccessible areas. In view of all these changes, the increase in income tax rates is not in itself a valid reason for reducing percentage depletion.

Two ways can be used to test existing depletion rates in theoretical terms. The first is to ascertain whether present rates still measure the discovery value of new properties, since that is the basis on which a purchaser would be allowed to compute depletion. Developed producing properties sold outright have commanded prices in recent years of about \$1.25 to \$1.50 per barrel of proved reserves in the ground. These prices include payment for development and for tangible equipment. The price paid for tangible equipment, which would generally be in the range of 15 to 25 cents a barrels, would be recovered through depreciation. The balance of the price paid would be for the reserves and, therefore, would be recoverable through depletion. On the average, therefore, the purchaser probably pays \$1.00 or more per barrel for the oil reserves. His cost depletion represents at

least one-third of the current average price for oil at the well of about \$3.00. By comparison, the maximum depletion of 27½ per cent of the gross selling price of crude oil cannot exceed 82.5 cents on \$3.00 per barrel, and the average deduction is considerably less because of the limitation to 50 per cent of net income. Therefore, the purchaser takes cost depletion rather than percentage depletion in determining taxable income. In this case, the price paid is not influenced by the existence of percentage depletion, so that it cannot be said that capitalized values created by percentage depletion are used to defend the rate. This approach shows that percentage depletion at existing rates is still a conservative measure of the capital value of oil in the ground. The rate cannot be reduced without subjecting to taxation as ordinary income part of the capital values depleted by oil and gas production.

A second theoretical approach to the reasonableness of existing rates takes into account the fact that developers of reserves can sell their properties outright and thereby realize on their success through the capital gains route by which only 50 per cent of the gain is taxable and the maximum tax is 25 per cent of the long-term gain. Unless continued operation of a property is about as attractive as its outright sale, many operators will be tempted to sell out and retire from the business in order to enjoy past success with-

out the need of taking further risks. The increasing sales of producing properties in recent years indicate that present depletion rates are close to a breakeven point with outright sales. Any reduction of percentage depletion would swing the balance more heavily in favor of sales of reserves in the ground. Such sales absorb capital that would otherwise be spent in the search for new supplies and also tend to reduce the number of operators engaged in exploration and drilling. Both of these developments are undesirable from the standpoint of attracting sufficient capital into the search for new supplies adequate to meet increasing demands.

As a practical matter, critics object to percentage depletion on the grounds that too much capital has been attracted into petroleum production, that the industry is too profitable, and that oil producers do not pay their fair share of taxes. They overlook the most significant practical consideration of all, however, which is that percentage depletion at existing rates has become an integral part of the economic structure of the industry. Therefore, a reduction would have serious repercussions for millions of consumers and stockholders as well as for thousands of operators and firms engaged in production and for hundreds of financial institutions.

The practical situation used to support the charge that percentage depletion attracts too much capital

into petroleum production is the substantial restriction on the output of some domestic wells, particularly in Texas, that has been in effect in recent years. The domestic industry is estimated to have a total productive capacity of about 10,000,000 barrels daily and a shutin capacity of about 3,000,000 at its recent average producing rate of about 7,000,000. Critics immediately jump to the conclusion that too much capital has been invested in the industry. The operating rate of 70 per cent indicated by these figures is certainly less than desirable, but this is only one of the facts that needs to be considered in judging the adequacy of current investment and capacity.

Several important factors must be considered in deciding whether current spare petroleum capacity is greater than needed. First, a reserve domestic producing capacity of 1,000,000 to 2,000,000 barrels daily is desirable for emergencies. Second, the current level of spare capacity reflects a lag in adjustment to the rapid increase which has occurred in imports and to the slowing down in the rate of growth of domestic demand. This lag is not surprising in view of the long period of time that elapses between a shift in exploration and the subsequent reflection of that shift in drilling and production. Exploration activity has been in a downward trend since 1954 and drilling is now well below the record level of 1956, but additional time will be required to re-establish a normal relation

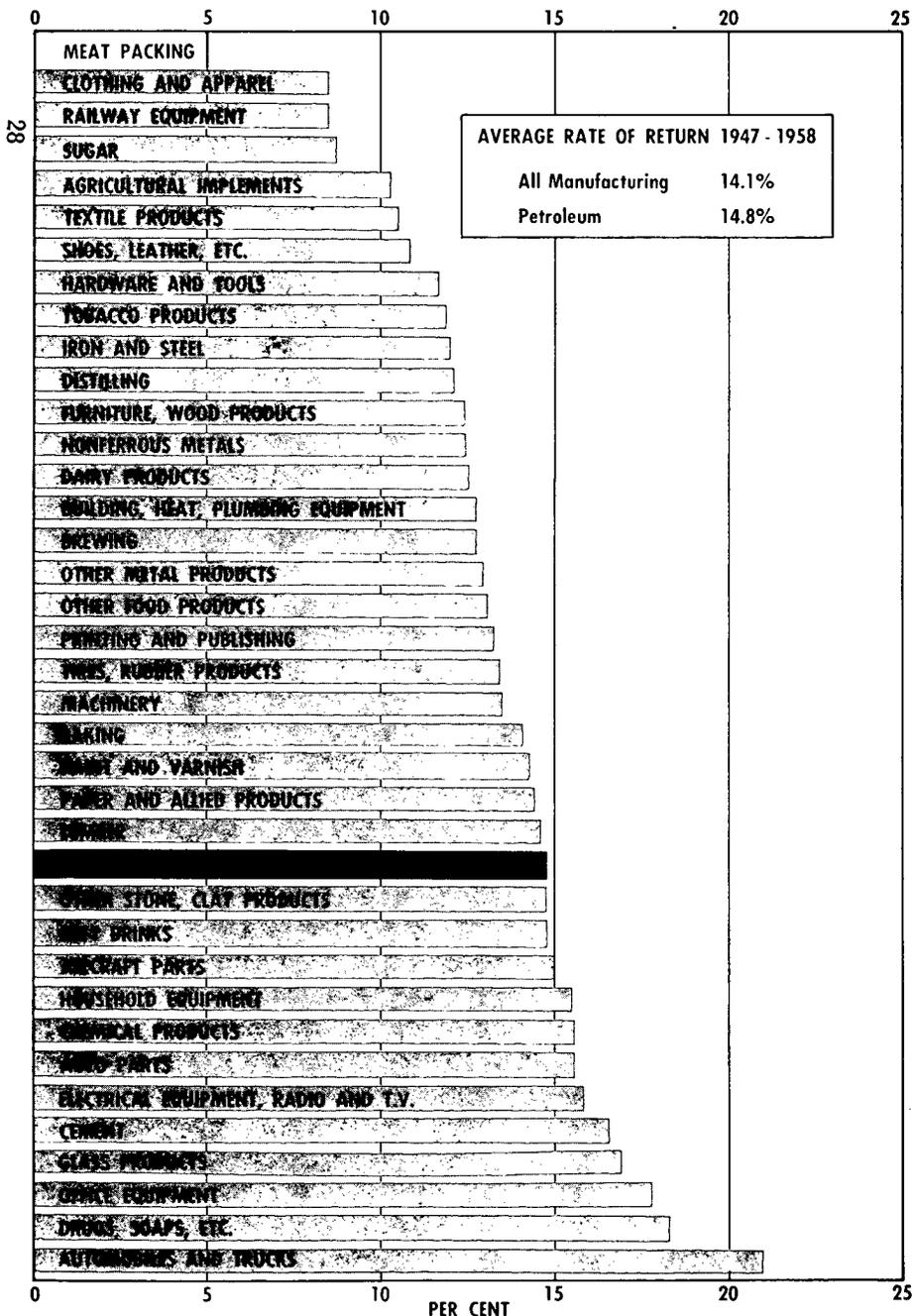
between current capacity and the desired level based on demand and the necessary strategic reserve for emergencies. Third, current productive capacity is only a short-term measure of the adequacy of capital input. The behavior of proved reserves is a better measure for the long term. For several years, proved domestic reserves have shown only a small increase even though demand continues to advance at a long-term rate of about three per cent a year. This development reflects the decline in exploration and drilling that has occurred in recent years as an adjustment to the rise in imports, the increase in shutin capacity, and the decrease in the growth of demand due to intensive competition from gas. The ratio of domestic reserves to demand is somewhat lower than has traditionally existed in the past, indicating that investment has not been excessive. In fact, the Director of the Office of Civilian and Defense Mobilization and a Special Cabinet Committee concluded that petroleum imports should be restricted because they constitute a threat to the level of exploration and drilling considered desirable for national security. In view of these considerations, percentage depletion cannot be said to have encouraged excessive development of domestic resources. On the contrary, one of the best reasons for maintaining percentage depletion at existing rates is that the system has worked to encourage development of new resources at about the rate re-

quired to meet the needs of our expanding economy.

The opinion of some critics that percentage depletion makes petroleum production unduly profitable is not borne out by the evidence. If production were unduly profitable relative to the risks involved, large oil companies would find it advantageous to become net sellers of crude oil and would show high rates of return. Instead, the large integrated companies are generally net buyers of crude oil with rates of earnings quite comparable with manufacturing. Statistics published by the First National City Bank of New York show an average return on net book investment in the period 1947-1958 of 14.8 per cent for petroleum and 14.1 per cent for all manufacturing. (See Chart 3.) Twelve industries exceeded petroleum in rate of return during this period. In 1958, petroleum realized an average return of only 10.2 per cent. Tabulations published by *Fortune* on the 500 largest corporations show that in 1957 and 1958 no oil corporation was among the ten most profitable firms, measured by the rate of return on investment, although six of the ten largest firms according to assets and four of the ten largest firms according to sales were oil companies.

Some successful firms engaged solely or principally in petroleum production show a return on book investment in the range of 20 per cent, but this is not surprising for unusual success considering the risks taken and the funds lost. Book investment reflects

CHART 3
 RATE OF RETURN ON BOOK NET ASSETS
 1947 - 1958



Source: Computed from First National City Bank data.

practically all of the funds risked by manufacturing corporations but only the successful ventures of petroleum producing companies. A producing firm that reports a 20 per cent rate of return on book investment may realize only 10 per cent on the total funds risked if half of its total outlay has been lost on unsuccessful exploration. In order to be representative of industry results, statistics on earnings would have to take into account, along with the results of the most successful firms, all exploration ventures that have failed, operators that have not achieved sufficient success to be included among the publicly held corporations, and the producing operations of integrated companies.

The charge that percentage depletion allows petroleum producers to pay less than their fair share of taxes is a loaded argument based on the assumption that fairness consists of imposing the same tax rate on all income regardless of its character. This assumption is not valid theoretically or practically for reasons set forth previously. Selected statistics about income tax payments by individual oil producers or by large companies in the petroleum industry do not present the full story unless they take into account how much of the so-called "income" represents capital values, whether current drilling operations are unusually high relative to production, and the full tax consequences of the investments being made over

their entire productive life. A company or individual currently spending unusually large sums for exploration and drilling may report small taxable income immediately, but these expenditures will provide the basis for generation of large tax revenues over a period of years in the future. The fairness of tax payments must be judged by looking at the tax structure as a whole rather than at individual components.

If percentage depletion provides any measure of preferential treatment, such advantage is more than offset by the burden of other taxes. A substantial special tax is levied by the principal producing states for the severance of oil and gas. In Texas and Louisiana, for example, the severance and property taxes amount to about 23 cents per barrel of production.¹⁰ Excise taxes are imposed on gasoline at a much higher rate than on other essential products and even than on many luxury items. Gasoline taxes already average 6 cents a gallon for the state and were recently raised from 3 to 4 cents by the Federal government. Total excise taxes inflate the cost of gasoline by about 50 per cent above what it would be otherwise. Gasoline tax collections are reported to have exceeded \$4,600,000,000 in 1958.¹¹ Some of the gasoline taxes are justified on the benefit theory of taxation, but the

10. Texas Research League, *Natural Resource Taxation*, Report No. 7, p. 9.

11. *New York Times*, August 23, 1959, Section 3, p. 1.

states divert substantial amounts to non-highway uses. In addition, highways provide benefits for the general public and the national security that should be financed by general taxation. Therefore, gasoline bears an undue load of taxes that should be collected from other sources if the tax system were designed to be truly neutral in its effect on economic activity.

An expression of the taxes generated by domestic petroleum production provides an indication of the large current tax load on the industry. In 1958, excise taxes alone amounted to about \$1.44 per barrel of domestic consumption of petroleum products. Income tax payments on oil and gas production by producers and royalty owners are calculated to amount to 42 cents per barrel of domestic production on a typical operation that merely offsets depletion by the development of a corresponding amount of new reserves. Severance and other local taxes on production are estimated to average 21 cents a barrel. The total of these levies provides a minimum estimate of \$2.07 as the tax revenue generated by a barrel of domestic crude oil production, not counting the indirect revenue created by other related activities of drilling, refining, transportation, and marketing. This burden of taxation on petroleum is quite heavy, although the essential nature of oil products to our economy would suggest that they should not be taxed more heavily than the products of other industries.

As stated previously, percentage depletion at existing rates has become a part of the economic structure of the industry. Evidence indicates that any advantage in tax treatment due to this provision has been passed on to consumers in the form of lower prices, as a result of competition, and has been offset by other tax levies. A reduction in depletion would force the price of petroleum products higher and discourage their use. These developments could not help but have an adverse effect on the entire economy. Therefore, percentage depletion should not be changed in the absence of conclusive evidence that a better system can be substituted to provide the necessary stimulus to the development of petroleum resources. The chances of improving on the long-established system of percentage depletion seem quite small. This conclusion was expressed by the President's Materials Policy Commission in the following terms:

“In short, the device of percentage depletion as an incentive to minerals exploration is not without its limitations. But no alternative method of taxation has come to the Commission's attention or could be devised by the Commission which, in its judgment, promises to overcome these limitations and still achieve the desired results, particularly not without seriously dislocating well established capital values

and other arrangements in the industries concerned, with highly adverse effects on supply. Taking the practical situation as it finds it, the Commission believes that any radical alteration of the existing tax arrangement would be undesirable.”¹²

The need for careful evaluation of all the repercussions of any changes in percentage depletion was also recognized by the Special Cabinet Committee on Energy Supplies and Resources Policy in its report issued in 1955. The recommendation of this Committee on the subject of tax incentives was as follows:

“Present tax provisions on coal, oil and gas production have been an important factor in encouraging development of energy sources at a pace about in keeping with demand. Further analysis and study by the appropriate branches of the Government should from time to time be made to review the amount and method of making such allowances to maintain proper relationships with continuing changes in other features of the tax law. Any changes which may be proposed in the future must

be analyzed in terms of their probable effect on development of domestic resources needed for economic progress and national defense as well as the fiscal and tax policies of the Government.”¹³

The Fallacy of Graduated Depletion

Some critics propose a graduated reduction of percentage depletion according to size of gross income, with a rate of 15 per cent if gross income exceeds \$5,000,000 a year. The proponents of graduated depletion contend that the present rate is justified for small operators because of the risks they take but that lower rates are justified for large companies because their size protects them against unusual risks.

The Treasury has estimated that the effect of this proposal would be 95 per cent as great as a complete reduction of the rate to 15 per cent on all production. Therefore, the plan appears to be a clever means of reducing opposition to the change by making it appear that the additional taxes would affect only big business. Actually, the impact of the reduction would fall on millions of shareholders in corporations and on all consumers of oil products and gas. This plan would penalize shareholders in oil companies and

12. The President's Materials Policy Commission, *Resources for Freedom, Foundations for Growth and Security*, June 1952, Vol. 1, p. 35.

13. Office of Defense Mobilization, “Report on Energy Supplies and Resources Policy,” release number 10987, February 26, 1955.

place them at a disadvantage in relation to individual operators.

The graduated depletion plan is fallacious because it assumes incorrectly that the risks of petroleum exploration and development differ according to the size of the firm. This misconception arises because of confusion over the nature of risks. The risk of being ruined or forced out of business seems uppermost in the minds of critics who propose a lower rate of depletion for large companies. But the real risk on each venture undertaken is not altered by the size of the concern making the expenditure. The loss in case of failure will be the same for the small operator who may have staked his entire capital on the well as for a larger firm. The only difference is that the probability of total loss for the larger firm on a number of ventures should be less than for a firm risking everything on one well. By proper selection of the type of ventures undertaken, however, and by securing participation by others on exploratory wells, a small operator can minimize his chance of suffering losses that force him out of the business. Neither the small operator nor the large firm can alter the chance of loss on a particular venture. The unusually high probability of loss is the real risk that makes petroleum exploration unlike ordinary investments and that warrants differential tax treatment.

Both small and large operators usually relate the

size of the sums risked on different ventures to their resources in the same manner that any intelligent person would if required to gamble on a game of chance. The large firms producing more oil must risk proportionately more money than small ones in order to offset the depletion of their reserves caused by production. The large firm that has assets of a billion dollars and risks \$100,000,000 on exploration ventures will not be out of business if its efforts do not develop properties with an equivalent value, but it may well be worse off than if it had abstained from risking its money. Large firms unquestionably suffer substantial losses on many unsuccessful ventures, some of them quite expensive. If their financial reports show net earnings despite these losses, the explanation lies in the results realized from depleting the reserves developed by prior successful ventures. The economic worth of the firm may decline even while it continues to report some net earnings if its basic reserves are not being maintained by adequate success on current exploration.

The probability of success or failure for each exploratory well remains the same whether the operator has staked all his funds on it or is also engaged in drilling a hundred other wells. The risks in the search for oil are so great that both small and large operators often find it prudent to take only part interests in expensive ventures so that no single failure will prove

catastrophic. In fact, many wildcats drilled by smaller firms are supported by dry hole money from large firms. Nothing can be gained by encouraging imprudent management of risks and discouraging successful operators from expansion by a system of graduated depletion.

Advocates of graduated depletion claim that this change would be in keeping with the role of small and large companies in the discovery of new reserves. The theory that small operators discover most of the domestic oil is based on an inaccurate interpretation of the statistics with respect to the drilling of exploratory wells. Small operators drill a high proportion of exploratory wells relative to their production, but large companies do the major part of the expensive geophysical and geological exploration. If a small operator promotes the discovery well in a prospective area defined by the exploratory work of large companies and largely under lease to them, he is usually credited with the entire discovery although his participation may represent a relatively minor part of the new field. As noted previously, many exploratory wells drilled by small operators are supported to a substantial extent by dry hole money or other payments from large companies. Statistics on the number of discoveries also fail to bring out the fact that one major deep discovery by a large company, as in the case of expensive offshore fields, may equal in reserves

many shallow discoveries drilled by small operators as a result of comparable outlays on numerous wells. Therefore, the relative role of small and large operators in the discovery of new reserves cannot be measured by statistics on the number of discoveries. Small operators unquestionably make an essential contribution to discoveries, but the efforts of the large firms are equally necessary. Therefore, all operators should continue to be encouraged to develop new supplies by the same rate of depletion regardless of their size.

The thesis that risk can be reduced by large companies to a matter of cost accounting is not supported by the facts. Reference has already been made to the wide variation in the new reserves developed by the industry as a whole relative to wells drilled. The results are even more erratic for any firm, even a very large one, since no firm drills more than four per cent of the wells. As stated previously, the true measure of success is not the proportion of total wells completed as producers but the value of the new reserves developed relative to the funds risked. By this measure, the large company takes the same risks as the small company and faces the same uncertainties. No operator, large or small, can predict his degree of success or purchase insurance that assures protection against the possibility of substantial loss on exploration and drilling. The risks in the business are so great

that even large companies often find it desirable to engage in joint ventures, as is frequently the case for offshore drilling. These facts show that the theoretical case for graduated depletion is not supported by the practical realities encountered by the industry.

Economic Consequences of a Cut in Depletion

Critics say that large additional tax revenues could be realized by reducing percentage depletion, but they seldom talk about the adverse primary and secondary effects of such a change. The Treasury Department has recognized that such effects would follow a change in depletion. Analysis of these effects will show that the proposed change would reduce total tax receipts and retard economic progress.

The Treasury Department has estimated that a cut in percentage depletion to 15 per cent for petroleum might initially be estimated to bring in \$390,000,000 of additional income tax receipts. On the assumption that the primary effect of such a change would be to reduce dividend payments, the Treasury calculated that this gain would be offset to the extent of \$65,000,000. These figures would indicate a theoretical gain of \$325,000,000 if there were no other consequences, but the Treasury noted that there would be other secondary developments that would also affect tax receipts.¹⁴

A cut in depletion which would increase taxes on petroleum production by \$390,000,000 would reduce drilling sharply. Operators would have to curtail drilling by at least 8,000 wells annually, based on an average cost of \$50,000 per well, to offset the additional tax burden. Furthermore, the lower rate of return and the fear of still further reductions in percentage depletion would impair incentive to invest and also the ability of operators to secure outside capital from investors and lenders. Therefore, drilling might decline much more. At the current rate of about 50,000 wells annually, drilling is already down by 15 per cent from 1956 as a result of other economic factors. If the long-term outlook for profits from production were now permanently affected by a cut in depletion, a further drop in drilling of about 25 per cent might take place, causing well completions to decline by 12,500 wells annually. A decline in drilling of this magnitude would have serious repercussions on the use of steel and equipment for new wells, on employment of labor in drilling, and on the development of new reserves of oil and gas. All of these developments would affect tax revenues adversely.

An estimate can be made of the major effects on tax receipts of a decrease in drilling due to a cut in

14. *Congressional Record—Senate*, Aug. 11, 1958, p. 15536.

depletion by considering what would happen to the development of new reserves. About half of all the wells drilled currently are completed as oil wells. A minimum reduction of 8,000 completions would mean about 4,000 fewer oil wells annually. New oil wells develop an average of about 125,000 barrels according to experience since 1945. Therefore, the minimum reduction in drilling would cut back the development of new crude oil reserves by about 500 million barrels of crude oil annually. The potential loss of tax revenues resulting from this change would be about a billion dollars annually on the basis of the figures discussed previously of \$2.07 taxes per barrel levied directly on crude oil and its products. The loss in tax revenue following a cut in depletion could be much greater if drilling decreased by more than 15 per cent.

A reduction in drilling would soon bring about shortages in domestic petroleum supplies required for economic progress and security. In such case, the United States would necessarily become more dependent on foreign oil, with all the risks and hidden costs of such course, or prices of petroleum products would have to rise. Representative Ikard has estimated that prices might be forced upward by 5 cents a gallon for gasoline if this product alone had to compensate for the additional taxes imposed by a reduction in percentage depletion.¹⁵ An increase of only a few

15. *Congressional Record—House*, June 24, 1959, p. 10743.

cents a gallon would accelerate the trend toward economy cars and cause a further loss of tax revenue as well as far-reaching repercussions on the automobile, steel, and rubber industries. Taxes have already forced the price of gasoline to levels that meet resistance from consumers, as shown quite clearly by the rapidly increasing popularity of economy cars that realize much higher mileage per gallon. The point of diminishing return on gasoline tax collections has probably been passed already, so that measures designed to raise additional tax revenue from petroleum are likely to be self-defeating.

A cut in depletion would present a serious threat to the rate of economic progress of the United States. Evidence has been cited previously to show that a gallon of oil provides the energy base for a dollar of income. Therefore, any action slowing down the annual development of crude oil by 500 million barrels, or about 20 billion gallons, would necessarily operate to reduce real income for the entire economy by a substantial amount. Part of the impact of such adverse development might be offset by larger imports or by substitution of other fuels at higher costs, but the net effect would still be serious.

The preceding review leaves little room for doubt that the full economic consequences of a cut in percentage depletion would be to reduce tax receipts and to retard economic progress. The United States can-

not afford to embark on such a course, particularly at this time. Indeed, such action could lead to disaster in view of Russia's intensive drive to develop oil and gas resources and accelerate industrial growth in an effort to surpass the United States in economic and military strength.

Conclusion

Taxation of mineral production is an extremely complex matter. Much of the popular discussion in favor of a reduction in percentage depletion overlooks many important points and is quite superficial. This paper has sought to call attention to points that should not be ignored in an objective evaluation of percentage depletion. The basic conclusion of this analysis is that differential taxation of petroleum production, such as that provided by percentage depletion, is required because of special circumstances of vital significance.

The issue of the proper rate for percentage depletion has been reviewed in both theoretical and practical terms. The evidence supports existing rates for oil and gas as an appropriate differential required to attract the amount of capital that needs to be risked in the search for new supplies in the interest of economic progress and national security. The encouragement to development of petroleum resources supplied

by percentage depletion has been of incalculable benefit to the nation and to every citizen in war and peace.

Vast sums of equity capital and borrowed money have been ventured in exploration and drilling for oil and gas on the basis that the existing rates of percentage depletion will be maintained, regardless of the changes up or down in basic tax rates. These rules have become a part of the economic structure of the industry, and have been a major factor in the availability of adequate supplies of petroleum at reasonable prices. Any change in the system will necessarily create adverse consequences for millions of investors, for all consumers of oil and gas, and for the nation as a whole.

Impartial analysis of this problem by Congressional committees in the past and by special governmental agencies, such as the President's Materials Policy Commission and the Special Cabinet Committee on Energy Resources and Supplies, has led to the conclusion that percentage depletion should be continued at existing rates because such action best serves the general public interest. The present analysis leads to the same conclusion. In fact, the conclusion can be carried further to say that a reduction in percentage depletion would not only hurt the entire economy but also adversely affect tax revenues. Therefore, the long-established system of percentage depletion should be continued in effect without change.

Mr. GONZALEZ. The essential point about these provisions is that they do attract capital into exploration and drilling that would not otherwise be risked, that they do increase supplies of oil and gas that are of great benefit to our economy, and that they make it possible for consumers to have more oil and gas at lower costs and prices than would otherwise be possible. These provisions are not subsidies paid in addition to market prices, but differentials that affect costs and market prices. If Congress wants to increase taxes on oil and gas by changing these provisions, as it did by reducing percentage depletion from 27.5 to 22 percent in the Tax Reform Act, then it must recognize that the higher taxes are costs that will have to be paid for by consumers in terms of smaller supplies and higher prices.

Point 6: As for the foreign income tax credit, it must be kept in mind that the provision applies to all foreign operations of U.S. companies. It is designed to avoid double taxation of the same income and to assure that income taxes paid on foreign operations are at least as high as the United States would apply on those operations. Foreign income taxes on petroleum generally exceed those that would be due to the United States on such operations and I emphasize the words "foreign income taxes" because that is what the credit deals with. Those tax costs as well as all other costs reflected in prices are paid by the consumers of the foreign oil. U.S. consumers pay for foreign taxes on petroleum only to the extent that the United States relies on imports of oil and gas.

Point 7: Joint pipeline ventures are required to achieve the important economies of large diameter lines in reducing transportation costs. The regulated rates for such ventures will certainly not be any lower if the shippers are precluded from owning the joint line, and may be higher due to greater interest costs if the credit rating of the alternate owners of the line is not as good as that of the shippers supplying the oil for the line.

Point 8: Proposals that refining and marketing be divorced from production appear to be based on concern that integrated major companies keep prices of gasoline and other products lower than they might otherwise be. To the extent that such a situation exists, enforced divestiture might result in higher rather than lower costs and prices for consumers.

Point 9: Any proposal for a direct subsidy of exploration must cope with the complex problem that the Government would face in deciding on which of the thousands of exploratory wells drilled annually should be subsidized and on how much subsidy each well should receive. Unless the subsidy is related to success in discovery, as percentage depletion is automatically through its relation to revenues on production, the subsidy may be effective only in stimulating efforts to make money off of drilling without any corresponding contribution to reserves.

If the subsidy is related to success, it must be similar to percentage depletion in terms of relation to production or else involve the Government in the task of estimating the reserves of each well that is subsidized. The serious administrative problems encountered in reaching agreement on the discovery value of new wells led Congress to change to percentage depletion in 1926. The problems now would be greater because of the larger number of exploratory wells drilled.

Mr. Chairman, that concludes my remarks.
 Chairman PROXMIRE. Thank you.
 (The prepared statement of Mr. Gonzalez follows:)

PREPARED STATEMENT OF RICHARD J. GONZALEZ
 FEDERAL POLICIES AND PETROLEUM PRICES

I. INTRODUCTION

My name is Richard J. Gonzalez. I am a consulting economist with experience in teaching and in business. My association with Humble Oil & Refining Company as economist, treasurer, and director, extended from 1937 to 1965. I am a member of the National Petroleum Council and was chairman of its committee responsible for a report on "Factors Affecting U.S. Exploration and Development, 1946-1965." I am also a member of the Energy Advisory Committee to the Secretary of the Interior.

I have been active for many years in committees of several industry associations, including the American Petroleum Institute. I have been a consultant to the American Petroleum Institute for the past two years. In that capacity, I have agreed to appear on its behalf at these hearings.

This statement presents my own analyses and views. While this statement may differ in some details from views held by others in the industry, I believe that there is widespread agreement on the key points that (1) consideration must be given to oil and gas together, not to oil alone; and (2) federal policies should be designed to encourage investments in the discovery and development of U.S. energy resources which are needed to insure that the public interest may be well served with respect to economic progress, increasing productivity, reasonably stable prices, a better environment, and national security.

The major energy issue facing the United States is the need for the development of additional supplies of secure energy which will be required for the achievement of many economic and social goals. Consumers prefer clean energy, such as gas, in order to reduce pollution. This preference and the prospect that domestic supplies of crude oil and natural gas may not be able to keep pace with demands have led to serious consideration of processes and plants for producing synthetic oil and gas from coal at substantially higher costs. Environmental regulations requiring the use of more expensive low-sulphur fuels and the steps being proposed to provide expensive substitutes for natural gas indicate that the public wants both clean fuels *and* adequate supplies of energy as insurance against any disruptions of normal economic activities. The public is not likely to be tolerant of even the temporary reduction of employment at plants that are forced to shut down by the diversion of gas on interruptible contracts to other uses during periods of peak winter demands.

The issue of petroleum prices must be considered in terms of adequacy of supplies in the forms desired for environmental reasons as well as of costs bearing on prices and inflation. Oil and gas are joint products of petroleum exploration and development. Gas has become more important as a source of energy from domestic petroleum operations than oil. Since federal petroleum policies, including oil import controls, affect supply and price for both of these fuels, my analysis will stress the need to consider oil and gas together.

Realization of major goals of full employment, reduction of poverty, increasing productivity, less inflation, and national security requires federal petroleum policies designed to provide secure supplies of energy in all forms, including nuclear power and synthetic fuels if necessary. It is also desirable that fuel supplies be provided at the most reasonable costs and prices consistent with values placed on other goals, such as national security and a good

The extreme proposal made by a few people that the nation must plan to use less energy to achieve a better environment would mean less output of goods and services, more poverty, and a general reduction in living standards. I do not believe that the public will accept these alternatives. The public wants both better economic conditions and a better physical environment with a proper balance between these two goals. The quality of air and water is being improved and can be restored to good levels at reasonable cost without sacrificing economic progress. It should be noted, however, that the achievement of these two goals will require more energy; more energy to support economic progress, and more energy to process and reclaim waste materials and to reduce undesirable emissions from the combustion of fuels.

II. OIL AND GAS SUPPLIES, PRICES, AND INFLATION

Control of inflation over the long run requires increased productivity and steadily rising real output of goods and services. Gains in productivity and real output are closely related to the use of mineral energy. These relationships mean that increasing supplies of energy are needed to combat inflation. Shortages of energy adversely affect production and employment, thereby causing additional inflationary pressures.

The close relationship between the use of commercial fuels and the real value of national production can be seen in the variation of living standards among nations and in the progress of any nation over a period of time. The United States experienced gains between 1950 and 1970 of slightly more than 100 percent in both real gross national product and energy consumption. Almost all of the additional energy used in this period was obtained from oil and gas in about equal proportions in terms of heat content.

Efforts to improve living standards around the world have caused a great surge in demands for energy. World energy use increased more in the decade of the 60's than in the prior 35 years (1925-60). If the rest of the world is to make the progress it desires in raising living standards even slightly toward the level enjoyed in the United States, foreign use of energy, particularly oil and gas, will rise very rapidly for the rest of this century. Such an effort will affect the availability and cost of imported oil and gas in the future much more than in the past when temporary foreign surpluses existed. We must bear in mind that the United States with less than 6 percent of the world population uses about one-third of the world output of fuels, or about eight times as much energy per capita as the average for foreign countries. There is a limit on how much energy the United States can expect to import without adversely affecting other countries and causing prices for foreign energy to rise sharply.

In the United States, continuing progress toward realization of many economic and social goals will require expansion of real national product at about 4 percent per year and comparable gains in the use of energy for improved productivity and greater output. At that rate, energy used in the United States would increase by at least 80 percent between 1970 and 1985. Even under optimistic assumptions about growth in the use of coal and nuclear power, the demands for both oil and gas can be expected to increase by more than 60 percent if sufficient supplies can be made available.

Consumers naturally want to obtain needed supplies of secure energy at the best possible prices immediately and for the long run. However, short-term savings secured at the expense of inadequate future supplies are no bargain. Indeed, misguided short-term policies can result in an increase in the total cost of energy to consumers over a period of years. This situation is now developing for natural gas as shortages caused by Federal price regulation force consumers to use more expensive and less desirable alternates. The public interest is served best by prices that bring the desired level of supplies on a continuing basis.

III. MAGNITUDE OF THE OIL AND GAS SUPPLY PROBLEM

In 1970 the U.S. consumed 5.4 billion barrels of liquid petroleum products and 22 trillion cubic feet of natural gas. These quantities represented 44 percent and 33 percent respectively, of total energy used in the U.S. By 1985, the requirement for these fuels probably will be in the range of 9 billion barrels of oil and at least 33 trillion cubic feet of gas. Cumulative requirements for the 15-year period are expected to exceed 100 billion barrels of oil and 420 trillion cubic feet of gas if the necessary supplies can be made available.

In 1970, U.S. wells supplied 3.5 billion barrels of crude oil (including lease condensate), 22 trillion cubic feet of gas, and 606 million barrels of liquids extracted from natural gas. Combined production of oil and gas is very close to maximum capacity except for the giant Prudhoe Bay field on the North Slope of Alaska.

Development of new petroleum resources in the U.S. during the period 1950-70 (by discoveries, extensions, and revisions in estimates of proved reserves) averaged about 3.3 billion barrels of crude oil per year and 19 trillion cubic feet of natural gas, including Prudhoe Bay. This rate of development has now been exceeded by production.

Prudhoe Bay is the largest oil field ever discovered in this country. The second largest field, East Texas with about six billion barrels of recoverable oil, was found in 1930 and not followed by any other discovery of similar size. Whether Prudhoe Bay is also a unique giant in an area with much smaller fields, or only one of several giants, is a matter of great importance to the consumers of this nation. The answer can be determined only by further drilling and development on the North Slope after transportation facilities are approved and completed, and additional investments become economically feasible. Even if construction begins in 1972, Prudhoe Bay reserves will not be a source of supply before 1975 or 1976.

Now that domestic production is near capacity, steadily increasing demands for oil and gas required to achieve national goals can be met most economically by the right combination of more rapid development of potential resources in the United States plus limited use of additional imports, preferably from area with minimum risk of disruption of shipments.

The potential exists for more rapid development of U.S. oil and gas resources if accelerated exploration, drilling, and recovery become economically attractive. The large volume of sedimentary formations considered favorable for accumulations of oil and gas deposits leaves no doubt that many more fields remain to be found, particularly in the major new geologic provinces of Alaska and the offshore Continental Shelf, if the decline in exploratory drilling for the past 15 years due to decreasing profitability can be reversed by a change in federal policies. The potential for future discovery and recovery, in addition to presently known reserves, is generally rated in the range of several hundred billion barrels of oil and around 1,000 trillion cubic feet of natural gas. These resources are ample in relation to prospective demands, but the amount and rate of discovery and development of potential resources will depend on governmental policies and the prospective profitability of new petroleum investments relative to other opportunities. For example, all leasing of the outer Continental Shelf is subject to federal control, with the result that decisions to delay or prevent leasing for petroleum exploration would reduce drastically the potential of future domestic supplies of oil and gas.

Imports are another possible source for meeting additional demands. They now supply about 23 per cent of the oil used in the United States and less than 4 per cent of the natural gas. Venezuela and Canada are our principal sources of supply in the Western Hemisphere, but it does not appear likely at this time that they can provide much larger shipments of oil to the U.S. since their spare capacity is nominal in relation to our increasing demands. Canada has recently rejected an application for substantial exports of gas to the U.S. in order to maintain assured supplies for its own expanding needs. Venezuela has adopted laws placing control of prices and other costs entirely in the hands of the government.

Additional imports of oil and gas would have to come primarily from the Eastern Hemisphere over long routes. The movement of oil from these sources has been disrupted periodically in the past by various circumstances, including nationalization, embargoes on exports, enforced curtailment of production by government orders, and military conflicts. Eight major producing nations a year ago threatened a joint embargo to enforce higher prices. In addition, the cost of foreign oil is increasing as a result of the sharp rise in demand relative to supply enabling exporting countries to modify long-term concessions and impose much higher taxes on their production. Rapidly growing demands and the effect of these demands on taxes, the major element in the cost of foreign oil, raise serious questions for the United States about the long-run availability and cost of imported oil and gas.

In comparing the cost of foreign and domestic petroleum, both oil and gas must be taken into account because the United States needs and wants more gas as well as more oil. Statistics on production and reserves show that domestic petroleum operations supply about 6 MCF of natural gas per barrel of crude oil produced or discovered. Environmental considerations place even greater emphasis on gas relative to oil for the future. Therefore, the development of additional supplies of secure energy from petroleum at favorable costs and prices must be viewed in terms of both gas and oil and not in terms of oil alone.

IV. RELATIVE COST OF DOMESTIC AND FOREIGN OIL AND GAS

Comparisons of relative costs of domestic and foreign petroleum have been misleading in their emphasis on crude oil only. Conditions in the 1960's caused some to assume that the price of foreign oil would remain low indefinitely and

always be available in unlimited amounts. While the nation could enjoy both cheap U.S. natural gas and cheap foreign oil, warnings about the long-run consequences of such a course were often described as being special interest pleadings not worthy of attention.

Conditions have changed greatly in the past three years. Awareness that development of new gas resources depends upon exploration for both oil and gas is increasing. The shortage of natural gas has become a reality and a matter of common knowledge. Some local public utility regulatory boards have even had to forbid the connection of new customers. Spare productive capacity for crude oil in the U.S. has virtually been exhausted. This change limits the ability of the U.S. to cope effectively with disruptions in the movement of foreign oil as it did in the past.

Foreign crude oil prices have increased sharply reflecting increased payments to producing country governments. Since the fall of 1970, payments to governments have increased by some 40¢ per barrel on typical Persian Gulf crudes and substantially more on short-haul Libyan and Nigerian crudes. Further periodic increases are scheduled through 1975. Despite the 5-year settlements arrived at in early 1971 in Tehran and Tripoli with member countries of the Organization of Petroleum Exporting Countries (OPEC), these countries are already demanding still further upward adjustments in prices and government participation in existing concessions.

Various developments have combined to reduce the differential advantage in the East Coast delivered cost of foreign oil of comparable quality to U.S. production. Worldwide economic and political forces are working to increase foreign crude oil prices substantially and to move the delivered cost of foreign oil still closer to equilibrium with U.S. prices.

Reliance on foreign oil will lead inevitably to the use of more expensive alternatives in place of U.S. natural gas because imports affect development of both gas and oil. Proposals have already been made for large imports of liquefied natural gas (LNG) from Algeria and for the manufacture of synthetic gas from naphtha, principally from foreign sources. These alternates will cost in the range of \$1.00 to \$1.25 per MCF delivered to the city gate or to large industrial users. (The reported cargo price of LNG aboard ship at U.S. ports should not be misinterpreted as the total cost of this alternate since unloading, storage, regasification, and transmission to points of consumption will add materially to the delivered price.) The long-run cost of gas from overseas sources is likely to be above rather than below \$1.00 per MCF.

By comparison U.S. gas was delivered at average wholesale prices of 35¢ per MCF in 1970 as indicated by the cost of 12 trillion cubic feet consumed by industrial users, including electric utilities. These delivered prices ranged from 22¢ per MCF in the South Central states (near sources of production) to 50¢ along the East Coast. The advantage to U.S. consumers in 1970 of domestic gas over imported LNG was about 65¢ per MCF. Even a substantial increase in domestic petroleum prices designed to bring forth large additional supplies of domestic oil and gas would still leave average delivered wholesale prices for U.S. natural gas more than 50 per cent or 50¢ per MCF below the probable cost of imported LNG.

This cost differential between U.S. and overseas gas must be considered along with the differential for crude oil in determining what consumers can expect to pay for meeting their additional demands for petroleum in the ratio of 6 MCF of natural gas per barrel of oil, which has been the actual experience of the past 15 years (1955-70). The basic choice is between U.S. oil and gas developed in the relationship of 6 MCF of natural gas per barrel of oil and imports in the same ratio.

Assuming that foreign oil would be available in the quantities needed to meet all additional demands without any disruption in deliveries and at a long-run price advantage of 90¢ per barrel over domestic crude oil at U.S. ports, that advantage would be entirely offset by the use of 6 MCF of imported LNG if the premium for that gas were as low as 15¢ per MCF over U.S. natural gas. The prospective price advantage of U.S. natural gas over imported LNG of at least 50¢ per MCF far outweighs the maximum probable gain in using foreign crude oil in place of the domestic oil that must be developed and produced in order to supply additional gas.

The advantage of using domestic oil and gas rather than foreign supplies varies regionally because of transportation costs and differences in the relative use of gas and oil. Even for the East Coast, which will need 2 to 3 MCF of gas

per barrel of oil to cope with pollution problems, the cost saving on U.S. natural gas relative to imported LNG fully offsets the price advantage of foreign crude oil.

This analysis shows that crude oil and natural gas in the mix characteristic of U.S. petroleum development and usage over the past 15 years will cost consumers more if supplied from foreign rather than domestic sources. This would be true even if there should be a substantial advance in U.S. prices of oil and gas to the extent necessary to stimulate exploration and development in keeping with the growth of demands.

V. OTHER CONSIDERATIONS AFFECTING RELIANCE ON IMPORTED OIL AND GAS

Considerations other than those of relative prices must be taken into account in determining national policies with respect to imports of oil and gas.

First, a large increase in imports would seriously impair the U.S. international trade balance at a time when the nation is working hard to improve that balance. Considering annual increases in U.S. demand in the range of 200 million barrels of oil and more than a trillion cubic feet of gas, it is apparent that meeting additional demands largely through imports would require additional payments of billions of dollars for foreign currencies. Some of this outflow would be recovered in different ways, but the amounts involved would aggravate existing problems in balancing our international payments.

Second, there are risks and costs involved in increased reliance on imports from distant sources in the Eastern Hemisphere. The East Coast is more than 95 per cent dependent on imports for residual oil and is approaching 50 per cent overall dependence on imported oil. The East Coast could be in serious trouble in case of a prolonged disruption of imports.

Third, heavy reliance on foreign oil involves risks to national security and to freedom of action in international affairs. These risks are not limited to situations involving the United States in war. Oil producing countries have imposed embargoes on exports in the past and can be expected to do the same in the future in an effort to promote their own economic and political objectives.

Fourth, oil import controls assure the continuation of competition in domestic petroleum operations. In the absence of import quotas, only the large international companies could survive. They could draw on foreign reserves to remain in business, but small operators would have to liquidate and withdraw.

These points are highly crucial and carry weight in favor of limiting reliance on imports even through opinions may differ as to the risks and costs involved in greater use of foreign oil and gas. When oil and gas taken together (in the mix desirable for environmental reasons) are cheaper from U.S. sources than from foreign sources, as would still be the case even with somewhat higher prices, these fuels from domestic sources are a real bargain.

The question is sometimes raised whether controls on imports have been of any value since they have not achieved the objective of increasing the rate of development of new resources in keeping with demands. The answer is that the situation would have become much worse without import controls. These controls resulted in major discoveries and the development of reserves on the Continental Shelf and in Alaska which would not otherwise have been made. To that extent import controls have contributed to added supplies of oil and gas for consumers and to national security by limiting dependence on insecure foreign oil to a fraction of what it would otherwise be.

VI. ALTERNATIVES FOR LIMITING PETROLEUM COST AND PRICE INCREASES

The prospect of having to pay more in order to secure increasing supplies of energy in the forms needed for economic and environmental reasons naturally leads to consideration of possible ways of limiting cost and price increases. Several points are relevant in this connection.

Consideration must be given first to the impact of environmental regulations on the supply and cost of fuels. Air pollution standards limiting the sulphur content of fuels have reduced the choice of using coal, increased demands for gas and low-sulphur fuel oils, and added substantially to the cost of fuels used by utilities and industry. The price of coal has increased by about \$4.20 a ton since 1968 or more than 60 per cent on new purchases according to statistics published by the government. This increase is equivalent to \$1.05 a barrel for high-sulphur fuel oil and 17¢ per MCF for natural gas. Examination of the impact of air pollution regula-

tions on fuel costs is essential as a basis for intelligent decisions about the relationship of benefits to costs. Development of effective and low-cost methods for removing sulphur from coal is highly desirable in order for the nation to make effective use of an abundant potential resource which could be of help in controlling energy costs and prices.

Other environmental regulations are also affecting the supply and price of fuels. Measures affecting surface mining of coal, for example, limit output and raise energy costs. Delays and added costs incident to construction of a pipeline to move oil from the North Slope of Alaska postpone the availability of a large new known source of supply and work against the exploration and drilling needed to test the further potential of the North Slope. These delays in Alaska, restrictions on the development of oil off the coast of California, delays in offshore leasing by the federal government, and opposition to offshore leasing along the East Coast all serve to limit future supplies and to increase future prices to consumers. The best chance for limiting future cost and price increases on domestic oil and gas is for several giant fields to be found and developed promptly in new areas.

Concern about pollution incident to petroleum operations, including that caused by tankers bringing foreign oil to the United States, is commendable only up to the point that benefits exceed the costs of actions that limit supplies and raise energy prices. An unstated but important premise for much of the opposition to oil and gas developments offshore and in Alaska is the incorrect assumption that alternative supplies of energy can be secured from other sources without added costs and with less pollution. In fact, there are high costs involved in foregoing development of potential petroleum resources in the U.S. These costs are environmental as well as economic in view of the need for gas to reduce air pollution and of the added worldwide oil pollution likely as the reliance on more imports by tankers increases the risk of oil spills. The public deserves to be informed about all the facts concerning costs of foregoing the development of potential U.S. resources, including loss of jobs, as well as of the estimated value of any net environmental benefits.

It should be noted that the petroleum industry has been pressing for an opportunity to develop resources offshore and in Alaska more rapidly. Such action, if permitted, would make more supplies available and help to control prices. Opposition to these efforts based on environmental considerations has ignored the resulting economic impact on oil and gas supplies and prices and other offsetting environmental costs. This unsatisfactory situation for the public should be resolved by Congress and the Administration by prompt analysis of relative priorities and of the relationship of net environmental benefits to economic costs.

The possibilities of securing more gas relative to oil and of clean synthetic fuels from U.S. coal and shale also deserve consideration. If much more gas could be secured by modest increases in gas prices alone, without corresponding changes for oil, that might permit continued enjoyment of both cheap gas and cheap imported oil as in the past. Theoretical econometric models have been designed to indicate that large additional supplies of gas could be secured through limited increases in prices for new gas only. However, in my opinion, these models do not reflect correctly the economic realities of the joint nature of oil and gas exploration or the relationship of required outlays to revenues derived from higher prices for new gas. Higher gas prices will, of course, bring forth additional gas supplies, but not in amounts sufficient to meet demands unless prices for oil also operate to stimulate exploration for both oil and gas.

Synthetic fuels from coal and shale have been under study for a long time. The processes for extracting oil and gas from such sources are well known, but the problem has been to make costs competitive with crude oil and natural gas. Some synthetic fuel plants are being planned now because of the urgent need for supplies even though anticipated costs are much higher than present or prospective prices for crude oil and natural gas. To the extent that needed supplies can be secured from crude oil and natural gas at lower costs than from synthetics, the interests of consumers and the nation will be served by best encouraging more rapid development of conventional petroleum resources in this country.

Creation of government owned reserves fully developed for use only in case of emergencies has also been proposed. Such reserve capacity would involve large investments of billions of dollars and substantial annual interest, maintenance, and standby costs. Furthermore, these plans deal only with oil and not with gas, whereas a correct appraisal of costs must consider both gas and oil. Calculations as to the incremental cost of reserve capacity in the Elk Hills Naval

Reserve in California are misleading and of no help in estimating correctly the total cost of endeavoring to establish the millions of barrels daily of reserve producing capacity which would be required if imports were unrestricted and should rise sharply above the current level of about 4,000,000 barrels daily.

VII. SAFEGUARDS AGAINST RUNNING OUT OF OIL

Actual and impending shortages of oil and gas cause some people to worry that U.S. resources are about to be exhausted. In that case they conclude that it would be a mistake to accelerate discovery, development, and production. They suggest instead that U.S. oil resources be saved for future use and that we use as much foreign oil as possible when it is available.

This superficially appealing proposition rests on two incorrect assumptions: (1) that the U.S. is about to run out of oil and gas, and (2) that the nation can wait until an emergency arises to develop more oil and gas.

The U.S. is not about to run out of oil and gas and will not do so if prices are allowed to serve their proper function of balancing demand and supply. Resource experts in government and in industry agree that very large potential exists for additional recovery from known fields as well as the discovery of new fields. Potential resources are more than adequate for the relevant planning period (20 to 30 years) of concern to consumers and investors making decisions now with respect to fuel use and supply. Considering synthetic fuels as well, the U.S. can continue to meet its energy needs for scores of years.

In the unfortunate event that disruption of imports of oil and gas should cause an emergency, the nation could not hope to cope with the resulting problems by a crash program to find and develop more domestic resources. The long lead-time of five to ten years for development of major new supplies (either from new fields or from synthetic plants) means that we must act now to prepare for the possibility of emergencies that hopefully will not come sooner than five years hence. In an emergency, only fully developed reserves and facilities capable of immediate use would be of help.

Reliance on foreign oil and gas discourages exploration and drilling required to convert potential but undiscovered and undeveloped U.S. resources into developed reserves and supplies useful in meeting demands. Potential resources are of no help in holding down costs and prices.

The most effective means of serving the public interest in adequate, secure supplies of energy to promote economic progress and combat inflation will be to encourage more rapid development of potential U.S. resources of all forms of energy for the long run in keeping with expanding needs.

In conclusion, I wish to express my appreciation to the Committee for the opportunity to present this statement on important petroleum problems affecting the public interest.

Chairman PROXMIRE. Mr. Gonzalez, our earlier witnesses were unanimous, that is before today, were unanimous in their disapproval of the tax benefits accorded the foreign operations of U.S. oil companies, which I have just been discussing.

First, royalty payments to foreign governments are treated as taxes and a full U.S. tax credit is allowed against them.

Mr. GONZALEZ. Mr. Chairman—

Chairman PROXMIRE. Let me finish my question, if you don't mind. No such credit is given for royalty payments to owners of domestic oil-bearing land. This seems clearly discriminatory. In other words, we provide a tax credit for foreign exploration, rather than domestic exploration. It subsidizes the world price of oil, so that we then have to erect an import barrier against cheap foreign oil.

The cost to the U.S. Government is well over \$1 billion per year in lost revenues. It discourages the oil companies from holding out against increased royalty payments because they know Uncle Sucker will pay the cost.

Second, foreign production receives the same depletion allowances as domestic. If the purpose of the depletion allowance is to encourage domestic exploration, this obviously does not make any sense.

It was pointed out to us yesterday that the depletion allowance actually discriminates against the typical independent domestic producer. The depletion allowance is limited to 50 percent of net income, or 22 percent of gross, whichever is lesser. The domestic operator of a small well with a low-profit margin comes up against this 50 percent of net income limitation, while the very profitable foreign wells seldom do.

Would you agree with me that the tax benefits given to foreign operations are excessive and should be reformed? Or do you consider that the answer that you have given here is your full answer to that question?

MR. GONZALEZ. Mr. Chairman, let me make it clear that the companies pay royalties on their foreign operations abroad but that they also pay income taxes, which are not royalties. It is my understanding of the income tax laws that it is the foreign income taxes that are taken into account, not foreign royalties.

Chairman PROXMIRE. Well, of course, they describe them that way. They can describe them any way they wish. They can call them royalties or income taxes since it is in the interests of both the foreign country and the major producer if it is defined as an income tax, which actually they are not. The fact is that if this were considered to be a business expense, this foreign income tax or foreign royalty, whatever you want to call it, you would reduce the costs to the Treasury by over \$1 billion a year. You would have a more equitable situation; you would not be having this extraordinary subsidization of the development of oil resources abroad when they say one of the whole purposes of the oil import program is to encourage domestic exploration and development.

MR. GONZALEZ. Well, Mr. Chairman, one of the things you would do would be to handicap American companies in the competition with other national companies—British, French, Italian, Japanese—in developing foreign resources. You would simply limit the ability of American companies to earn money abroad on which they do pay taxes in the United States.

Chairman PROXMIRE. I think they do not pay very much; it is shocking how little they pay. Year after year we used to—Paul Douglas used to do this for years; I have done it to a lesser extent—point out the very small percentage of net profit of motor oil producers that is actually paid in taxes to the Federal Government.

Now the typical corporation pays around 50 percent, 49 percent. Oil companies pay 8.7 percent. They pay less than a fifth—I used to have a little printing company before I came to the Senate and we paid in most years, we didn't go into the surtax level; we paid three times as much as the typical motor oil company pays. That is a ridiculous situation; you know it is.

MR. GONZALEZ. Mr. Chairman, the companies pay very high income taxes and other taxes on their operations abroad and they pay taxes on their U.S. income precisely as provided by the laws of Congress.

Chairman PROXMIRE. Well, I agree with that. I would like to change the law.

MR. GONZALEZ. Percentage depletion recognizes that there is a distinction between the mining industry, including petroleum, and the ordinary manufacturing and trading activities in that the capital

required to replace the reserves in order to stay in business is far different from depreciation on book investment and that is what the tax laws take into account.

Chairman PROXMIRE. Of course, these tax laws have been built up for decades now and we have policies that are unfortunately imbedded in concrete, apparently, based on them but certainly this particular provision to permit royalty payments or whatever you would like to call income tax to foreign countries as a complete U.S. tax credit instead of a deduction from income does seem to me discriminatory and completely contradictory of our oil import program.

Let me ask you this: Your statement stresses the increases and prospective increases in the price of imported oil. Our other witnesses have confirmed that this is the probable trend. Certainly recent negotiations have suggested the same thing, but, it seems to me, your statement overlooks that the domestic oil prices are also on an upward trend, due to rapidly rising demand which will not be immediately matched by increased supplies.

First, I would like to know whether you expect the world prices of oil to rise significantly more than the domestic prices?

Mr. GONZALEZ. In my statement I point out that I expect the differential between foreign and domestic prices to be no more than 90 cents a barrel, long run, whereas it has in the past been as much as \$1.25 or more, so I am expecting that the differential between world price and U.S. prices will decrease.

Chairman PROXMIRE. Well, then, more importantly, why should this rise in the world price, if it does occur, invalidate recommendations to remove the import quotas? If the price differential between domestic and imported oil is eliminated, or sharply reduced, market forces will reduce import demand. We certainly shouldn't reduce quotas in that situation.

Mr. GONZALEZ. We could go to tariffs except that, as I pointed out in my prepared statement, the effect of those tariffs would probably be to wipe out a lot of small companies in the United States.

Chairman PROXMIRE. I am not talking quite yet, about tariffs; I am talking about the fact that, if the differential is diminished then the argument for the oil import program diminishes along with it.

Mr. GONZALEZ. If you had only one product this would be precisely true. You have two products, Mr. Chairman. You have gas, as well as oil. The price of the foreign gas is already a great deal higher delivered to the United States than the domestic oil, yet we are pressing early and anxiously to import that foreign gas at a high premium because the level of imports for crude oil has discouraged the joint exploration for oil and gas.

Chairman PROXMIRE. I have a couple of questions in that area. How many economists would agree that oil prices should be kept artificially high in order to hold down the price of gas? Isn't the best allocation of resources obtained when each product pays its own true cost?

Mr. GONZALEZ. Of course, and the point is that we have not let gas prices find their place in the market. We have artificially controlled them by Government regulation. That is where the trouble has been.

Chairman PROXMIRE. Well, does it really make sense to control oil imports to protect domestic supplies of gas? If we need to subsidize gas, why not do it directly?

Mr. GONZALEZ. The reason that a subsidy of gas directly would not be advantageous to the consumers is that this is an industry of joint product in which your discovery and development of gas occurs as a result of searching for both oil and gas. If we don't search for oil, we will not find the gas that we want.

Chairman PROXMIRE. What I am saying is that the enormous costs of this program, and the best estimate that we can get is that the oil import program costs \$5 billion—some people call that a minimum cost—exceeds the amount that is invested now in exploration. We would be better off by spending a fraction of that and getting the exploration which we are not getting.

Mr. GONZALEZ. Mr. Chairman, I pointed out that this exploration is getting us gas as well as oil, that we have had a very large increase in gas. This gas is very attractively priced. The consumers have benefited enormously from being able to use clean, attractively priced gas instead of oil, in fact, this has gone—

Chairman PROXMIRE. Yes, but you are not meeting my point. My point is it would be cheaper; it would be cheaper than the cost of \$5 billion instead of having the oil import program if you take part of that \$5 billion and pay a direct, explicit, specific subsidy for exploration.

Mr. GONZALEZ. You are getting into the subsidy question now.

Chairman PROXMIRE. We subsidize anyway.

Mr. GONZALEZ. I pointed out we do not pay subsidies from the U.S. Treasury.

Chairman PROXMIRE. We pay it from the consumers' pocket.

Mr. GONZALEZ. All of this works its way into costs and prices.

Now, what I pointed out was that you have very serious problems in trying to devise any system of subsidies that will bring about what you would like to have which are simply additional gas supplies and, in my prepared statement, I pointed out it would be nice to be able to have both cheap U.S. gas and cheap imported oil. Unfortunately, that is not the way the economics works.

Chairman PROXMIRE. Let me get to another aspect of this.

You stress the importance of treating oil and gas together. I couldn't agree more. I don't see how anyone could disagree.

In that connection, it is my understanding that while Alaskan oil can conceivably be brought through Alaska by pipeline and then transferred to tankers, Alaskan natural gas will have to go over a pipeline through Canada.

Given this, wouldn't it make sense to also bring oil by pipeline through Canada? It seems to me obviously an economical and efficient thing to do to have the two pipelines share a common right-of-way.

Would you agree with me that it is important that the trans-Alaska oil pipeline not be approved until we have assurance that the associated natural gas can also be delivered?

Why should we develop one without the other?

Mr. GONZALEZ. Mr. Chairman, the gas, of course, can never be produced unless the oil is produced. It would not be economical. Now, obviously if the gas is to be produced and marketed the likeliest market is in the Midwest United States.

Chairman PROXMIRE. How would we get it there?

Mr. GONZALEZ. We would build a line.

Chairman PROXMIRE. Right.

Mr. GONZALEZ. To get it from the North Slope.

Chairman PROXMIRE. Why not have a common right-of-way? Wouldn't that be efficient and sensible?

Mr. GONZALEZ. This would be fine if it did not involve any delay in beginning to deliver energy from those potential sources, which are very important and needed very much by 1975.

We hope there will be a lot more oil and gas on the North Slope and in the Arctic areas of Canada and the Prudhoe Bay field. Now, in that case, we will need more than one pipeline, more than one oil pipeline, hopefully more than one gas pipeline. We will need to supply the west coast as well as the Midwest.

The advantage of proceeding now with the trans-Alaska pipeline is then we provide assurance that the investors can safely go ahead with their exploration and drilling up there. Remember they spent \$900 million for leases on the North Slope and the exploration has practically ground to a halt because they don't know whether they are ever going to be allowed to move that.

Chairman PROXMIRE. We know they are going to be allowed to move it; there is enormous demand for this, a great need for it. All I am saying, the whole thrust of your testimony is the great need for additional supplies of gas?

Mr. GONZALEZ. Yes.

Chairman PROXMIRE. And to get that additional gas we have to have a pipeline across Canada and it would make sense, therefore, not to say maybe if they develop new oil they will have some gas that they can bring to the Midwest; but wouldn't it make sense to make that the priority and therefore provide what we would do without hesitation, without waiting, without delay start construction of that trans-Canada pipeline now?

Mr. GONZALEZ. Mr. Chairman, it takes years of engineering and environmental studies to act on a pipeline. This has been what has been holding up the line across Canada. I do not understand that the Canadian Government has indicated that it is ready to give an environmental approval to a line across Canada now, and if it did, you would still have the years of engineering that would be involved in designing the line to meet the environmental standards; so you are talking about delaying the supplies.

What I would like to emphasize here is that the oil companies are pressing as hard as they can to try to increase supplies from the North Slope, and from offshore and they are being hamstrung at every turn.

Chairman PROXMIRE. Mr. Gonzalez, I want to thank you very much. You have been a very fine witness. You are obviously one of the most competent men in this area and I appreciate very much your excellent, thoughtful testimony and particularly the homework you did in attending these hearings and in listening attentatively and in analyzing so well as you did in your supplemental statement. I wish I had known the supplemental statement was coming.

Mr. GONZALEZ. Thank you, Mr. Chairman.

Chairman PROXMIRE. The subcommittee will stand adjourned.

(Whereupon, at 12:55 p.m., the subcommittee was adjourned, to reconvene subject to the call of the chair.)

APPENDIX

STATEMENT OF THE AMERICAN PETROLEUM INSTITUTE, PRESENTED BY FRANK N. IKARD, BEFORE THE SUBCOMMITTEE ON SPECIAL SMALL BUSINESS PROBLEMS OF THE SELECT COMMITTEE ON SMALL BUSINESS, U.S. HOUSE OF REPRESENTATIVES, JULY 14, 1971

My name is Frank N. Ikard and I am president of the American Petroleum Institute, a national trade association representing all branches of the petroleum industry.

It is my wish to be as helpful as I can to this subcommittee in the areas you are conducting this hearing to explore. However, I should begin by explaining that I can speak for the petroleum industry only with respect to those matters that come within the scope of the Institute's program. I am not in a position to discuss any topic having to do with the competitive relationships between individual companies, nor the reasoning behind the decisions or plans any company may have made.

There is a mistaken tendency to think of the petroleum industry as a monolithic enterprise, but I can assure you that such an impression is at complete variance with reality. An outstanding quality of the petroleum industry is the intensity of competition that prevails through all its ranks and branches. In some businesses reference may be made to the "big four," or "big five" or "big ten" dominant corporations. In petroleum, one would have to refer to the "big 25" or "big 30," because there are that many large integrated companies. These firms, moreover are constantly being challenged in the field and in the marketplace by aggressive smaller concerns.

Altogether, there are more than 40,000 individual firms engaged in one or more branches of the domestic petroleum industry. The producing branch alone consists of some 10,000 companies engaged in the exploration for and production of crude oil or natural gas. Significantly, the largest producer accounts for less than eight per cent of total production.

In the refining branch, which processes crude petroleum into hundreds of products for use by consumers and industry, there are 131 companies operating 262 refineries. There has been, incidentally, a decline in the total number of refineries over the years. This is not due to any lessening of competition. Instead, it is the result of advancing technology resulting from intense competition. The old-time tea kettle refinery that sprang up around the oil fields of the Twenties and Thirties has been rendered obsolete by advanced refining processes and efficiencies that developed in succeeding decades.

As far as the refining competition is concerned, a few statistics tell the story: The largest refiner accounts for less than ten per cent of the nation's total refining capacity. The next two in rank have about eight per cent each.

In the industry's marketing branch there are some 15,000 independent wholesalers besides the integrated major companies and the dozens of other smaller corporations that both refine and market petroleum. To give an example of the degree of competition in this branch of the industry: The company that leads in gasoline sales has only a shade over eight per cent of the total market. The next largest is under eight per cent, and the third, fourth and fifth ranking companies have approximately seven per cent each.

National figures alone cannot tell the whole story. There are shifts in shares of particular markets from year to year and from month to month. A relatively smaller size marketer may have one of the biggest shares in a particular market and the largest marketer, from a national standpoint, may have a relatively insignificant share. Moreover, unbranded independents have a big market share in some localities.

Finally, it is important to note this fact: The company that ranks first in marketing is not the leader in either production or refining.

The spirit of competition evidenced by these figures pervades the petroleum industry's entire outlook. In fact, the American Petroleum Institute has been described as a "loose confederation of warring tribes."

Although I have neither the qualifications nor the information to speak with any authority on matters involving intercompany competitive practices or on individual company policy decisions, the Institute has concerned itself very much of late with the broad, industry-wide question of the nation's energy outlook. We are also well aware of the obstacles that hamper oil companies in their efforts to meet the growing consumer demand for energy and to plan intelligently for the future, when that demand will be far greater than it is today.

These obstacles include such factors as more than 15 years of federal control of natural gas field prices; the addition of an estimated \$700 million a year to the petroleum industry's tax bill as part of the Tax Reform Act of 1969; restrictions on offshore drilling; delays in authorizing the pipeline that would bring North Slope oil to market; and the welter of environmental rules and regulations that are affecting all energy suppliers—coal, nuclear power generation, and hydroelectric power—as well as oil and gas.

Each of these items is and continues to be the subject of lively national debate. I see no purpose in digressing here to argue the merits of the petroleum industry's position with respect to them. My sole point is that these are factors—weighty factors—in the cost and future availability of oil, gas, and other energy sources. They are factors that every oil company must reckon with in formulating its own competitive plans and strategies.

I can assure you that every petroleum executive is aware of the all-out effort his company and the industry as a whole must mount if we are to meet the energy needs of the American people for the balance of this century.

Energy demand in the U.S. is increasing at an unprecedented rate. This demand doubled over the past 20 years. Now it is climbing even faster. By 1985—which is less than 15 years away—energy demand is expected to come very close to doubling again. By the end of the century, experts say the American people will be consuming energy at approximately three times the present rate.

Today oil and gas supply more than three-fourths of the nation's energy. Widely ranging estimates have been made about the size of petroleum demand over the coming years, but on one point there seems to be general agreement among all forecasters: As far ahead as anyone can see, oil and gas will continue to be the leading energy sources of the American people.

There are abundant petroleum reserves in foreign lands—principally the Middle East and North Africa. But the ready availability of this foreign oil will be clouded with uncertainty in the years ahead, for two principal reasons. First, the energy demand of other nations is increasing at an even faster rate than our own. Secondly, foreign producing countries are becoming increasingly militant in the financial and other demands they make for their oil.

Even more important than the rising cost of foreign oil is the fact that, insofar as the Middle East is concerned, there is no such thing as security of supply. There have been ten significant disruptions in the movement of oil from the Eastern Hemisphere since World War II. Two of these dislocations occurred last year—Syria's refusal for many months to permit repair of a break in the Trans-Arabian Pipeline and Libya's abrupt curtailment of production of its oil. These two dislocations put such pressure on available world tanker capacity that alarm was expressed over a possible winter fuel crisis in the U.S.

Domestic producers and refiners were able to avert such a catastrophe—but at a cost. Major readjustments to make up for supply disruptions are never cheap. Furthermore, with declining proved reserves of both oil and gas in the contiguous 48 states, with spare (or emergency) producing capacity coming close to the vanishing point, the question must be raised: How much longer will our domestic petroleum producing industry be in a position to respond to the recurring upheavals in foreign oil supply?

It seems to me that past events convey this clear message: The wise course for this country would be to give the highest priority to encouraging exploration for new domestic petroleum reserves.

By all indications there are substantial amounts of oil and gas still to be discovered within the boundaries of the U.S. A study by the National Petroleum Council, released in July of last year, contained the estimate that 55 per cent of the discoverable oil and 66 per cent of the discoverable gas in this country remain to be found.

These encouraging estimates must be balanced against the fact that the cost of finding and developing domestic reserves is rising sharply. Deeper drilling is required, and a well around the 2,500 to 5,000 foot range costs only about \$10

per foot to drill, but a well that goes down 20,000 feet or more runs up a cost of almost \$72 per foot—or \$6 an inch.

Furthermore, the most promising areas for important new petroleum finds—the outer continental shelf and the North Slope of Alaska—are the most difficult and expensive places to operate. These areas are also extremely sensitive from an ecological standpoint. This, of course, calls for additional expenses for the entirely justified purpose of protecting the environment.

Clearly, oil and gas producers will have to reckon with the cost of environmental conservation as a basic factor in all their operations currently and in the years ahead. It will be as much an element in petroleum producing operations as steel pipe or drill bits.

This is also true for the refining, transportation and marketing branches of the industry, where heavy capital investments and higher operating costs associated with environmental control technology have become the rule. And it is an economic fact that any cost item associated with the production of a product—whether it is Southwest oil, Middle West corn, or New England machinery—becomes a component of the final price.

Cost problems have been plaguing the petroleum industry for more than a decade. Here are some examples of the squeeze on domestic petroleum producers: Last year the cost of oil field machinery was up 30 per cent above the level for the official price index period—1957–1959. The cost of oil well casing was up 22 percent. Oil field wages had risen nearly 50 per cent. But the average price of crude oil in 1970 was up only five per cent on the index scale. This was substantially below the 17 per cent rise in the wholesale price index for all commodities recorded on the same yardstick.

In view of this cost and price trend, it is not surprising that there has been a drop in exploratory drilling in the United States. Last year, for example, only 7,693 exploratory wells were drilled—the lowest number since 1947.

This brings me to the decline in proved reserve of oil and gas that has taken place during recent years. I am aware that questions have been raised as to how these reserve figures—particularly for gas—are determined. Later in this statement I intend to comment on that subject and on the methodology used to gather and interpret these data. At this point I want to emphasize that proved reserves of oil and gas have been declining—both absolutely and in relation to production. This trend is the inevitable outcome of the slump in exploratory drilling. The only way you find petroleum is by drilling for it.

At the end of last year, it's true, the nation's proved reserves of both oil and natural gas showed a rather impressive increase. This reflected the addition of the important new discoveries on Alaska's North Slope—reserves which are useless without adequate transportation facilities. If those finds were omitted from the tabulation, there would have been another drop in proved reserves recorded for 1970.

In effect then, where our domestic oil and gas supply is concerned, we have been withdrawing more from the bank than we have been depositing.

The new Alaskan discoveries corrected this imbalance last year—at least on paper, even though that North Slope oil and gas is currently unavailable. However, it is also important to keep this new find in perspective.

That North Slope discovery is considered to be the largest ever made in the U.S. But presently-estimated reserves of some ten billion barrels in that spectacular find are equivalent to only about a couple of years' domestic demand.

Many more discoveries will have to be made to keep up with the nation's energy requirements. And the initiative, enterprise and resourcefulness of the nation's 10,000 petroleum producing companies will be put to the supreme test.

During a water shortage caused by drought, there is always criticism of the failure of the affected cities to anticipate and prepare for the increase in water demand and the downturn in supply. Oil companies have been warning for years about the downward trend of proved reserves. But the industry has no intention of sitting back complacently and saying: "I told you so." It is moving now to do its utmost to close the energy gap. Part of that movement includes increased attention to developing new technology for making synthetic oil and gas from domestic resources at a competitive price.

Regardless of the warnings oilmen have sounded, or the correctness of predictions they have made, members of our industry would be subjected to severe criticism if they did not recognize and prepare by every possible means for soaring domestic demand. But correcting the decline in proved reserves is more than a matter of drilling holes in likely places. Each of those holes requires many thousands of dollars, and in some instances even millions of dollars. Huge amounts of capital will be required for this undertaking—at least \$150 billion

during the 1970's alone. This kind of money can only be raised in an economic and policy climate that encourages investors to put up their funds.

There is no copybook solution to this problem that an oil company can adopt and follow. Each company is impelled by a desire to hold its competitive position and, if at all possible, improve that position. But each must weigh various alternatives in light of its own circumstances, and these vary markedly from company to company with respect to immediate and long-term objectives, availability of investment capital, and such other factors as may apply.

Experts claim that the hunt for conventional oil and gas reserves will become more difficult in the years ahead because the obvious localities have already been drilled. On the other hand, technology is opening new options for the enterprising, imaginative, and scientifically skilled. New methods may be developed for finding oil and gas in geologic traps that have previously eluded the hunters. New methods may be found for extracting more of the oil and gas from presently-known reservoirs. And, finally, there are the vast possibilities of synthetic fuels.

From the consumer's standpoint, it doesn't matter whether his petroleum energy comes from an oil well, a gas well, a coal mine, or from a plant that retorts oil shale. All the public is concerned about is getting a quality fuel at a fair and reasonable price, produced with due regard for environmental conservation.

There is no doubt that we are on the threshold of a new era in the petroleum industry. Some companies have already become involved in developing improved technology for the extraction of oil from shale. Others are experimenting with the conversion of coal to liquid petroleum and gas. Still others have made substantial investments in Canadian tar sand development.

Each synthetic fuel possibility presents its own special problems in economics, technology, and environmental conservation. On the other hand, the vast domestic reserves of coal and of oil shale do hold out a promise for the long-term solution to the nation's energy problems. And this is a great incentive for research and experimentation with the conversion of coal, oil shale, and tar sands.

No one can say with assurance what the future holds for the development of synthetic petroleum. However, the U.S. Bureau of Mines in "Mineral Facts and Problems" for 1970 states that synthetic fuels may be replacing as much as 23 per cent of natural gas in the energy market and 20 per cent of the conventional oil by the year 2000.

In view of this, there is certainly nothing sinister in any oil company taking an interest in providing a synthetic equivalent of petroleum energy. This is nothing more nor less than a business decision, based on a particular company's fiscal and economic situation and its appraisal of what the future holds.

The decision-makers in the petroleum industry have to accustom themselves to thinking far ahead and working with a long lead-time. Just to give an elementary example, it takes from three to ten years to develop an oil field after the initial discovery. Much of the oil and gas being consumed today was discovered years or even decades ago, and the fuel for the 1980's and succeeding periods will have to be found now. The vast energy appetite of the American people cannot be satisfied on a day-to-day, hand-to-mouth basis.

Petroleum executives well know that the long-term standing of their respective companies will be heavily influenced by the degree of vision and foresight contained in today's plans and decisions.

The company that does the best job of anticipating trends can expect to have the brightest future. But the big winner in this competition for progress is the American consumer, just as he would be the big loser if the companies were satisfied to drift along, fatalistically accepting downward trends in domestic oil and gas reserves.

I promised to discuss the matter of reports on proved gas reserves. This would seem to be the appropriate place to do it.

Actually, the American Gas Association's Committee on Natural Gas Reserves has the basic responsibility of developing figures on reserves and productive capacity of natural gas and natural gas liquids. However, a considerable quantity of natural gas—about one-fourth of the output in recent years—is produced in conjunction with oil. Consequently, the API and the American Gas Association have to cooperate closely to compile figures on natural gas and natural gas liquids which are as accurate as possible and to avoid omissions or duplications in the totals.

The work of compiling the figures is done by subcommittees of the two organizations, with a representative of API working with each AGA subcommittee.

The API and AGA subcommittees are composed of experienced geologists and reservoir engineers, men who are experts in the determination of reserves and who are especially familiar with the particular geographic areas assigned to them. There are ten of these geographic areas, comprising, as would be expected, the ten petroleum districts of the U.S. They range from the Appalachian region to the Pacific Coast and Alaska.

The subcommittee members are assigned various fields. They proceed to make their computations of reserves in their respective assigned fields on the basis of their specialized knowledge. A subcommittee member's assignment could include properties of the company that employs him as well as properties of other companies operating in the same field.

The reserve figures compiled by individual subcommittee members are systematically reviewed by the full subcommittee. On the basis of that review and the conclusions reached in a discussion of the submitted figures, the participating experts agree on the proved reserve figure for each field.

The estimation of oil and gas reserves hidden thousands of feet in the ground is not and cannot be exact. It is not like counting the number of potatoes in a bushel basket. These are scientific estimates derived by the men best qualified to make them.

One further comment on this subject: Every informed and open-minded person who has looked into the subject of oil and gas reserves has agreed that there is a definite downward trend. This is not a manufactured crisis. The trend is distinct and it should be a matter of great concern to the entire country.

I would like to conclude with a personal observation. I have recently returned from the World Petroleum Congress, which was held in Moscow in June. During this visit to the Soviet Union it was my privilege to be taken on an official tour of petroleum producing operations in Siberia.

There was no indication of any startling new technological innovations in those Siberian fields. However, I must admit that I was impressed, and somewhat shaken, by the deep dedication of the Russians to the cause of petroleum self-sufficiency. On this they appeared to be completely of one accord—from the top officials of their government to the tool pushers and truck drivers in the oil fields.

These people do not have to be given any explanation of the economic and national security implications of petroleum self-sufficiency. They are convinced believers. They don't have to hear any explanations of the importance of energy—and particularly petroleum energy—to their country and its long-range objectives.

Perhaps Russians still think of those desperate days of World War II, when the U.S. had to supply them with materials and equipment to build four complete new refineries, plus other oil producing and refining equipment, plus more than two million long tons of petroleum products.

No doubt the war taught Russia the strategic value of petroleum independence. This and other experiences have made the Soviet Union an energy conscious nation.

Russian officials, oil administrators, and oil workers are almost fanatical about the necessity of having a strong internal petroleum industry. And they fully appreciate the value of a coordinated and coherent policy for all their nation's energy resources.

I saw very little in Russia that I wish we had here in the United States. But it does seem to me that the American people could be spared hardships and problems, possibly even dangers, in the years ahead if our country could now acquire the same energy consciousness that prevails in the Soviet Union. If this testimony helps to contribute in any way toward such energy consciousness, I will feel that it was well worthwhile.

Thank you.

STATEMENT OF THE AMERICAN PETROLEUM INSTITUTE, FILED WITH THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS, U.S. SENATE, IN CONNECTION WITH A STUDY OF A NATIONAL FUELS AND ENERGY POLICY, OCTOBER 15, 1971

ENERGY POLICY AND NATIONAL GOALS

A crucial challenge facing the Nation is the need for government policies which recognize that success in attaining major national goals depends upon the increasing use and assured availability of energy.

I. NATIONAL GOALS

The following major national goals are particularly relevant to and dependent upon national energy policies:

Full employment with equal opportunity for all.

The systematic elimination of poverty, with wholesome diets and decent housing available for all.

The transference of dull, routine, bottom-of-the-economic-ladder jobs to machines, as far as this is possible, so better use can be made of the unique talents of every human being.

Increasing productivity to make possible a higher standard of living, not only in an economic sense but in the quality of life, with more creative and fulfilling use of expanding leisure time.

A nation strong enough to be secure against attack, to maintain its options in pursuing international policies in support of world peace, and to be free from the fear of economic or military paralysis due to deprivation of imported energy supplies.

An improving and increasingly harmonious environment, with the upgrading of air, water and land through the imaginative use of technology, and the harnessing of energy to correct environmental problems.

II. DEPENDENCE OF MAJOR NATIONAL GOALS ON ENERGY

Energy and economic progress

The economic development and prosperity of all advanced nations have been based on increasing use of inanimate energy in place of human labor and animal power. Machinery powered by inanimate energy has contributed directly to increased productivity in agriculture, manufacturing, mining, transportation, and service industries. Increased productivity, in turn, has been the basis for rising living standards in this and other developed countries.

The close relationship between per capita use of fuels and per capita real income, which has been evident in the economic development of the United States and other advanced nations, emphasizes the importance of adequate reliable supplies of energy. The reduction of poverty and progress toward satisfying rising economic expectations throughout the world will require vast increases in the supply and utilization of energy.

Energy and security

The Nation's prospects for economic progress, military security, and freedom of diplomatic action depend upon a continuing and dependable flow of petroleum. The United States must protect itself against becoming unduly dependent upon insecure petroleum supplies. The unreliability of overseas oil has been frequently demonstrated by supply disruptions and political interventions that have threatened consuming nations with major shortages.

Oil exporting countries are exerting increasing control over petroleum supplies as a means of furthering their own objectives in political and economic affairs. Within the past year, some oil exporting countries have threatened to take extreme measures, including total embargo on the shipments of crude oil and products, to achieve their goals. Further difficulties could result from the demands of major oil exporting countries to participate in existing oil concessions.

If the U.S. has no supply alternatives and becomes excessively dependent on overseas supplies of crude oil or refined products, the oil exporting countries will be able to impose exorbitant taxes and other payments. The U.S. could even be faced with an energy shortage.

Energy, especially in liquid form, has been of crucial importance for both conducting military operations and providing support for the industrial base required to support such operations. The advent of nuclear weapons has neither prevented the outbreak of limited wars fought with conventional weapons, nor has it reduced the importance of petroleum for military operations. Indeed, petroleum consumed by U.S. military forces per man in combat operations is still rising. Non-nuclear war is a prospect for the foreseeable future despite all the efforts being devoted to seeking permanent peace. Consequently, the Nation must continue to have assured access to the energy resources needed for military security.

Energy and the environment

High energy usage has provided high living standards but has also been in part responsible for adverse effects on man's environment. These negative effects have been faced squarely. Large sums of money have been spent to combat environmental problems resulting from energy production and use. Further application of existing technology, new technology, and sizeable expenditures will bring additional improvements.

Control of pollution entails economic costs. Increasingly stringent controls become progressively more expensive with decreasing gains. Since the public must ultimately pay these costs, administrators have a responsibility for informing citizens about available alternatives in terms of time requirements, costs, and benefits. The public should have all relevant information and the opportunity to make intelligent decisions as to the acceptable balance between additional costs and expected improvements in the quality of air and water. It should be recognized that a rush to achieve short-term benefits may result in the delay of sounder long-term solutions that would impose a lesser burden on society.

While the Government has a responsibility for setting realistic environmental standards, to the maximum extent possible the free enterprise system should be relied upon to meet these standards at the least possible cost to the consumer.

Some critics have created the impression that the cure for environmental problems requires the reduced use of energy. Consideration of all the facts presents an entirely different picture.

First, the very process of cleaning up the environment will require additional amounts of energy. More energy will be needed to treat sewage, to recycle wastes, to remove sulfur from fuel oils, and to compensate for the lower efficiency of engines designed to reduce air pollution.

Second, while concentration of population in large metropolitan centers has resulted in air quality problems, the part played by motor vehicles is already well on the way to being solved. The 1970 cars are 60 to 70 per cent cleaner than pre-1963 models. The standards set by the Environmental Protection Agency for 1975 cars specify a 90 per cent reduction in emissions from the 1970 model levels. Cleaner air will result as increasing numbers of motor vehicles are equipped and maintained to meet these standards.

Third, the impact of energy on air quality depends on the type of fuel and on the way it is used. Natural gas, for example, is a highly desirable fuel; it is clean burning and causes little pollution. Also, in home heating and industrial use, great progress had been made in the reduction of air pollution long before recent environmental protection laws are enacted. Pittsburgh and St. Louis provide dramatic illustrations of this progress.

Fourth, state conservation laws and advances in petroleum technology have achieved a great reduction in pollution from oil producing operations. Unfortunately, attention is focused on the few accidental blowouts that have occurred rather than on the overwhelming majority of wells drilled and operated without adverse effect on the environment.

III. U.S. ENERGY POSITION AND PROBLEMS

For the past century, the United States has generally enjoyed abundant supplies of energy produced from domestic sources at very attractive prices. Considering the total quantities of oil and gas that the United States uses, its internal supplies of petroleum hydrocarbons compare favorably as to cost with overseas supplies and are much more secure.

During the decade of the 1960s, the energy position of the U.S. began to change. While demand for energy increased at a rate in excess of four percent annually, in keeping with the rate of growth in real national product, the capacity to produce domestic fuels did not respond accordingly.

By 1970, the U.S. was short of natural gas, importing about 23 per cent of its oil supplies, hard pressed to satisfy all current demands for coal, and worried about the adequacy of electric power generating capacity. Today there is a growing gap between demand for oil and gas and secure supplies for the Nation. Under a continuation of present energy policies, the prospects are that the energy gap will widen.

Impending shortages of domestic energy could force the Nation into dangerous dependence on insecure imports of energy supplies. However, this undesirable

development will occur only as a result of unsound energy policies, and not because of any basic shortages of domestic energy resources. Estimates by government and other informed specialists indicate that domestic resources of oil and gas remaining to be discovered could support substantially higher rates of production. Furthermore, available coal reserves greatly exceed foreseeable requirements. Potential uranium supplies for nuclear power are believed to be adequate, assuming the timely development of breeder reactors. If necessary, large amounts of liquid fuel can be produced from oil shales and tar sands. Synthetic oil and gas can also be made from coal. Each of these alternatives will require substantial time, large amounts of capital, and prices adequate to cover all costs, including those necessary to protect the environment. Some will be more costly than others. It appears likely that it will be necessary to eventually develop and utilize all of these potential energy sources. The outcome, however, will depend upon the economic and political climate that is established by national attitudes toward energy policy.

By contrast with Western Europe and Japan, the United States has greater flexibility in coping with future energy demands. Problems with respect to future domestic energy supplies can be solved if energy policies are modified to encourage larger investments in energy exploration, development, and research. Between 1946 and 1957, U.S. expenditures for petroleum exploration and development increased more rapidly than fixed investments for the economy as a whole. As a result, oil and gas supplies grew more rapidly than demand during that period. By contrast, between 1957 and 1970, expenditures for petroleum exploration and development increased about five per cent, while total new fixed investments in the economy doubled. Consequently, the development of oil supplies lagged behind the growth in demand.

Static outlays for the development of U.S. energy resources during the past decade, in the face of a large increase in demand, resulted from inadequate economic incentives and from rising concern on the part of investors about federal policies and actions. For example, the regulation of gas prices at the wellhead beginning in 1954 and the rollback of prices in agreed-upon contracts retarded oil and gas exploration in this country. Also, the Tax Reform Act of 1969 reduced the incentives to explore for domestic oil, gas, and other minerals. This change in federal tax policy dealt a severe blow to exploratory activity at a time when exploration was already declining.

The most desirable options are those that provide increasing quantities of assured supplies of oil and gas at prices which are in the long-run interests of consumers. It can not be assumed that historical prices of overseas oil will prevail in the future. Both economic and political forces are raising the cost of foreign crude oil. To the extent that imported liquefied natural gas replaces declining supplies of U.S. natural gas, costs of gas will increase while security of supply deteriorates. If these trends were to occur, the advantages of encouraging greater U.S. production of oil and gas will become more apparent than at present.

In addition to the availability of basic supplies, the satisfaction of the Nation's energy requirements involves the construction and use of processing and handling facilities. If the construction of such facilities does not keep pace with demand, the country's position will be weakened. Unfortunately, because of the cumulative effect of rapidly increasing construction costs, environmental concerns, and uncertainty about energy policy, present prospects for additional domestic facilities are falling short of projected increases in the demand for energy.

IV. ENERGY POLICIES REQUIRED TO MEET NATIONAL GOALS

Increasing supplies of energy are essential for achieving the basic national goals of economic progress, security, and a better environment. A turn-about in public attitudes toward the energy industries is essential to the development of an improved energy outlook for the U.S. The current federal review of energy policies can serve a very useful national purpose. This review can focus attention on the need for action in the public interest to encourage development of secure U.S. supplies of energy. Such supplies must be provided to satisfy increasing requirements, at reasonable costs, and in a manner consistent with environmental objectives.

The following policy recommendations are designed to help assure adequate supplies of secure energy at reasonable costs and will serve the public interest by contributing to the achievement of national goals:

1. Energy policies should be clearly defined and should recognize the essential role of energy in achieving national goals. Policy features should not be changed without due consideration of the long-lead time involved in creating major increments of energy capacity and the large capital investments required.

2. Energy needs should be met by private competitive enterprise with minimum governmental regulation required to achieve the specific goals of (a) prevention of physical waste, (b) security of supplies, and (c) an improved environment.

3. Oil and uranium import controls should be continued to encourage expansion of domestic supplies. Such controls will contribute to national security and help assure consumers of adequate supplies at reasonable long-run prices. Import controls should not be used for other purposes.

4. Tax provisions appropriate to the unique characteristics of fuels and minerals should be strengthened.

5. Environmental regulations should strike a sound balance between improving the environment and permitting the development, at reasonable cost, of oil, gas, and other energy resources and facilities required to meet the Nation's economic and security needs.

6. Leasing of both federal and state lands for oil and gas exploration and development should be expedited, and federal acreage provisions affecting oil shale leases should be directed toward the efficient development of additional energy supplies.

7. Regulation of natural gas producers should be modified to recognize the binding nature of contracts and to permit prices to be more responsive to the increasingly evident supply shortage.

8. Construction of adequate domestic refining facilities should be encouraged to avoid increased dependence on overseas refining capacity.

9. Health and safety regulations should be carefully designed to minimize hazards to workers and maximize operating efficiency.

10. Diversity of effort by private enterprise in providing energy supplies should be encouraged. Alternative ways of developing energy resources should be tested through competitive efforts.

STATEMENT OF THE AMERICAN PUBLIC POWER ASSOCIATION

The American Public Power Association is a national trade organization which represents more than 1,400 municipal and other local publicly owned electric utilities in 47 states, Puerto Rico, the Virgin Islands and Guam. Our offices are located at 2600 Virginia Avenue, N. W., Washington, D. C.

The direct concern of the member utilities of the American Public Power Association is with fuels for use in firing electric generating stations. While recognizing that the policy questions confronting this Committee transcend the question of fuels for electric utility use, we should like to limit our remarks to that portion of the problem.

INTRODUCTION

To place our subject in perspective, it should be noted that the fossil fuels—coal, oil and natural gas—today account for some 81.9% of the production of electric energy. Nuclear energy accounts for about 1.00% of total production, and even by the year 2000 is expected to provide only about one-half of the Nation's constantly growing requirements for electric energy. Hydroelectric power provides some 17% of total electric production, and is expected to become a progressively smaller proportion of total output in the future. The fossil fuels, therefore, are the very lifeblood of the Nation's electric industry, and are likely to remain so for many years in the future.

During recent years, many of the member utilities of our Association have been deeply troubled about their difficulties in obtaining an adequate supply of fuels. Some municipal utilities in the Northeast have faced the imminent expiration of fuel oil contracts without new contracts being proffered. Other utilities found their stockpiles of coal rapidly diminishing. The Nation's largest electric utility system—that of the Tennessee Valley Authority—at one time was down to a 10–12 days' supply of coal, compared with a normal system-wide supply of 60–75 days. Some individual TVA steam electric generating plants were down to just a few days' supply.

Electric rates are especially sensitive to the price of fuel, because the cost of fuel represents about 35% of total utility operation and maintenance expenses.

An indication of the importance of fuel in determining the price of electric energy is that some utilities have fuel clauses which permit them to adjust their rates automatically, depending upon the rise or fall of the cost of fuel.

Because the use of electric energy plays such a vital role in the American economy, it is obvious that the cost of fuel will make itself felt in a pervasive manner, and to a greater or lesser degree, increased fuel costs will become embodied in the prices of virtually all goods and services produced in this country.

One of the most alarming current trends in the fuels industry is that of the oil companies' acquisition of competing fuels, particularly coal and uranium. This policy may be profitable to the oil companies and make economic sense to the managements of those companies, but to permit the unchecked development of such private concentrations of power represents extremely dangerous national economic and social policy. The potential for mischief which such oligopolistic control holds in making price and marketing decisions affecting vital fuels is appalling, and should not be tolerated.

Another aspect of the competitive problem which is of concern to APPA is the possibility that fuel shortages and run-away fuel prices will lead to further concentration of control in the electric utility industry itself.

Publicly-owned electric utilities seem to have been hit earlier and harder by the fuels crisis than privately-owned utilities. There are two reasons why this is so:

1. Many publicly-owned utilities operate under statutory restrictions which prohibit them from entering into long-term fuel contracts; therefore, price increases can be passed on to them sooner.

2. Publicly-owned electric utility systems tend to be small and are, therefore, less apt to be preferred customers of fuel suppliers than are their larger rivals. They are also less able to make large capital expenditures on their own in order to directly acquire fuel reserves, transportation facilities, storage facilities, etc., and thereby protect themselves from shortages and artificially inflated prices.

For these reasons, the present chaotic situation in fuels may have the effect of making publicly-owned utilities more vulnerable to acquisition by larger privately-owned competitors. If this should be the result of the present disruptions and high prices in the fuel market, the public would suffer doubly by losing the important competitive, or "yardstick" effect of public power—a device which has been significant in holding down the rates of the privately-owned electric utilities.

The shortages and rapidly rising prices of fuels that utilities have experienced during the past three years, together with environmental concerns, focus attention on the need for a rational, comprehensive national fuels policy. What kind of policy will be adopted, however, is another matter. The recognition of the need for unified national direction in the way in which we use our limited energy resources presents both an opportunity and a danger. If the private interests who presently control a large and growing share of our fuel resources are permitted to shape the policy, the result is certain to be an intensification of the already formidable anti-competitive forces at work in our national fuels market.

No national fuels and energy policy can expect to be effective unless it deals directly with the problem or who owns and prices our fuels. In the absence of vigorously applied federal strength, we face a future in which a handful of large "energy companies" will be in a position to dictate exploitation of natural resources for the benefit of corporate aims as opposed to the general good.

Interfuel competition encourages lower costs, substitutability of energy sources, technological advances, and management innovations which can aid in meeting economic and environmental goals. Monopolistic trends tend to force up prices, interfere with fuel switching, and emphasize protection of the status quo. Concentration of economic control frequently results in private power which is capable of making more difficult the entry into the market of new entities, of distorting allocation of resources, of placing decision-making in a few hands, and of creating an industrial elite with economic and political power sufficient to determine public policy.

Because of a variety of circumstances, the availability of fuels has improved considerably in recent months. However, Hollis Dole, Assistant Secretary of the Interior for Minerals Resources, last winter said: "My concern, however, is that having warned the public of an energy crisis that has not yet materialized, those who did so may now be accused of crying wolf . . . The wolf was indeed at the

door earlier this winter; he has merely gone away for a time . . . But he surely will be back and he may well bring the whole pack with him."

Although there has been an easing of the fuels supply problem at least for the present, there has been no relief in the price of fuels. In fact, the substantially higher fuel prices which were established at the time of the severe shortages during the summer of 1970 appear to have formed a new water mark which thus far has shown few signs of receding.

APPA STUDY

Many of the members of APPA have had a strong suspicion that the price of fuel has risen considerably higher than could be justified by generally increasing costs. We have also been concerned about monopoly trends in the fuels industry, and whether or not such trends have resulted in anticompetitive activity of fuels suppliers. For this reason, APPA, joined by the National Rural Electric Cooperative Association, commissioned a study of the situation. This study resulted in a document of some 150 pages. It covered coal, oil, and natural gas fuels.

One of the significant trends in the coal industry in recent years has been that of increasing concentration of ownership, and the team of attorneys and economists who prepared the APPA-NRECA study paid particular attention to this problem, and its possible ramifications for coal users.

The study found that the bituminous coal industry is now clearly dominated by a relatively few companies, and that most of these dominant producers are controlled by some of the largest U.S. industrial corporations that until recently had not been engaged in the coal business.

Perhaps of even greater significance is the fact that a number of important oil and gas companies have acquired some of the largest coal producing firms and have, thereby, become powerful factors in the control of all of the major sources of energy. Some of these same oil and gas companies are also in control of large uranium reserves. Other large industrial companies which for many years have held dominant positions in other fields have also taken over some of the most important coal producers.

COAL

Coal prices were remarkably stable during the 1960-1965 period when coal production increased 23% and coal consumption by electric utilities (the major class of coal customers) rose 40%. Coal prices began edging up after the mid-sixties, however, and continued to rise at an accelerated pace in the latter part of the decade. By 1969, for example, the prices for steam coal had advanced 22% above the 1960 level, but coal production rose 35% and electric utility consumption grew 77% during this same period. It is significant that coal prices started the pronounced upward trend during the period when oil companies and other large industrial concerns acquired some of the largest independent coal companies.

Coal prices then had a phenomenal rise during 1970, and the explanation for this increase appears to be completely unrelated to the trends in total coal production or coal consumption by electric utilities in that year. The prices charged for steam coal averaged 36% higher in 1970 than in 1969, but there was a steady increase throughout most of the year, and by December 1970 these prices were 60% above the 1969 level. This very sharp price increase occurred despite the fact that total coal production was 5% higher in 1970 than in 1969, which was a larger rate of growth than the average annual increase of 4% that occurred during the 1960-69 period.

It is hard to find out to what extent the higher coal prices resulted in higher coal company profits because separate data on coal operations are not reported for the oil and gas companies and other large industrial concerns among the big 15 in the coal industry. Information is available for several of the largest independent coal companies, however, and it clearly indicates that the increased prices contributed substantially to higher profits and were, therefore, far greater than necessary merely to cover increased costs. For example, Pittston's return on sales (net income as percent of sales) was 68.0% higher in 1970 than in 1969. Similarly, Westmoreland's return for the first three quarters of 1970 was 225% greater than for the first three quarters of 1969. Eastern Gas & Fuel's return on sales in 1970 (not taking account of additional "extraordinary" income) was 33% better than its return in 1969; most of the improvement was due to its coal operations.

In retrospect, therefore, the available facts about the coal shortages that were experienced in 1970 leave many unanswered questions.

NATURAL GAS

Because of air pollution restrictions, and because natural gas is regarded as a "clean" fuel, the demand for natural gas by utilities has risen considerably in recent years. Today one-sixth of all the natural gas consumed in this country is used for electric power generation. The amount so generated accounts for about 23% of all electric energy generated by electric utilities. There is considerable doubt, however, that domestic natural gas supplies will be adequate to meet all foreseeable demands for this commodity in the next two decades. Coal represents about 73% of the total fuel resources in the U.S., whereas natural gas represents only 4% of the total. Nevertheless, the petroleum group of fuels (petroleum, natural gas liquids, and natural gas), which represent only 9% of the total fuel supply, are now being used about twice as fast as coal, which represents 73% of the fuel supply.

Domestic natural gas reserves are to a very large extent in the hands of the major petroleum companies, including those companies which dominate the international oil market. Natural gas is marketed in interstate commerce, however, and is therefore subject to comprehensive federal regulation under the Natural Gas Act by the Federal Power Commission. In these circumstances, the oil companies' control of gas supply which otherwise might be governed by their marketing policies with respect to oil and their other fuel holdings has been importantly limited by government action. For example, prices for interstate natural gas have since 1954 been brought under federal control at the wellhead, and gas producers have been prevented from pricing interstate gas so as to exact prices at the maximum level of what the market will bear. Regulated interstate gas prices have had a restraining effect on the prices of substitute fuels.

The FPC, as it is presently constituted, has been indicating dissatisfaction with its regulatory role over gas prices in general, and with cost-based area pricing in particular, at a time when potential gas reserves have been growing enormously (to an estimated 1,200 trillion cubic feet) but when proved additions to reserves have been dropping so as to fall behind actual consumption. Glossing over the very large increase of potential reserves and concentrating its publicity on the gap between proved additions to reserves and consumption, the natural gas industry has been proclaiming a shortage in gas supply and attributing the shortage to over-rigid price regulation by the FPC. A relaxation of control over natural gas pricing by the FPC has been vigorously sought as a means for ending the asserted shortage of natural gas. The fate of effective gas price regulation may depend upon the FPC's determination of the question whether its pricing policies have produced a shortage of supply. Unfortunately, a majority of the FPC seems disposed to sympathize with the industry's campaign to undo effective price regulation.

OIL

With respect to the oil situation, municipal utilities have experienced enormous increases in prices paid for residual fuel oil. Residual fuel oil cannot be moved economically by pipeline over long distances, so its use for electric power generation is essentially limited to areas bordering low-cost water transportation or adjacent to petroleum refineries. Although it does not account for a large proportion of electric power generation (only about 7% of the total) its use did increase by 34% in 1970 over 1969. The consequent pressure on supplies was used as justification by some oil companies to run the price up to unconscionable levels.

Two important devices have been instigated by the oil industry to control the supply of oil marketed in the United States.

The mechanism that is used to control domestic production is state market prorationing, by which the major oil producing states restrict production to what they estimate to be the demand. State prorationing is shored up by Federal law through the Connally "Hot Oil" Act, which makes it a Federal offense for oil produced in excess of State prorationing to be sold in interstate commerce.

Obviously, when domestic production is controlled in this manner, prices can be stabilized at a level desired by the oil industry, particularly if domestic production is insulated against foreign competition.

And that leads us to the second important element affecting oil prices—the oil import quota system under which the Federal government limits by quota the importation of crude oil into the United States.

The importance of the oil import quota program lies in the fact that basic energy prices in the American market are very substantially affected by the extent to which imported oil is available. In the world market, oil is abundant in quantity and cheap in price. Under normal circumstances world oil would set parameters

for prices on domestic oil, with which it is directly competitive, and would tend to depress prices for coal and natural gas, as alternative energy sources.

To illustrate the working of the price interrelationships between fuels, when imported oil replaces domestic coal at a given plant, the demand for coal required by that plant ceases while the coal previously required becomes available to supply the coal demands of other plants, increasing available coal supplies and thus enhancing price competition in the coal market.

Artificial barriers to the importation of foreign crude oil into the domestic market help keep basic energy prices at a high, arbitrary level, eliminating strong competitive price pressures which otherwise would be brought to bear on domestic oil, coal and natural gas. The February 1970 report (Cabinet Report: *The Oil Import Question*) by the President's Cabinet Task Force on Oil Import Control found that the world price of oil was \$2.00 per 42-gallon barrel, in contrast to the domestic price of \$3.35. The report stated:

"In the absence of import restrictions, the present domestic wellhead price of \$3.30 per barrel would decline over time to the world market price of about \$2.00 per barrel . . ."

The report also found:

"In 1969, consumers paid about \$5 billion more for oil products than they would have paid in the absence of import restrictions. By 1980, the annual cost to consumers would approximate \$8.4 billion."

It is true that there is currently no restriction on the East Coast in importation of residual fuel oil used by utilities, but the controls on crude oil imports undoubtedly have had an effect on the price and availability of residual fuel oil.

It has also been said that the oil import quota system is needed from the standpoint of national security. Yet, despite a wide range of estimate of domestic reserves, it is generally conceded that the United States does not have sufficient oil for all of our long-range needs. It therefore seems to make sense, from a national security standpoint, to supplement our domestic production by foreign imports, so that we can maintain our own supplies as long as possible.

Controls on domestic oil production and foreign imports should therefore be viewed for precisely what they are: primarily, a means of regulating oil prices. It appears to us that the oil import quota system represents an outstanding example of catering to narrow private economic interests at the expense of the public interest.

"ENERGY COMPANIES"

Citing the benefits of competition in the fuels field, economist Bruce Netschert stated in the October, 1971 issue of *Science and Public Affairs*, the Bulletin of the Atomic Scientists:

"It is the task of antitrust policy to preserve and enhance competition so that these significant benefits may not be lost or lessened. That task is both more difficult and more important where interfuel competition is involved. It is difficult because the complexity of the energy and fuel interrelationships and the new competitive circumstances require a keen appreciation of their implications in the formulation and enforcement of antitrust policy. But the difficulty of the task does not excuse failure to undertake it, simply because no more sensitive and crucial arena of competition exists in the American economy than that in the energy markets.

"For this reason it must be alarming when antitrust policy falters or wavers in the preservation of this vital competition. Such a situation—the absence of antitrust enforcement in the face of the expansionist movements of some oil companies into all of the energy sources—now exists. The energy market is seriously threatened by the emergence in the past few years of the self-styled 'energy company.'"

Since 1965, Netschert points out, a growing number of oil companies have taken positions of one sort or another in the other fuels. In 1970, of the 25 largest oil companies, 18 had positions in oil shale, 11 had positions in coal, 18 were in uranium, and 7 in tar. All of the companies were, of course, in natural gas. The nature and significance of this development is discussed in detail in the attached copy of the Netschert article.

CONCLUSION

America's natural resources belong to her people. Private owners or leaseholders develop those resources under trust from all citizens of the United States. Fuels are so vital to our society that no one should be permitted to withhold these essential commodities from the market and demand tribute or extraordinary

gains for their release. The fuels industry is entitled to a fair profit. At the same time, there is no inherent right on the part of the private holders to obtain a price which bears little or no relationship to the cost of production or to withhold those resources until guaranteed virtually any price which a tight market might permit them to extract.

One fact which might suggest that beginning for an enlightened public fuels policy is that over half of our nation's remaining oil and gas resources, about 40% of our coal and uranium, 80% of our oil shale, and some 60% of our geothermal energy sources are located on federal lands. This gives the federal government tremendous opportunities and a wide range of options as to the means of developing these resources for the benefit of the public.

Formulation of a long-range national fuels and energy policy should include these steps:

1. Action should be taken to suspend the operation of the Connally "Hot Oil" Act to the extent it supports market demand prorationing, and to remove oil import restrictions which have an adverse effect on the price and availability of fuels.

2. The Clayton Act should be amended to preserve competition among suppliers of coal, oil, and uranium by requiring divestiture of coal and uranium assets by oil companies.

3. Consideration should be given to creation of an "Uncle Sam" federally-owned fuels company to show what the cost of production really is and to provide "yardstick" economic and environmental competition for private producers through development of fossil-fuel resources on federal lands. Such a corporation would by no means imply nationalization of the fuels industry, but would merely provide a means for assuring greater competition and more accurate measurement of costing in the fuels industry.

[From the Bulletin of the Atomic Scientists, October 1971]

THE ENERGY COMPANY: A MONOPOLY TREND IN THE ENERGY MARKETS

(By Bruce C. Netschert)

Intensification of competition in the energy markets has been threatened by the emergence in the last few years of the energy company. Acquisitions by the oil companies across the energy market spectrum "... may be viewed as classic, horizontal integration on a scale comparable to the formation of the trusts . . . of the nineteenth century." Dr. Netschert, a well-known energy economist, is vice-president of National Economic Research Associates, Inc., consulting economists of Washington, D.C. This article was adapted by the author from a statement he and his associates, A. Gerber and I. M. Stelzer, gave to the Subcommittee on Antitrust and Monopoly of the U.S. Senate Committee on the Judiciary in May 1970.

The history of the fuel markets in the United States is one of active and at times severe competition. Coal's dominance of the fuel scene, established in the latter decades of the nineteenth century, was supplanted by the dominance of the petroleum hydrocarbons in the period following World War I. First, the petroleum products invaded coal's heating boiler fuel and railroad markets; then natural gas, with the introduction of the long distance, high-pressure pipeline, invaded the markets of both coal and petroleum products. In more recent years uranium has entered as a competitor in the electric utility fuel market. This is not to say that the competitive situation has been the same throughout the country. In the gas producing states of the Gulf Coast region, gas has had such a competitive edge that it has had the fuel markets to itself; and in the coal states distant from the oil and gas fields, coal has enjoyed a marked advantage over the competing fuels. Nevertheless, in most areas of the country there has been vigorous competition among the fuels.

In addition, there has been competition between the fuels and electricity. Some of the major household appliances, such as water heaters and clothes dryers, can be operated on either gas or electricity, and both energy commodities have been competing for heating and air conditioning in the household and commercial markets.

In the future there is the possibility of the fuel cell, currently the subject of a research effort by a group of gas companies. If perfected, it could wholly supplant the electric utility in the residential market. Also on the horizon is the commercial development of oil shale for the production of synthetic gaseous and liquid fuels and the conversion of coal into similar synthetic fuels.

The effect of the recent changes in competitive circumstances, such as the introduction of electric heating, and those that are possible during the coming decade is to create a degree of substitutability among the various energy sources that has never existed heretofore. Electricity is fully substitutable for any of the fuels for most purposes and potentially substitutable in transportation. Gas and oil (in on-site generation or in the fuel cell) are complete substitutes for marketed electricity. Oil shale and coal can yield a refinery feedstock that supplies the full range of major refinery products now obtained from crude oil and a synthetic gas that is identical with natural gas, and uranium and the fossil fuels are all complete substitutes for each other as fuel for power generation. Looked at in this way, it would appear that the energy markets are becoming ever more competitive.

Intensive interfuel competition, at various levels and in evolving forms, can be expected to continue to produce the benefits of competition for the economy and for the American consumer. Aggressive competition has already yielded technological gains, and the broadened confrontation is likely to produce even more significant innovations. Product and service improvements and lower prices are the obvious direct consumer gains potentially resulting from aggressive interfuel competition.

ANTITRUST FALTERS

It is the task of antitrust policy to preserve and enhance competition so that these significant benefits may not be lost or lessened. That task is both more difficult and more important where interfuel competition is involved. It is difficult because the complexity of the energy and fuel interrelationships and the new competitive circumstances require a keen appreciation of their implications in the formulation and enforcement of antitrust policy. But the difficulty of the task does not excuse failure to undertake it, simply because no more sensitive and crucial arena of competition exists in the American economy than that in the energy markets.

TABLE 1.—DIVERSIFICATION IN THE 25 LARGEST PETROLEUM COMPANIES BY ENERGY INDUSTRY, RANKED BY ASSETS, AS OF EARLY 1970

Petroleum company	1969 assets ¹ (thousands)	Rank in assets	Energy industry				
			Gas	Oil shale	Coal	Uranium	Tar sands
Standard Oil (New Jersey).....	\$17,537,951	1	×	×	×	×	×
Texaco.....	9,281,573	2	×	×	×	×	×
Gulf.....	8,104,824	3	×	×	×	×	×
Mobil.....	7,162,994	4	×	×	-----	×	×
Standard Oil of California.....	6,145,875	5	×	×	-----	-----	-----
Standard Oil (Indiana).....	5,150,677	6	×	×	-----	×	×
Shell.....	4,356,222	7	×	×	-----	×	×
Atlantic Richfield.....	4,235,425	8	×	×	-----	×	×
Phillips Petroleum.....	3,102,280	9	×	×	-----	×	×
Continental Oil.....	2,896,616	10	×	×	-----	×	×
Sun Oil.....	2,528,211	11	×	×	-----	×	×
Union Oil of California.....	2,476,414	12	×	×	-----	×	×
Occidental ²	2,213,506	13	×	-----	×	-----	-----
Cities Service.....	2,065,600	14	×	×	-----	×	×
Getty ³	1,859,024	15	×	×	-----	×	-----
Standard Oil (Ohio) ⁴	1,553,591	16	×	×	-----	×	-----
Pennzoil United, Inc.....	1,356,832	17	×	-----	-----	×	-----
Signal.....	⁵ 1,258,611	18	×	-----	-----	-----	-----
Marathon.....	⁶ 1,221,288	19	×	×	-----	-----	-----
Amerada-Hess.....	982,157	20	×	-----	-----	×	-----
Ashland.....	846,412	21	×	×	-----	×	-----
Kerr-McGee.....	667,940	22	×	-----	×	×	-----
Superior Oil.....	494,025	23	×	×	-----	-----	-----
Coastal States Gas Producing.....	⁵ 490,190	24	×	-----	-----	-----	-----
Murphy Oil.....	343,914	25	×	-----	-----	-----	-----

¹ Source: Moody's Industrial Manual, June 1969, and 1969 Annual Reports.

² Includes Hooker Chemical Co.

³ Includes Skelly and Tidewater.

⁴ Includes reported British Petroleum assets.

⁵ As of June 30, 1969.

⁶ As of Sept. 30, 1969.

For this reason it must be alarming when antitrust policy falters or wavers in the preservation of this vital competition. Such a situation—the absence of anti-trust enforcement in the face of the expansionist movements of some oil companies into all of the energy sources—now exists. The encouraging intensification of competition in the energy market is seriously threatened by the emergence in the past few years of the self-styled “energy company.” Since 1965 a growing number of oil companies have taken positions of one sort or another in the other fuels. In 1970, as shown in Table 1, of the 25 largest oil companies, 18 had positions in oil shale, 11 had positions in coal, 18 were in uranium, and 7 in tar sands. The latter resource, which is capable of yielding synthetic crude oil, is of minor potential in this country but of enormous potential in Canada. (Table 1 is based on a survey of the literature and is probably not complete. All of the companies listed are, of course, in natural gas.) These positions have been taken in several forms: the acquisition of existing companies in the other fuels industries; the acquisition of reserves holdings; the establishment of new ventures, either alone or jointly with other companies within or outside the petroleum industry; and participation in research and development ventures, either alone or jointly with other companies.

Since oil shale is still not commercial and the tar sands industry exists as only a single pioneer enterprise, the largest effects to date have been in the coal and uranium industries. In the coal industry, four of the largest 15 companies are now oil company subsidiaries, and oil company coal production now accounts for 20 per cent of total coal output. In addition, two oil companies, Humble and Kerr-McGee Corporation are going into business via the route of reserve acquisition. Humble bought up a substantial portion of the total remaining reserves in the State of Illinois and its coal holdings reportedly make it one of the two largest owners of coal reserves in the nation. It has used some of these reserves to establish a mining venture to supply coal to the Chicago utility market. Kerr-McGee has begun production of metallurgical coal from a mine in Oklahoma.

Focusing on diversification of the largest petroleum companies in the energy industry, however, tells only part of the story. The results of a survey of 42 oil companies (N=26), undertaken by Continental Oil Company in early 1969 are presented in Table 2.

TABLE 2.—ACTIVE OR PLANNED PRODUCTION OF LARGEST PETROLEUM COMPANIES BY ENERGY SOURCE

Energy source	Number of companies with active or planned production	Companies with positions	Total
Oil shale.....	3	14	17
Tar sands.....	3	13	16
Coal.....	7	9	16
Uranium.....	6	18	24

Source: L. C. Rogers, Oil-finding Talent Pours into Broad Minerals Drive, “Oil & Gas Journal,” Feb. 24, 1969, p. 37.

OIL AND URANIUM

In uranium, the oil companies already bulk large in the mining and milling stages and are or will be dominant in other stages of the fuel cycle. Kerr-McGee is the single largest uranium producer, accounting for 22 percent of total domestic uranium milling capacity directly and half ownership in another 5 percent. In addition, it is involved with Japanese interests in the development of uranium resources in Canada. Humble is constructing a mill equivalent to 6 percent of national capacity for operation in 1972, having found uranium deposits as the result of an exploration program begun in 1966. Continental Oil, in a joint venture with Pioneer Natural Gas, will open a mill accounting for another 5 percent of U.S. capacity in 1972. Oil companies will thus account for some two-fifths of total domestic uranium milling capacity.

An indication of the extent to which the oil industry is entering the nuclear fuel business and integrating throughout the various stages of the fuel cycle is given in Table 3. The table lists the companies shown in Table 1 which, according to the Atomic Energy Commission or press accounts, are either presently in stages other than exploration or reserves holding or are planning to enter those stages. The table understates the full extent of oil company activity in

the nuclear industry in that it does not show the additional capabilities and plans of some of the companies for the production and processing of other nuclear materials such as thorium and plutonium.

TABLE 3.—INDICATED PRESENT OR FUTURE CAPABILITY OF OIL COMPANIES, EITHER DIRECTLY OR THROUGH SUBSIDIARIES, IN THE NUCLEAR INDUSTRY

Company	Exploration or reserve holdings	Uranium mining and milling	UF ₆ conversion	Fuel preparation or fabrication	Fuel reprocessing	Reactors
Standard Oil (New Jersey).....	X	X	-----	X	X	
Gulf.....	X	X	-----	X	X	X
Atlantic Richfield.....	X	-----	X	X	X	
Continental.....	X	-----	-----	X	-----	
Getty.....	X	X	-----	X	X	
Standard Oil (Ohio).....	X	X	-----	X	-----	
Kerr-McGee.....	X	X	X	X	X	
Sun.....	X	X	-----	-----	-----	

Still further indication of the present and potential concentration of the position of the oil industry in the nuclear industry is given by the following. Kerr-McGee is one of two companies in the business of converting concentrates into uranium hexafluoride (UF₆) and will have roughly one-half of the total national capacity now planned. Atlantic Richfield and Gulf (the latter in partnership with Allied Chemical) will be two of three companies with capacity to convert slightly enriched (less than 5 per cent U-235) recovered uranium to UF₆, and Atlantic Richfield has the only present capacity for converting highly enriched (greater than 5 per cent U-235) recovered uranium to UF₆. Five of the 13 plants processing uranium fuel materials and six of the 17 plants fabricating fuel elements are owned by oil companies or their subsidiaries. Three of the four fuel reprocessing plants in operation or planned are oil companies' ventures and their combined capacity is 93 per cent of the total capacity.

It has been proposed that the three Atomic Energy Commission enrichment plants at Oak Ridge, Tenn., Paducah, Ky., and Portsmouth, Ohio, be sold to private industry, ending the government monopoly of this stage of the fuel cycle. One study of the proposal concluded that utility consortia would be the most likely buyers. Given the vigorous entry of the oil companies into the nuclear industry, the evident intention of some of them to integrate into most if not all stages of the fuel cycle, their financial resources and their cash flow, it would appear at least equally likely that the buyers would be oil companies.

Now it is only natural for the oil companies to diversify into certain areas. Their move into oil shale and tar sands is a logical hedge against the time when the increasing shortfall of domestic crude oil production relative to demand and the improvements in synthetic fuels production will make the latter a new source of supply for their refineries. Similarly, it is natural for them to regard coal as a future supplemental source for synthetic fuels.

It is also logical for the oil industry to be interested in uranium, since the search for it is in many ways similar to the search for oil and gas, being founded on geology and geophysics, in which the industry already has high technical capability. On the other hand, the move by an oil company into coal production and marketing for all of coal's conventional uses, whether by the acquisition of an existing company or by the acquisition of reserves and formation of a new coal company, bears no such logical relation to oil company activities. Similarly, the move into the subsequent stages of uranium production and marketing, from milling through fuel fabrication or fuel reprocessing, takes the oil company into activities even more remote from oil technology and know-how.

Given the increasingly direct competition between fuels and electricity described above, the acquisitions by the oil companies across the energy market spectrum take on special significance. They may be viewed as classic horizontal integration on a scale comparable to the formation of the trusts in the latter decades of the nineteenth century. In short, the oil companies, themselves portraying their activities as efforts at diversification, are in fact systematically acquiring their competition. In the face of clear judicial condemnation of horizontal acquisitions, the apparent policy of neglect toward the acquisitions that have already occurred is surprising.

One further point is relevant. The oil companies that have made these acquisitions are mostly the major and large independent firms. They tend to be dominant in their own submarkets and to bring substantial market power to each of the new fuel submarkets they are entering. The result is a tendency toward concentration and entrenched dominance.

This is not to suggest that the entry of large firms into new industries is itself a matter which antitrust policy should disapprove. It is quite possible that such entry could, in certain circumstances, actually benefit competition through the injection of new management vitality by noncompetitors into a tradition-bound industry. Such circumstances do not obtain here, however.

The application of antitrust policy, therefore, raises serious questions about these moves. How can the public be sure, for example, that the emergence of the synthetic fuels industries will occur at the pace which economic circumstances would, under free market forces, dictate? It could well be that the self-interest of certain companies with dominant positions, if not of the industry as a whole, would call for delaying the inauguration of a synthetic fuels industry in order to protect existing investments in crude oil and natural gas. Of even greater concern is the fact that the energy company (and it should be borne in mind that there are already at least five major oil companies with across-the-board positions in *all* of the domestic fuel resources—oil, gas, coal, oil shale and uranium) straddles a situation which until now has been one of intense interfuel competition. On the face of it, therefore, the entry of an oil company into the marketing of the other fuels constitutes a lessening of interfuel competition.

But this is not all. For one reason or another (including the imposition of stringent limitations on the sulfur content of fuels in most of the metropolitan districts of the country), there is strong upward price pressure in all of the fuels markets. Normally, interfuel competition would be a countervailing force, but the energy company has no incentive to reduce the price of any of the fuels it is selling. On the contrary, a price rise in any one of the fuels is to its advantage in marketing all of its fuel products.

One of the consequences of these circumstances can be an unnecessary and unjustified increase in the cost of electricity. It is all too possible that an electric utility may some day find itself facing the situation of being able to obtain each of its fuels, including uranium, from suppliers selling all of them. Already we have the ominous statement by the chairman of the board of directors of the Tennessee Valley Authority that one oil company with coal holdings told him they had no intention of opening a new mine to supply TVA unless that agency would pay a price that would yield the company the same return on coal it is accustomed to receiving on oil (Hearings of Senate Subcommittee on Flood Control—Rivers and Harbors of the Committee on Public Works, August 14, 1970). The oil industry has always claimed that it is entitled to a higher return than other industries because of the discovery risks it faces; yet there is no such risk in the coal business. As an example of sheer economic capacity this attitude is difficult to match.

The energy companies have in any event two significant advantages over the electric utilities with which they deal. They are, in the first place, unregulated, except for the regulation by the Federal Power Commission of the price of natural gas sold in interstate commerce for resale. (But with the Commission desperately eager to stimulate the search for new gas reserves, even this regulation is in a parlous state.) In competing with electricity in the end-use markets they thus have greater flexibility in setting prices, in determining where to take profits within their integrated structure and in engaging in competitive practices such as promotional allowances (for example, the participation by refiners in financing heating oil promotion by oil distributors). Second, as suppliers of all the fuels used for electric power generation, the energy companies can significantly influence the cost of fuel to their major competitor.

The development of the energy company thus presages fuel markets dominated at both the supply and the consumer levels by firms of immense size and monopoly power. Historically, the issues this raises have been the preserve of antitrust policy, with a record of stern enforcement against monopoly power deliberately being created. Yet far from being confronted by the limitations on market power—indeed, even dissolution and divestiture—that a sound competition preserving antitrust policy might be expected to decree, the energy companies have been able to grow apace, free of the regulation that governs their utility competitors and unimpeded by the strictures of antitrust policy to which many of their less powerful competitors have frequently been subjected.

The Justice Department has, to be sure, stated that it will scrutinize carefully any future moves by a major oil company into the other fuels, and this may account in part for the absence of any such moves by the majors during the past year. (Interestingly, moves by small independent oil companies into the other fuels have continued, although not in any great number.)

There is much talk these days about the establishment of a "National Energy Policy," presumably in the hope that this will help resolve the many problems now facing us in the field of energy. One of the problems that clearly needs to be dealt with is the energy company. It would be ironic if a National Energy Policy were formulated, only to be confronted with a national energy industry.

STATEMENT OF JAYE F. DYER, PRESIDENT, DYCO PETROLEUM CORP.

NATIONAL ENERGY NEEDS AND OIL/GAS EXPLORATION TAX INCENTIVES

Any discussion or action pertaining to the economic or geological aspects of meeting our national energy crisis must acknowledge and consider the role and function of program exploration companies.

Program exploration companies, which utilize funds raised from individual investors to discover and recover oil and gas, have become a relevant factor on the domestic energy scene. They offer one of the most likely means of closing the capital gap which has been largely responsible for the drastic decrease in domestic exploration during the past decade.

Additionally, program exploration companies offer the unique ability of returning more to federal tax revenues than is claimed in tax incentives provided to stimulate exploration.

The crux of these hearings concentrates on many aspects of oil imports. I believe this needs to be balanced by a realistic view of our domestic responsibilities and capabilities if we are to get a clear picture of energy needs and how to meet them.

There are many reasons why the United States cannot permit itself to become dependent upon foreign sources of energy. Political upheavals in oil exporting countries have threatened to make supplies quite unreliable. The 11 nations which control 85 per cent of the free world petroleum reserves have the will and the competence to deny supplying dependent nations. Price increases negotiated by these nations the past year added nearly \$2 billion to the world's energy bill.

This week these same nations demanded immediate payment of \$400 million plus an extra \$75 million per month to make up for losses caused by devaluation of the dollar. Further increases are likely to follow. Consider, too, the political instability generated by this bloc of producing nations swinging back and forth between the major powers.

I am not suggesting imports can or should be cut back from the current 30 per cent level of supply. In fact, I expect this may have to be increased to 50 per cent within the next three to five years to satisfy our critical national energy needs.

What I am suggesting is that the strength of our domestic capability is key to our world petroleum price. Growth and development of this capability must keep pace if we are to avoid a dangerous level of dependence.

The United States has adequate potential supplies to permit accelerated growth and development. The U.S. Geological Survey estimates there are 430 billion barrels of recoverable oil just waiting to be discovered and produced in our continental 48 states.

The need is to reverse the trend of our domestic exploration and recovery programs, which has experienced a decline in drilling from 46,700 wells begun in 1960, to 13,665 begun in 1969.

Two fundamental factors are responsible for this decline: the risk of exploratory drilling works against attraction of all but speculative capital; and costs, propelled higher year by year through inflation, have outpaced the ability of the industry to generate sufficient new capital.

Experts in and out of the petroleum industry forecast the need for an additional \$2.5 billion investment capital per year during the 1970's to make up the capital deficit from the 1960's and bring our domestic capability to a level where it can properly protect our national energy needs.

Major international oil companies cannot close this capital gap alone. Their interests are diverse, their debt currently higher than any previously assumed, and their exploratory investment already substantial.

The independent oil man has far less muscle. He is fighting merely to retain what he has under severe economic buffeting. His contribution of new capital can only be minimal.

A significant portion of the answer lies in tapping the vast economic power of an investing public. Given proper economic incentive, the American investor will tackle any job. Americans want to invest. This is the underpinning of the American economic miracle.

This is the power which program exploration can unleash in the national interest.

In this country a unique tax formula—the progressive, confiscatory *income tax*, plus *tax incentives*—combines to encourage flow of risk capital into the economy.

Tax incentive always works for the simple reason *self-interest* is an unflinching motor, and this in turn makes it far more effective than subsidies.

When subsidies are offered, only a few government specialists can focus on the problem. Everyone else involved lines up for the handout and jockeys for position to get the highest "fair share" possible.

When tax incentive is the bait, the creative talents of thousands of profit motivated individuals are enlisted for wide-ranging participation.

And there are thousands of such individuals with the capability of supporting a high risk venture such as oil and gas exploration. In 1969, the Internal Revenue Service estimated there were 450,000 people in the 50 per cent tax bracket, the bracket we feel an investor should be in before participating in exploration programs. Assuming a realistic investment of \$10,000 each, there is a market potential of at least \$4.5 billion right now.

By the end of the decade, IRS estimates there will be two million people in the 50 per cent bracket. At the same investment level per person, this would create a market potential of \$20 billion. If only 10 per cent of the eligible investors participated, the investment still would total \$2 billion and make up a respectable portion of the capital gap.

This gives some indication of the economic power available from the public sector to meet our energy crisis. Some of it already has been tapped. More than \$400 million was invested with 72 registered drilling programs in 1969. In 1970, despite the severe economic slowdown, a similar amount was invested.

It is easy to see a substantially higher potential for program company offerings—given the proper economic incentives.

At this point, I would like to place the word "incentives" in what I believe to be its proper framework.

I am distressed that oil and gas incentives are so widely viewed as evil loopholes created solely for the ultra-wealthy to use to avoid paying taxes. While I recognize there have been abuses, this concept of incentives is an absolute distortion.

A loophole, by definition, is an oversight or an accident. But oil and gas exploration incentives are *not* an oversight. They were consciously created by the Congress to stimulate investment in high risk ventures, particularly those which have strong overtones of national interest.

I hold no brief for abuses of properly conceived tax incentives. I hold no brief for escaping domestic taxation through devices such as foreign tax credits. I hold no brief for special interest tax shelters or the stretching of incentives to the degree where investors might profit from tax deductions put to no productive use.

I *do* hold a brief for tax incentives which permit efficient, productive use of risk funds and which, as the funds pass through our economy stimulate economic benefit all along the line and produce tax revenues greater than the amount of incentive extended.

Ethical exploration program companies do not exist for tax shelter purposes. We exist to find and develop petroleum energy sources through intelligent, efficient application of invested funds. Tax incentive provisions are intended to stimulate the flow of funds into necessary exploration. If the funds are not used wisely and well, the entire operation is an exercise in futility, tax deductibility or no. For this reason we are not pleased to be lumped into the general tax shelter category, many aspects of which exist solely for tax rather than national interest purposes.

The unique capability of a properly and successfully managed program company to return to the government more tax revenue than the dollar amount of tax incentives utilized should be of particular interest to this committee.

Let me illustrate with research data from a study with which I was involved. We studied a 10-year period during which \$100 million of normally taxable income was put to work in one program company's search for and production of petroleum.

Of that \$100 million, approximately \$50 million would have been paid in federal income taxes had it not been invested in petroleum exploration. Thus, *the high tax rates stimulated inflow of \$50 million into the private sector of our economy.*

This investment generated potent economic thrust.

1. The \$100 million was paid principally as wages and salaries to employees of drilling contractors, service companies, and other required services.

2. \$37 million was returned to investors as their share of oil and gas sold to the date of the study.

3. \$9.5 million was earned by the program company and its shareholders.

4. Three other program company divisions were spawned by the income and equity produced by oil, which created additional jobs and tax base.

The net tax for the U.S. Treasury was greater than the tax incentive deductions allowed.

1. Expenditures for services generated about \$35 million of income taxes paid by wage earners.

2. Corporate suppliers paid about \$4.4 million in corporate income taxes.

3. Investors paid about \$21 million of income taxes on the production revenue derived from their share of the discovered petroleum reserves.

Therefore, the \$50 million tax incentive provided about \$60.4 million in taxes or, *each dollar of tax incentive generated \$1.20 of taxes* as it flowed through our economy, prior to reaching the federal treasury.

This represents only a portion of the multiplier effect caused by the unique tax formula I mentioned—graduated progressive income tax rates coupled with tax incentives. Other organizations undoubtedly contribute in some similar fashion.

Small wonder, then, why I believe incentives for public investment in exploration deserve to be selectively increased while at the same time being better controlled to cure abuses.

I have four recommendations for extension of current tax incentives applied to oil and gas exploration which, I believe, would stimulate further public investment in program companies without reducing federal tax revenues.

We need to increase the ratio of oil and gas discovered to the amount of money expended. Present tax law, which requires that no tax deduction can be taken unless funds raised are expended the same year, is at odds with this requirement.

Most potential investors are reluctant to make high risk commitments until they are sure of their income and tax status for the year. Most decisions thus are made in the last quarter of the year. This does not leave program companies sufficient time for intelligent drilling operations to be underway before the calendar year runs out.

This inefficiency simply is not in the national interest. Program companies, their suppliers and related services simply must have more time if they are to effectively fulfill their mission.

Therefore, I propose that the investor be allowed to take his deduction the year of his investment even if the program company does not spend any part of it until the following year. This will permit the program company all the next year to spend the money in an orderly and, hopefully, more productive manner with far greater chance of finding more oil per dollar invested.

There is precedent for this approach in IRS Ruling 71-252, I.R.B. 1971-23, 17, which permitted deduction of intangible drilling and development costs paid under a turnkey contract even though the work was performed the following year.

I believe this ruling should be extended to cover program company explorations. I also suggest three other changes.

1. Treating casing costs as an intangible drilling and development expense rather than as a capitalized investment. At the time the current law was written, casing was assumed to have reusable value. Under today's conditions, casing rarely is recoverable and almost never reused. Canadian tax law recognizes these factors.

2. Permit the expensing of drilling costs for water supply wells, as is done for injection wells and oil producing wells, to further encourage secondary recovery and maximum production.

3. Making seismographic costs an expense item rather than a capitalized cost as an incentive toward more primary exploration by program companies in unexplored areas.

I believe these changes in program company tax incentives will encourage qualified investors to put up the capital necessary to find the domestic reserves needed to protect our national interest for the next decade—and do it in such a way that it will not be a drain on the public treasury.

And that, gentlemen, is something which cannot be accomplished by subsidy.

STATEMENT OF RICHARD J. GONZALEZ, CONSULTANT TO THE AMERICAN PETROLEUM INSTITUTE, BEFORE THE 1965 ANNUAL MEETING OF THE INTERSTATE OIL COMPACT COMMISSION, CORPUS CHRISTI, TEX., DECEMBER 6-8, 1965

PROGRESS IN STATE PETROLEUM REGULATIONS

In recent years, criticism of state petroleum regulations has increased significantly. Within the industry, more voices object to rules that cause unnecessary drilling and that allow some operators to drain reserves from their neighbors. In addition, some Federal officials and various economists question whether the present system serves the need for efficiency and low costs.

This chorus of criticism deserves thoughtful appraisal. Concepts of petroleum conservation and proration have evolved through the years in response to greater knowledge and changing conditions. It would be strange indeed if the perfect answer to all current and future problems had been devised and no further opportunity for improvement existed. It would be even stranger, however, not to find good reasons why the present system developed instead of alternates that may now appear simpler and better.

In judging government regulations, it is unreasonable to rely largely on hindsight or to assume that only economic considerations are relevant. Economic efficiency is a desirable standard for the actions of government, but it is by no means the controlling criterion in a political economy. That fact doubtless explains why many people dislike government regulation of business and prefer maximum reliance on competition as a means of directing economic activity. Nevertheless, as industrial societies become more complex, controls over business tend to increase despite their economic limitations. In agriculture, in transportation, and in many businesses other than petroleum, it is easy to find much to criticize in regulations that lag behind the times and appear inadequate in terms of economic efficiency. Such general experience should provide a note of caution about the feasibility of easy economic solutions in any area of government regulation.

Once government establishes rules and regulations in any business, it assumes grave responsibilities with respect to the manner in which changes are made. Revolutionary change which discards all past rules in favor of an entirely new system is not likely to be politically feasible. The best hope for progress lies generally in improving the balance between the good and bad features of rules evolved through experience.

A brief look at what has happened during the past forty years in which state regulations have significantly controlled drilling and producing practices will serve to provide perspective as to what course of action may be desirable for the future.

ACHIEVEMENTS SINCE 1925

Whatever credit or blame may be assigned to state regulations, the fact remains that the domestic petroleum industry has established remarkable records in supplying increasing quantities of oil and gas at attractive prices. Achievements in both respects have been most significant.

Forty years ago, before the development of effective conservation regulations, there were widespread fears of impending petroleum shortages. Since then domestic energy output from oil and gas wells has actually multiplied sixfold. As a result, the roles of coal and petroleum have been completely reversed. Now oil and gas supply more than 70 per cent of the mineral fuels produced in the United States, compared with 25 per cent in 1926.

Favorable economic effects of ample petroleum supplies can be seen in many ways—in transportation, in mechanized agriculture, in industry, and in the home. The extraordinary value of these developments for economic progress and for national security is seldom appreciated adequately, probably because no one

likes to think what life would have been like under different circumstances. It is clear, however, that the entire economic development of the nation would have been retarded if petroleum supplies had been less abundant or much higher in price. In that case, the automobile, steel, rubber, and highway construction industries would not have grown to their present size. Some idea of the basic importance of petroleum for economic progress can be grasped from the fact that a difference of only ten per cent in the output of these industries means many billions of dollars annually. Clearly, the vast expansion of petroleum production in the United States has contributed greatly to national income both directly and through its impact on other industries.

The record on prices is also worth noting. Since 1926, the price of crude oil in the United States has advanced about 50 per cent, but that increase has been only one-half as great as the rise in prices for coal and for commodities generally. Oil certainly does not show up at a disadvantage in this comparison. In fact, the real price of crude oil has remained very attractive despite the adverse influence on costs of increasing drilling depths for wells and of smaller fields. Incidentally, improvements in refining, transporting, and marketing petroleum have resulted in a current price for gasoline, excluding taxes, below the level of 1926 even though the general price level has doubled since then.

Realization of the preceding achievements during a time of increasing state controls over petroleum does not necessarily prove that the regulatory system deserves some credit. Conceivably the results might have been achieved despite regulation or better results might have been achieved if a different system had been in effect. No one can prove what might have been under different circumstances, for there is no way of recreating the past under conditions other than those actually in existence. It is possible, however, to see what effect state regulations did have on well spacing and recovery in an effort to appraise their value.

WIDER SPACING OF WELLS

State controls over drilling definitely brought about wider spacing of wells. Close spacing of wells typified early development prior to regulation because the rule of capture led to a competitive scramble in which operators tried to protect themselves against drainage or to gain an advantage over their neighbors. State regulations reduced wasteful drilling by establishing spacing patterns considered appropriate to each field. The East Texas field discovered in 1930 provides an example of transitional results that reflects more of the old ways of unrestricted spacing than of the new system of controls. Subsequently, most large fields have been developed on orderly spacing. The usual patterns for many years have been one well to twenty or forty acres, but many fields have been developed on wider spacing. Drilling in the past ten years has developed an average of more than twenty acres per well, many times better than the typical experience prior to state controls when many fields had one or more wells on each acre.

The question may still be raised whether state regulatory agencies have moved fast enough or far enough in allowing and encouraging the most efficient spacing of wells consistent with conditions in each field. Unfortunately, they have not, and their failure to do so has been costly. Early patterns of allocating production within fields on the basis of wells were continued in effect long after knowledge about reservoirs made it apparent that allocation on the basis of acreage and reserves was a better way of permitting equitable recovery and of encouraging efficient spacing. This regulatory lag in adopting better allocation formulas caused the drilling of many thousands of unnecessary wells and forced on industry higher investments and operating costs. These added costs have hurt the competitive position of the industry in relation to other sources of energy, particularly during the past decade.

An important factor operating to delay the move toward wider spacing has been the pressure from small operators and small royalty owners for closer spacing than necessary as a means of achieving greater investment and production for themselves immediately and of improving their participation at the expense of larger competitors. So long as allocation formulas favored the well rather than the acreage or reserves developed by each well, small operators could improve their position in a field by close spacing. Inevitably, these formulas also forced other operators to drill more wells than needed in an effort to protect their leases against drainage insofar as the rules allowed. On grounds of efficiency and equity, commissions should have been eager to adopt wider spacing, but they were under great pressures to continue in effect rules that favored smaller interests, as is generally the case in government regulation.

So long as inflation created an illusion of prosperity under antiquated rules, commissions were slow to recognize the need for more efficient development drilling. A major impetus for wider spacing developed as falling crude oil prices and rising costs reduced profit margins sharply. In addition, in recent years the courts have taken a much stronger stand on the proposition that each operator is entitled to recover only the oil and gas underlying his property. Both of these developments stimulated changes by regulatory agencies to allocation formulas which create incentives for operators to develop new fields with widely spaced wells.

In the State of Texas, which has accounted for about a third of the wells drilled in the United States over a period of many years, a searching study of the allocation of production to wells on different spacing led to changes designed to make it economically attractive for operators to use wide spacing rather than close spacing in developing new fields. Similar progress in other states, some of which were ahead of Texas in the move toward wider spacing, should bring about reasonably efficient development of new properties throughout the United States, even though the mistakes of the past will continue to be evident for many years. Most operators are now fully committed to wide spacing of wells as a means of controlling unit costs. With continued progress toward rules that encourage economical development of reservoirs, the drilling of unnecessary wells should become a much less significant problem.

ADDITIONAL RECOVERY

Another way in which state regulations have improved upon unrestricted competition in petroleum producing operations has been through greatly increased recovery. In the days of wide open production of oil and gas, the original pressure in petroleum reservoirs was dissipated rapidly. As a result, the proportion of the oil in place recovered was small and much of the recovery was by pumping methods involving higher costs. State regulations have at least doubled or tripled the amount of economically recoverable oil in many fields and have also reduced the lifting cost per barrel substantially. They have added in the aggregate many billion barrels of recoverable reserves to the nation's supplies of petroleum.

Various state regulations have played a role in raising the proportion of discovered oil that is ultimately recovered by production. Prevention of excessive rates of withdrawal has been a major factor in reducing underground waste and improving recovery. In addition, regulation of gas-oil ratios and measures to encourage reinjection of water and gas in appropriate cases have worked to maintain pressures conducive to a greater flow into wells of oil that would otherwise have been unrecoverable.

The favorable influence of state production controls cannot be measured precisely, but has obviously been very great. For example, it appears that recoverable reserves developed per well drilled since 1925 have been more than five times the average up to then. In addition, the proportion of reserves by natural flow instead of by pumping has been much higher under state regulation than in the old days of unregulated production. Both of these developments have had a favorable influence on unit costs, despite the fact regulations have been less than ideal in controlling the number of wells drilled.

The preceding evidence as to wider spacing of wells and additional recovery of oil provides convincing evidence that the system of state controls does represent great progress over the conditions that existed under unrestricted competitive development of petroleum resources. It does not mean, however, that nothing further remains to be improved in state regulations, or that some other system of regulation, such as unit operation of every field, might not have been better if adopted in the beginning. The increasing use of and talk about unit operations makes it desirable to examine the possibilities and problems of this alternative.

UNIT OPERATIONS

Unit operation of each field instead of traditional individual operation of each lease by separate owners has often been advanced in recent years as though this were a revolutionary idea of great simplicity much to be preferred over the regulatory system that actually developed. The idea is not new, however, for the record shows that the Board of Directors of the American Petroleum Institute in 1931 approved a new conception of oil production which favored unit operation in all new developments under which the owner of the surface would be entitled only to his ratable share of the oil and gas in a common pool.

Since industry leaders favored unit operations a generation ago before the present system of conservation and proration had developed fully, the question naturally arises why it was not chosen as the general method of regulating producing operations. Knowledge about the many problems involved in unit operations provides the answer to this question. Only those unfamiliar with the difficulties of achieving agreement on participation in a unit could think that such a solution is simple or easy. Their views on the subject might be quite different if they had experienced all the difficulties involved in working for years to unitize a single field.

The major problems in achieving unit operations in determining what share each lease should have in a common reservoir. Until the limits of production are established by drilling, different owners cannot even agree on how much productive acreage they are contributing to the unit. Furthermore, acreage is not uniformly productive within a field, particularly in the fields with a high degree of faulting or with steeply inclined producing formations. At times the same reservoir may contain some acreage that produces only gas and other acreage producing both oil and gas. These and other complexities leave room for substantial differences of opinion as to how various owners should share in a common pool.

Regulatory agencies would have found it hard to resolve issues as to equitable shares in a unit years ago when knowledge about underground reservoir conditions was rather uncertain and public opinion was against drastic interference with the rights of individuals to develop their own properties. They found it easier to proceed with drilling regulations for a field and to let proration formulas and time determine how much oil each operator finally recovered from his property. This solution avoided direct decision in advance as to what share each lease would have in the unknown ultimate production of a field even though the rules established for drilling and allocation determined immediate participation and what would happen in the long run.

Other considerations also worked against early adoption of unit operations as the general method of promoting conservation and of providing equitable treatment for competing operators. Deserving particular mention are practical and legal problems not always recognized outside of the industry.

The nature of many fields and of the industry raises questions about the advisability of requiring unit operations for every field. Physical conditions in many fields are such that recovery cannot be increased by operation as a unit. In such cases, proper spacing of wells serves the purpose of conservation without the trouble of enforced unitization. Another difficulty is that unitization would have precluded thousands of smaller independents from direct management of producing operations since their interests in most fields are usually smaller than those of major integrated companies. The largest interest owner in each field generally insists on being the operator in case of unitization. That procedure would leave little opportunity for independents to operate unitized fields. It is conceivable that under a system of universal unitization of fields independents might have concentrated entirely on exploration, but more probable that their role in exploration and drilling would have been reduced significantly. The challenge of managing a growing business personally is an important factor attracting independent operators into petroleum. Without that challenge, the number of independents searching for oils and gas would have been smaller. To the extent that unit operations would have lessened the role of smaller operators and of competition in the petroleum industry, reliance on that method of regulation could have entailed disadvantages greater than its assumed theoretical benefits.

The anti-trust laws constitute a serious impediment to reliance on a system of unit operations as a means of adjusting fluctuating availability to market demand. The suggestion has been made that if each field were unitized operators could be left free to determine whatever rate of production they chose within the limits of maximum efficient rates established to prevent waste without any need for regulatory agencies to allocate production among fields. Two problems limit the feasibility of this suggestion. First, for many fields it would be difficult to set an efficient rate because recovery would remain the same over a wide range of producing rates. Second, even if an efficient rate were set for each field, any decisions to produce at lower rates would probably be considered illegal.

If each field were owned by entirely separate interests, one can conceive that independent decisions to restrict production below maximum rates would not be considered a violation of anti-trust laws. In fact, however, larger companies have interests in many different fields, and their participation in discussion

with other interested parties in various fields as to the proper rate of production would subject them to prosecution for violation of the anti-trust laws. The only course possible to avoid anti-trust problems would be for all units to operate at all times at maximum efficient rates established by regulatory commissions. Such action would not necessarily be the correct economic decision. In addition, it would hardly be desirable from the standpoint of national security because the absence of spare productive capacity would be a serious handicap in emergencies.

The practical and legal problems involved in unit operations, as well as a general feeling that regulation calls for equitable treatment among fields as well as among operators in the same field, led the principal producing states to adopt market demand proration as part of the system to prevent waste and protect the rights of competing operators. The usefulness of unitized operations in certain cases, particularly where necessary to achieve significant improvement in recovery, has not been overlooked. Many voluntary agreements for unitization have been worked out to the advantage of all parties involved. In addition, many states now have provisions dealing with compulsory unitization when a high proportion of the interests in a field are in favor of such action on terms equitable to all. The role of unit operations will increase, but more likely as part of the established system of regulation rather than as a complete substitute.

THE ROLE OF STRIPPER WELLS

Another aspect of the present regulatory system criticized on economic terms recently has been the exemption of less productive wells from proration controls. On the basis that these wells are much more costly to operate than more productive wells, it has been suggested that the nation might be better off if many poor wells were abandoned and their output shifted to other wells in order to reduce current operating costs. Consideration of several relevant points raises questions about the desirability and practicability of such proposal.

Discussion of this matter must start from the basis that legislation protecting marginal wells, as wells with small capacity are called in Texas and elsewhere, was designed to prevent *premature* abandonment of reserves considered economically valuable for the long run. These laws are not intended to and do not preclude abandonment of wells as their operating costs become excessive, for many thousands of wells are actually abandoned every year. They were designed, instead, to prevent a temporary surge of low-cost oil from causing abandonment of reserves that would otherwise remain economically competitive as a source of substantial production for a number of years. Marginal wells were made exempt from proration because of the feeling that restrictions should not be imposed that would cause abandonment of wells that would otherwise remain in operation. In other words, states were reluctant to be the cause of forcing stripper wells out of business. They preferred to limit proration to the better wells that could continue to operate profitably even when restrictions on output increased their cost.

When marginal well standards were adopted a generation ago, conditions were quite different from those existing now. It is unlikely that anyone then visualized developments in which prorated wells would be restricted to produce less than exempt marginal wells, as has happened in recent years. What seemed clear at that time was that oil would become more costly and that the prevention of premature abandonments would prove economically sound as well as politically expedient. Within a short time, the tremendous demands of World War II required production of every barrel of capacity, including all the output of stripper wells. In fact, the Federal government even granted a subsidy for production from marginal wells to stimulate their output. This experience doubtless served to strengthen regulatory officials in a belief that protection of marginal wells was useful and valuable.

It is desirable to note that stripper wells are not necessarily marginal in an economic sense of being at the verge of becoming unprofitable. Considering lifting costs alone, which is appropriate for wells that have long since paid out exploration and development costs, many stripper wells can compete effectively with new wells. It is not unusual for a retired pumper or a farmer to operate some old wells in spare time, in which case the direct lifting expense may be quite small. At the same time, however, revenue from such wells is small and curtailment of that revenue can have a major impact on the value of the property. The impact on the capital values of remaining reserves and on the ability to hold a lease by continued operation is particularly important. Operators are

reluctant to shut down operations on a lease which appears to have substantial future potential because the property reverts to the owner of the mineral interests if production stops. In view of additional future recovery possibilities by means of new technology, operators are sometimes willing to incur immediate losses rather than to abandon high-cost operations if the prospects for future profits appear sufficiently attractive.

The suggestion that all stripper wells be abandoned seems highly impractical considering the fact that there are nearly 400,000 wells averaging less than ten barrels daily but accounting for about one-fifth of the nation's production and proved reserves. The extreme nature of this proposal has served to strengthen opposition to change and to divert attention from a more constructive study of whether changes in the relative treatment of prorated and stripper wells could contribute to lower costs and to more equitable treatment without adverse effect on abandonments. It would be far better, for example, to ask whether a prorated well should be restricted to the point that it produces less than a statutory marginal well, whether wells classified as marginal properly belong in that category, and whether under current conditions the standards set long ago for marginal wells are still the proper ones required to prevent premature abandonments.

FORCES REQUIRING GREATER EFFICIENCY

The discussion up to this point has dealt largely with criticisms of state regulatory practices because these must be understood and evaluated to arrive at sound decisions as to what changes, if any, are desirable currently. However annoying criticism may be, that is not the basic reason why more attention must be devoted to the efficiency of petroleum operations. The real drive for greater efficiency arises from inescapable competition from other domestic and foreign sources of energy. The impact of coal, of foreign oil, of nuclear power, and of technology working to lower the cost of extracting oil from tar sands and from shale cannot safely be ignored.

The delivered price of coal to electric utilities has been declining not only because of lower prices at mines but also because of reduced transportation costs by rail and barge. In addition, lower cost transmission of electricity over long distances has extended the area in which coal can compete with gas and oil. The resulting pressures on outlet for and prices of natural gas, heavy fuel oil and heating oil then lead refineries to install equipment to make more gasoline, thereby reducing the demand for crude oil and intensifying competition for sales of gasoline. As a result, competition from coal requires that the petroleum industry work hard to control costs in order to keep from losing position in the energy market.

The application of technology developed in the United States to virgin geologic provinces abroad has resulted in fabulous discoveries which make the best domestic oil fields look like pygmies among giants. Foreign oil has been and will continue to be absorbed principally abroad as the rest of the world increases its use of inanimate energy in an effort to improve productivity and standards of living. At the same time, however, foreign oil also exerts pressures on markets in the United States because imports are economically attractive. In view of the risks to national security of becoming heavily dependent on oil supplies subject to interruption in delivery by various circumstances, the government has imposed controls on petroleum imports. Judgments about what level of imports endangers national security will be influenced by the amount of difference in cost between foreign and domestic oil. As in the case of personal insurance against fire and other hazards, how much insurance the customer will buy depends on what he can afford and on the premium. If the cost looks low, the purchaser is likely to want rather complete protection, but if the cost seems high he will take a chance by purchasing less insurance. Exactly the same evaluation will be at work with respect to imports, but the decision will be made by government rather than by individual consumers.

For the time being, nuclear power and processes for extracting oil from shale and from tar sands are not impinging on the market for domestic crude oil significantly, but are more in the nature of clouds casting shadows which may signify important changes for the future. In an age of increasing electrification, it would be foolish to ignore the possibility that nuclear power may someday provide economical power to heat homes and to drive transportation equipment. As for oils from shales and tar sands, improving technology of extraction from vast known deposits may soon impose an effective ceiling on the price of domestic

crude oil. These new sources may not be developed rapidly if domestic oil maintains a competitive advantage, but the outcome will depend on the price of natural crude oil as well as of substitutes derived by processing tar sands and shales.

THE COURSE AHEAD

As in the case of all worldly affairs involving a host of conflicting interests, it would be unrealistic to demand or expect perfection in the regulations applied to control petroleum drilling and producing operations. The rules of this game have been in effect in general terms for a generation. During that time, thousands of operators have invested billions of dollars in the business with marked success in meeting the nation's demands for petroleum at prices that have remained attractive in comparison with commodities generally.

Fate has been unkind enough to introduce several highly disturbing developments for domestic petroleum producers. Foreign oil is the threat that has attracted most attention, but it may not be the most important one in the long run. The major threat will probably be competition from other domestic energy sources against which national security arguments will be inappropriate. Progress by these competitive sources will be facilitated if domestic producers concentrate so much attention on external competition that they fail to recognize the significance of internal developments. On the other hand, the potential exists for crude oil and natural gas to remain dominant sources of energy in the United States if the industry and regulatory agencies work together in making producing operations more efficient. The challenge from coal, atomic power, and other forms of energy within the United States cannot be escaped. The future role of oil and gas will depend on the wisdom with which all concerned move to meet the challenge.

Fortunately, the petroleum industry is accustomed to constant change and adjustment and has shown remarkable ability in the past to cope with new conditions. In terms of knowledge and technology, there is good reason to hope that oil and gas production in the United States can become more efficient and remain highly competitive. In terms of regulatory controls, considerable progress has been made within recent years through administrative action and court decisions, though more remains to be done to permit additional economies. Review may also be required to decide whether legislative changes are needed to keep pace with the times.

Domestic crude oil and natural gas need not necessarily experience steadily rising costs and a deteriorating position in the domestic energy market. The present system of regulations can and should be improved further to permit reductions in both investments and operating costs. Now that major improvements are underway, the momentum of progress should be maintained. With intelligent response to the challenges of the present and the future by regulatory agencies as well as by industry, domestic oil and gas should surprise its critics and retain a dominant role in the energy market by continuing to provide increasing supplies at attractive prices for many years to come.

STATEMENT OF RICHARD J. GONZALEZ, CONSULTANT TO THE AMERICAN PETROLEUM INSTITUTE, SUPPLEMENTING HIS TESTIMONY OF JANUARY 12, 1972, BEFORE THE SUBCOMMITTEE

APPRAISAL OF THE COST OF OIL IMPORT CONTROLS

An important reason why estimates that oil import controls cost consumers billions of dollars annually are incorrect is that they do not take into account offsetting gains to consumers from the use of additional gas made possible by the larger reserves of both gas and oil due to the influence of those controls on petroleum exploration and drilling in the United States.

The total effect of the program on consumers can be determined only by considering gas as well as oil, not by looking at oil alone as in the estimates of "Minimum Consumer Cost of Oil Import Quota Program" prepared by the staff of the Joint Economic Committee. This staff memorandum estimates a consumer

cost based on the value of import allocations (unsupported by any evidence as to how this value was determined) of \$10,666 million for 1959-64 and \$18,066 million for 1965-70, or \$7,400 million more in the six years 1965-70 than in the preceding period 1959-64. These figures show an estimated average annual cost of \$2,445 million for the 11.75 years from April 1959 through 1970 and of \$2,587 million in 1970.

Testimony that I presented at the hearings of the Subcommittee on Priorities and Economy in Government of the Joint Economic Committee on January 12, 1972 showed that in 1970 consumers enjoyed an advantage in the delivered price of natural gas over imported liquefied natural gas of at least 65¢ per thousand cubic feet. This testimony also pointed out that U.S. operations of the petroleum producing industry develop and supply more than 6 thousand cubic feet of natural gas per barrel of crude oil and noted that the demand for gas in 1970 exceeded the available supply.

In view of the importance and economic as well as environmental advantages of natural gas to consumers, the net effect of the oil import control program depends on the relationship of the savings on gas to the estimated additional costs for oil. The necessary calculations can be made by taking into account the effect of the estimated cost of the program to oil consumers on the supply of gas and resulting cost savings on gas to consumers.

If the oil import program cost consumers \$28.7 billion for the period 1959-70, then it must have added that much to the gross revenue of petroleum producers in the U.S. The gross revenue on U.S. production of oil and gas in the years 1959-70 was \$133 billion. If the staff estimate for oil is accepted as correct, it means that import controls increased gross revenues by about 28 per cent from \$104.3 billion without controls to \$133 billion with controls.

If import controls increased gross revenues on U.S. oil and gas production by 28 per cent, their impact on cash flow and profits and on the ability and incentives to invest in new oil and gas must have been increased by more than 28 per cent because of the leverage that incremental revenues exert in relation to costs. Therefore, the staff estimate leads to the conclusion that import controls must have served to bring about expenditures for discovery and development of new oil and gas reserves exceeding the levels that would have prevailed without import controls by much more than 28 per cent. These relationships mean that the most conservative estimates of the impact of oil controls on gas reserves and supplies would start from the premise that such controls have been responsible for at least 28 per cent of the gross additions to new reserves of gas in the period 1959-70.

Gross additions to gas reserves in the years 1959-70 were 206 trillion cubic feet of natural gas, excluding the reserves of Prudhoe Bay, which would raise the total by more than ten per cent. Applying a minimum figure of 28 per cent to the gross additions to gas reserves means that the oil import control program must be given credit for the favorable economic results due to the addition of at least 57.7 trillion cubic feet of natural gas for 1959-70.

Gas production in 1970 was 22 trillion cubic feet, equivalent to eight per cent of the reserves at the beginning of the year. At that rate of production, the minimum additional gas reserves attributable to the oil import program of 57.7 trillion cubic feet provided no less than 4.6 trillion cubic feet. On this production, consumers saved at least 65¢ per thousand cubic feet compared with the cost of imported liquefied natural gas. Therefore, the savings on gas due to the oil import program were at least \$2,990 million in 1970.

The staff memorandum estimated that import controls increased costs to consumers by \$2,587 million for oil in 1970. If the staff estimates for 1959-70 are accepted as correct and used to calculate the total consequences for oil and gas, the savings to consumers on natural gas in 1970 turn out to be in excess of \$2,990 million. Correct appraisal of the cost of oil import controls requires that both of these figures be considered together because of the joint nature of oil and gas exploration and development and of the fact that U.S. petroleum operations supply more energy as gas than as oil.

Considering both gas and oil, the preceding calculations based on the estimates of the staff of the Joint Economic Committee show that the oil import control program resulted in net savings to consumers of oil and gas in 1970 in excess of \$403 million.

STATEMENT OF JOHN G. McLEAN, PRESIDENT, CONTINENTAL OIL CO., SUBMITTED TO THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS, U.S. SENATE, NOVEMBER 8, 1971

AN APPRAISAL OF THE EMERGING ENERGY COMPANIES

Several of the papers submitted to the Senate Committee on Interior and Insular Affairs contain references, pro and con, to the diversification of oil companies into other energy fields. This memo analyzes the claims made that such diversification is anticompetitive, and presents the reasons that emerging companies are in the national interest.

ENERGY COMPANIES ARE CHARGED WITH BEING ANTICOMPETITIVE

Two witnesses before the Committee, Mr. Michael McCloskey of the Sierra Club and Mr. George Taylor on behalf of Mr. Andrew Biemiller of the AFL-CIO, view the diversification of oil companies into other energy fields as not being in the public interest. They allege that oil companies do not compete in the petroleum industry, and that oil company expansion into other energy areas could create energy-wide trusts capable of contriving shortages of essential energy fuels and raising prices to consumers. In defense of their ominous speculation, Messrs. McCloskey and Biemiller present the following evidence:

Petroleum.—The price of residual fuel oil doubled in a year. Mr. McCloskey attributes this to the action of an oil trust. The cut-off in Middle-Eastern supplies is no explanation, he claims, because most of our residual comes from Venezuela and other places. (McCloskey, p. 11).

Natural gas.—In 1970, all 25 of the largest petroleum companies dealt in natural gas products. (Biemiller, p. 8). A shortage of natural gas appeared in 1969. Mr. McCloskey suggests that this "sudden" shortage was engineered by the gas industry to pressure the Federal Power Commission into granting a "60% price increase." The fact that the gas industry will not reveal how many wells are capped, "awaiting higher prices," supports this interpretation of events, Mr. McCloskey argues. (McCloskey, p. 11).

Coal.—In 1970 eleven of the largest oil companies were in coal. Four of the largest 15 coal companies are now oil company subsidiaries and oil company production of coal is 20 per cent of the nation's total. (Biemiller, p. 8). The two largest owners of coal reserves are oil companies. Coal has been in short supply. Mr. McCloskey feels that this crisis was contrived by large corporations acting in concert; that it cannot be explained by the "mysterious" difficulties in production and supply. (McCloskey, p. 11).

Uranium.—Eight of the largest oil companies are in uranium exploration and hold reserves; all except one of these eight are in milling and mining; two are converting uranium concentrate into uranium hexafluoride; four are in fuel preparation or fabrication; and five in fuel processing. (Biemiller, p. 8). The oil industry holds 45 per cent of all known uranium reserves. (McCloskey, p. 12).

In the opinion of these two witnesses, developments "constitute the formation of energy trusts just as in the late 19th century" and "competition is systematically being bought up, just as in the bad old days." (Biemiller, p. 8).

THE ENERGY INDUSTRIES ARE COMPETITIVE

The statistics quoted by Messrs. Biemiller and McCloskey are not relevant in determining the competitive impact of oil company diversifications. Evidence which does bear directly on the competitive question suggests that competition in each of the energy markets is vigorous.

Petroleum.—Neither Mr. Biemiller nor Mr. McCloskey give figures to demonstrate the oil oligopoly whose existence they both take for granted. The pertinent figures refute their contention. There are some 10,000 companies engaged in the exploration and production of crude oil and natural gas. The largest of these companies accounts for 7 per cent of total production. In oil refining there are 130 companies with the largest accounting for less than 10 per cent of U.S. refining capacity. The four largest companies account for only 32 per cent of the shipments of refined petroleum products; over 54 per cent of the industries classified as manufacturing industries have higher concentration ratios. In petroleum marketing, according to the American Petroleum Institute, there are some 15,000 industrial wholesalers and jobbers, large and small. The top firm

markets about 10 per cent of the total. These conditions are the structural prerequisites for intense competition, not for oligopoly. The severe competition which has characterized the petroleum industry in the past few years is demonstrated by a comparison of the average annual increases of 2.0 per cent and 2.8 per cent in crude oil and dealer tankwagon gasoline prices with an annual average increase in wholesale prices (excluding farm and food) of 4.2 per cent for the same period, 1965-70.

Mr. McCloskey notwithstanding, the cutoff of Mid-Eastern supplies of residual fuel oil is directly relevant to the doubling of the price of residual. There is a closely interrelated world-wide market for this heavy fuel oil. During the recent crises European consumers normally satisfied by Mid-East oil competed for Venezuelan oil, driving up the price of Venezuelan residual. Prices were further increased by the sharp rise in oil tanker rates attributable to shutdown of the Trans Arabian pipeline, the closing of the Suez Canal, and the reduction in Libyan output, which necessitated hauling what Mid-East oil was available for European markets around the Cape of Good Hope. This long haul drastically increased required tonnage.

Natural gas.—Concentration of ownership of production or control of sales in natural gas is far below the levels which are typical of industries commonly referred to as being competitive. In about 80 per cent of 1,031 classes of manufactured products, most of which are less homogeneous than natural gas, the largest four companies control a greater proportion of their respective markets than do the four largest natural gas producers. Moreover, the turnover in ranks of companies in the gas industry is quite high. Over the 12-year period from 1957 to 1969 only one producer among the first ten at the beginning of the period kept its rank in terms of sales to interstate pipeline companies. Five producers passed out of the ranks of the first ten. No economist would argue that collusion among companies to restrict output and raise prices was a possibility that could be seriously considered in such a market. Since gas is discovered with oil, it is natural enough that oil companies are involved in the gas industry, but it would be unreasonable to argue that this involvement is harmful, given the market structures of the two industries.

The gas shortage Mr. McCloskey refers to is not "sudden" in the sense of being unexpected. Despite the apparent existence of potential reserves to be tapped, oil and gas companies have not found it economically feasible to increase their drilling activity. Exploration drilling has declined since 1956. The ratio of proven gas reserves to production has fallen steadily for more than ten years and in each of the past three years additions to reserves were actually less than production. For a decade the industry has forecast the shortage that would result from the price ceiling imposed by the FPC, and for a decade the industry has petitioned for a price increase. In an industry in which ownership of production is as dispersed as it is in gas, no company has an incentive to participate in a scheme to contrive a shortage.

Mr. McCloskey to the contrary, the average price increase which has been allowed by the FPC on a *small number of new* gas contracts is 30 per cent, not 60 per cent. This restricted increase has come after ten years during which FPC guidelines for gas prices have remained unchanged. A further increase in price is still justified: the average price of natural gas on new contracts is about 25.2¢ per million BTU's, when contracts can be obtained, while the price of residual fuel oil, an inferior fuel, is 55.6¢ per million BTU's, almost twice the price of natural gas.

Moreover, in the period 1965 to 1970, wholesale prices (excluding farm and food) increased at the rate of 4.2% per year. During the same five year period, the field price of *all* natural gas rose from 15.1¢ per million BTU's to 16.6¢ per million BTU's, an average annual increase of only 1.9%.

Further answering Mr. McCloskey: While gas companies do not make public the number of capped wells they have because of a reluctance to give such information to competitors, these statistics have been released to the FPC which quotes a reserve figure for capped wells for the industry as a whole amounting to 1-2% of proven reserves. These are outlying reserves and building pipelines to market them cannot be justified until the price of gas rises sufficiently to give a *competitive* return on investment.

Coal.—Coal is a competitive industry. There are 575 companies producing more than 90 per cent of the total output. The top 15 operating companies produce only slightly more than 50% of the total; the top four, 30.5 per cent. To put these numbers in perspective, it should be noted that about one-half of 1,031 manu-

facturing industries have concentration ratios of greater than 40% for the four largest firms. As Mr. McCloskey pointed out, the two largest holders of coal reserves are oil companies. Continental and Humble Oil owned seven and six billion tons of reserves respectively in 1969. However, the U.S. Geological Survey estimates national recoverable reserves of coal at 780 billion tons for 1967, which means the two oil companies own less than 2% of total recoverable reserves. Citing the proportion of coal production controlled by oil companies to show the market power of oil interests in the coal industry is simply not meaningful since it assumes that the oil companies act in unlawful conspiracy. They do not and indeed it would be impossible for them to do so in an industry with coal's structure characteristics.

There is nothing at all "mysterious" about the production and supply difficulties that the coal industry has experienced. A serious and widespread underestimation of the demand for electricity, and an overly optimistic view of the prospects for nuclear power led to an insufficient investment in new coal mines. A shortage of railroad hopper cars, caused by railroad planning on the same assumptions as the coal industry, delayed coal deliveries and cut production at existing mines. Coal output has been further inhibited by the requirements of the Mine Health and Safety Act of 1969, and by the unauthorized work stoppages at the mines that have plagued the industry for the past three years. The combined effect of these factors has been a reduction in productivity at coal mines.

Uranium.—Concentration statistics for the uranium industry are, in some cases, high, and oil companies are an important factor in the market. There are, however, good grounds for believing that the industry is competitive and may become increasingly so. The Atomic Energy Commission reports that 126 companies were active in uranium exploration and drilling projects in 1969. Twenty oil companies accounted for 31% of the surface drilling. Nineteen other companies already established in uranium mining and milling accounted for 34%. Mr. McCloskey's figure of 45% for oil company ownership of uranium reserves must be a rough estimate since the AEC does not give out reserve information on a company basis. However, it is natural that this figure should be high. Similarities between the petroleum and uranium industries in the planning and operations aspects of exploration drew oil companies to uranium at an early date. Now other types of companies are exploring actively for uranium and there is no reason to expect that they will be unsuccessful.

According to the AEC seventeen firms are now engaged in or are firmly committed (by 1972) to the milling of uranium. Many of the firms with exploration programs who are not now in milling have the capability of entering this phase of the industry should they so desire. Of the top six milling firms only one is an oil company, and that one is a relatively small oil company. Holding large stockpiles of uranium available for sale, the government is another important factor disciplining prices in this market.

There are three non-oil domestic firms as well as three oil companies engaged in UF₆ conversion, and other U.S. companies have told the AEC that they were seriously considering entering the conversion phase of the uranium industry. The domestic companies compete with three foreign conversion companies, two of which have already obtained U.S. orders. The oil companies are not alone in the fuel fabrication or fuel processing markets either. There are ten non-oil firms in fabrication, seven in processing.

The uranium industry is young and expanding. It is not valid to deduce from the high concentration ratios typical of such industries that there is a lack of competition.

THE THREAT OF AN ENERGY TRUST IS A GROUNDLESS SPECULATION

The preceding sections indicate that the oil and gas and other energy industries are indeed quite competitive. The past competitive mode of behavior would likely characterize future activities of oil companies in other energy fields, even if the anti-trust laws did not prescribe competitive conduct.

It is alleged oil companies' expansion into other energy areas could create energy-wide trusts capable of contriving shortages of essential energy fuels and raising prices to consumers. This fear seems unwarranted in light of economic logic and the built-in competition among various oil companies due to their structural differences.

What economic fundamentals characterize a trust which could manipulate supply and decrease social welfare? The trust or coalition of companies to profit

from its commitment in several markets whose products are, to some extent, substitutes must have control over opportunities in *each* of the several markets. For example, oil is in fact a competitive industry but, even if it were not, diversification of its members into say, coal, would have no harmful effect unless they came to control that industry as well. Yet, as already pointed out, two oil companies with the largest stake in the coal business own less than 2% of total recoverable coal reserves. Thus, speculation that the participation of petroleum companies in the coal business will lead to higher prices and excessive rates of return is groundless.

It is necessary to realize that the relative stake of various petroleum companies participating in oil, coal, and uranium activities are so different, there is no identity of interest. A given company in seeking to maximize its profits will not be pursuing a policy that would maximize industry profits or benefit its competitors. For example, Continental and Occidental have relatively large interests in coal. Policies that would bolster their profit are not the best policies for, say, Texaco and Shell. Kerr-McGee has a strong position in uranium, a much greater one than it has in oil and gas.

The makeup of individual oil and coal companies varies considerably. For example, the concentration of crude production varies greatly among the Rocky Mountains, Mid-Continent, Texas, and Louisiana producing areas. It is not possible to align the producing interests of the individual companies so as to maximize industry profit. The balance between production and refining-marketing differs from company to company, resulting in divergent attitudes about the relation of crude oil and product prices. Western strip mineable coal reserves vie for Mid-Continent markets with deep mine Eastern coal reserves. In short, it should be clear there is no basis for a common policy among energy companies when their interests are so diverse.

Once again, an examination of historical experience buttresses economic logic. In the decade of the 1960's oil companies entered the fertilizer industry, a factor that clearly increased competition in that industry. Vigorous competition was a major contributor in the precipitous decline in fertilizer prices during the decade. For example, the wholesale price index for fertilizer material dropped from 102 in 1960 (1957-59=100) to 80 in 1970.

Oil companies have been promoting competition in the coal industry. The National Coal Policy Conference reports that the investment rate in new mine facilities by oil-associated companies is increasing at a significantly higher rate than the industry average. The policies and actions of Continental Oil Company and Consolidation Coal clearly demonstrate this fact. In the four years preceding the merger of Continental and Consol in 1966, Consol made capital outlays of \$76 million for new mines and expanded capacity. In the four years subsequent to the merger, 1967-1970, Consol has made capital outlays of \$184 million, an increase of 142%, for new mines and expanded capacity.

In 1966, Consol owned and operated 47 underground and surface mines (including those owned by associated companies). At the end of 1970, the figure was 56. During the four-year period, Consol actually developed 17 new mines. There were 16 major expansion projects in operation during 1970 which had not attained capacity operation for the year 1969. During the time of increasing national concern about an energy shortage, annual production from these projects increased 4.4 million tons over 1969 to 11.5 million tons in 1970 and will further increase by 17 million tons for a total expansion of 28.5 million tons when capacity operation is attained.

Seven other expansion projects under development but not in operation during last year will add 6 million tons to the company's annual capacity. In 1971, Consol is initiating development of another 11 expansion projects which will increase annual capacity by 9.6 million tons. In summary, projects in operation or being developed since 1966 total 44.1 million tons. Furthermore, in 1966 Consol employed 11,697 people. At the end of 1970, employment had increased to 15,896.

ENERGY COMPANIES ARE SOCIALLY BENEFICIAL

For the reasons cited in preceding sections, allegations of a potential energy trust with anti-social implications are groundless. Indeed, to promote adequate domestic energy supplies at the lowest possible costs, diversity in the development of the country's natural resources should be encouraged. The reasons for this public policy were set forth in Continental Oil's formal statement (p. 13) to the Senate Committee on Interior and Insular Affairs on October 20.

"Such a policy would foster competition and a greater flow of capital into energy activities. Competition in the various energy fuel industries is necessary to meet the goals of adequate fuel supplies, low prices, and rapid development of new technologies. Competition promotes efficiency which is best served by the free flow of capital and managerial and scientific talent within the U.S. economy and within the energy business. Vigorous competition in turn requires freedom on the part of private companies to enter the energy fuel industries, within the framework of our antitrust laws.

"Capital requirements for providing future energy supplies will be enormous. The National Petroleum Council in its report *U.S. Energy Outlook, An Initial Appraisal 1971-1985* estimated that \$174 billion will be needed in the 1971-1985 period for fossil and nuclear fuel operations to the wholesale level. Recent experience has demonstrated the beneficial effects of freedom of entry in regard to meeting capital requirements. The entry of gas transmission companies into gas exploration, for example, is likely to prevent the expected gas shortage from becoming even more severe than it would otherwise be. Participation in the coal business by oil companies accelerated investment in coal operations and helped avert a threatened shortage of coal last year. Entry into uranium exploration by companies that had previously been both inside and outside the energy business has contributed to the discovery of substantial new reserves, thus helping to assure adequate fuel supplies for nuclear power plants.

"Besides providing additional capital investments, freedom of entry across the several energy fields will help increase these resources in other ways. Flexibility in the use of limited skilled personnel is encouraged by free entry into the energy business. Skilled people can be shifted into areas where their talents can be put to the best use. Diverse talents from different fuel businesses can also be blended in such important areas as research and development. This is particularly true of synthetic fuels. Ultimately, the long-term energy supplies of the U.S. must come from the effective utilization of the nation's vast reserves of coal and shale. The development of these energy resources will require new gasification and liquefaction technologies, as well as very large capital outlays. (For example, about \$500 million investment is required to provide 100,000 B/D of syncrude capacity from oil shale.) Inevitably, a long time will elapse from initial investment to initial revenues. These essential characteristics necessarily require large experienced companies to undertake the pioneering task of developing coal liquefaction and shale reserves. This fact should be recognized by the government and the public. Oil, gas, and coal companies able to undertake this new major enterprise should be encouraged to do so."

Policies that discourage the diversification of oil companies into other energy businesses may, rather than protecting *competition*, simply protect *competitors* already established in the individual energy fuel industries. The best way to maintain competition and its associated benefits in an industry is to permit free entry, within the context of antitrust laws. The market characteristics in the several energy fuel industries indicate that the new competitors, e.g., oil companies in the coal industry, cannot expect to control prices. Thus, the emerging energy company can only be regarded as a positive social force.

STATEMENT OF THOMAS A. MARTIN, DIRECTOR, DIVISION OF TAXATION, AMERICAN PETROLEUM INSTITUTE

MEMORANDUM CONCERNING PETROLEUM INDUSTRY TAX BURDEN

The oft repeated allegation that the petroleum industry does not bear its fair share of taxation was again asserted during hearings held by the Subcommittee on Priorities and Economy in Government of the Joint Economic Committee on January 12, 1972. The assertion was that the effective Federal income tax rate paid by a selected group of major oil companies was 8.7 percent of their 1970 before-tax net income. The source of income and tax data for this representation was apparently an article and table published in *United States Oil Week* which was reprinted in the October 27, 1971, *Congressional Record* on pages S16896-8.

There has not been opportunity to check all the 1970 data contained in this *Oil Week* article. However, the analyses that have been made of prior *Oil Week* compilations of a similar nature established that the percentages in the tables reflected an incomplete and distorted result. They failed to take into account the

fact that the tabulated companies paid very substantial direct taxes and the fact that foreign income taxes were paid on foreign income. It would appear that the 1970 data suffer from the same infirmities.

If *worldwide* net income before taxes is to be used in computing an effective tax rate, it is necessary that *worldwide* income taxes also be used in the computation. The *Oil Week* data include worldwide income but do *not* include worldwide taxes and this produces a serious misrepresentation. The 8.7 percent computation completely disregards the operation of the foreign tax credit provisions of our tax laws which are designed to avoid international double taxation and which are applicable to *all* U.S. taxpayers, not just petroleum companies.

Additionally, the *Oil Week* data are deficient in that the tax burden of the industry is defined by relating income taxes to net income before taxes, rather than by relating total taxes to gross revenue. Gross revenue is the relevant basis for evaluating the tax burden of a company when considering the effect of taxation on neutrality of resource allocation among industries.

It is inequitable to reach a determination concerning the tax burden of an industry on the basis of a single type of tax. The impact of the total burden of *all* taxes on that industry must be considered. High risks and large losses on unsuccessful ventures are inevitable in petroleum exploration. Furthermore, petroleum production results in depletion of a wasting asset. These and other factors justify the tax differentials that result in the petroleum industry paying a lower effective rate of income tax than is paid by other industries not having these unique characteristics. The high level of *other* taxes in the petroleum industry far more than offsets the industry's lower Federal income tax burden.

Data from a study by the Petroleum Industry Research Foundation show that in 1969 the petroleum industry paid about \$3 billion in total domestic taxes, exclusive of motor fuel and other excise taxes of \$9 billion. The study that included these data covered the period 1967-9. For this three-year period, exclusive of motor fuel and other excise taxes, the total tax burden on the domestic petroleum industry averaged 6 percent of its gross revenues. During the same period, the percentage was 5.5 percent for all other mining and manufacturing industries and 5 percent for all business corporations. Including motor fuel and other excise taxes, petroleum's total tax burden amounts to about 20 percent of domestic revenues, which is about four times as great as the tax burden of all other industries.

In conclusion, on the subject of the petroleum industry's total tax burden, it is an established fact that its burden of taxes has been more than average relative to the burdens imposed on other industries.

STATEMENT OF THE MID-AMERICAN PETROLEUM MARKETERS ASSOCIATION

The Mid-American Petroleum Marketers Association [MAPMA] submits this statement in connection with one of the items of inquiry which is involved in the hearings to be held by the Subcommittee on Priorities and Economy in Government of the Joint Economic Committee originally scheduled for November 22-24, 1971. The hearings have been rescheduled for January 10, 11 and 12.

It was announced that the Subcommittee would consider the oil import quota program along with the tax treatment of oil, the application of the antitrust laws to the oil industry and procedures for leasing Federal offshore oil lands in relation to price competition in the fuels industry. MAPMA understands the purpose of the hearings is to discover ways in which Federal policies could be redirected to encourage increased competition and lower consumer prices. Our statement is directed solely to the oil import quota program as it affects competition and oil prices.

MAPMA is an organization of midcontinent distributors of petroleum products. Members of this organization own neither the means of production nor the means of refining and thus are totally dependent on others for their supplies. Members of MAPMA occupy in general one of two positions in the network of petroleum distribution; that of wholesaler and that of retailer. Our wholesaler members buy products from major integrated oil companies or independent refiners and in turn distribute these products to retailers and in some instances consumers. The wholesaler members of MAPMA generally own substantial storage facilities and are capable of receiving and storing large quantities of product, be it gasoline.

home heating oil or industrial fuel oil. These members use no major brand names and even though many have supply agreements with major oil companies, they operate their organizations as completely independent businesses.

The retail members of MAPMA are commonly referred to as jobbers or distributors. They all are independent businessmen. The jobber or distributor members of MAPMA normally fly a major oil company's flag or brand sign. In most cases he has an agreement with a major oil company which permits the jobber or distributor to fly the major's flag and assures the jobber of a franchised selling area and an adequate supply of product at economic prices. This latter assurance has deteriorated substantially over the past several years.

MAPMA was organized specifically to present the views of the midcontinent distributors on questions of oil policy. At the time of the founding of our organization the members believed that the Oil Import Program was curtailing competition and imposing substantial burdens on the marketer and consumer. Although the Program has been altered during the past years, MAPMA believes that the problems present at the organization's inception continue today. With particular relation to our geographic area of distribution, there has not been one significant change in the Program—with the possible exception of the easing of restrictions on Canadian imports—which has lessened the problems with which our members are faced. These problems include an absolute unavailability of product, an effective unavailability of product due to price and/or a restriction of selling margins. Until the Oil Import Program is either abandoned or relaxed substantially, the marketer or jobber will continue to face these problems.

In the past several years there has been some relaxation of the Program. Residual fuel oil—used to power and heat utilities, factories, office buildings, apartment houses, hospitals, schools and other large institutional areas—is essentially exempt in District I (East Coast) from oil import controls when imported for use as fuel. Asphalt imports into District I-IV (all states east of the Rockies) were decontrolled for 1971. In 1970 deepwater terminal operators in District I were permitted to import a total of 40,000 b/d of No. 2 fuel oil from Western Hemisphere sources. A recent proclamation by the President has extended the No. 2 fuel program indefinitely and increased the amount available from 40,000 b/d to 45,000 b/d. More Canadian crude oil was permitted to be imported in 1971 than the previous year. In 1971 total imports into Districts I-IV of crude or unfinished oils from Canada was limited to 450,000 b/d. In 1970 the total amount permitted to be imported was 395,000 b/d.

In spite of these steps, the Program continues to bear unevenly on industry members, and it is the marketer which continues to feel more severely the inequities of the Program. Perhaps characteristic of the administration of the Program is the apparent effort to curtail the activities and position of the Oil Import Appeals Board, the one factor in the entire Program which has given marketers some hope over the past several years. MAPMA requests the Subcommittee to consider four aspects of the Oil Import Program as they bear to competition and prices. They are the Residual Fuel Oil Program, the No. 2 Fuel Oil Program, the Canadian Crude Oil Program and the position of the Oil Import Appeals Board.

I. Residual Fuel Oil Program.—On March 25, 1966, Interior Secretary Udall announced a program for the allocation year commencing on April 1, 1966 which amounted to a virtual abandonment of control of imports into District I. The Presidential Proclamation still provides for controls and the Interior Department has preserved the skeleton of a control system which can be reestablished at any time.

MAPMA has consistently taken a position in support of proposals which would increase the flow of oil into the United States. We believe that the residual oil program as it applies in District I should be continued. Our concern, however, relates to the exclusion of all but those companies located in District I. Despite the clear mandate of the United States Constitution that "no preference shall be given by any regulation of commerce, or revenue to the ports of one state over those of another . . ." Constitution, Article I, Section 9, Clause 6, the residual fuel oil program continues to give preferential treatment to East Coast states. There has been a shortage of residual fuel oil in the Midwest for several years and the Oil Import Administration has done nothing to ease this supply situation.

In January 1970 a residual fuel oil shortage previously manifested in the East Coast in the mid-1960's became extreme in the Midwest. Many refineries which had formerly supplied residual fuel oil to customers in the Middle West were converting on the basis of an economic decision to the manufacture of coke, in

place of residual fuel. The useable supply of residual fuel oil was reduced even further because of the enactment throughout the Midwest of pollution regulations which restricted the sulphur content of fossil fuels. Coal users were switching to fuel and then only low sulphur fuels could be used.

As the problem became more severe, many midcontinent marketers and even consumers of residual fuel oil petitioned the Oil Import Appeals Board [hereinafter OIAB] for permission to import residual fuel oil. On July 24, 1970 the OIAB granted oil import quotas to seven of sixteen midwestern suppliers. In making the allocations, the Board made the following findings:

1. Residual fuel oil demand in areas served by the petitioners has increased significantly due to curtailment of natural gas sales to industrial, commercial and governmental purchasers of gas. This applies to new as well as historic users.

2. New regulations to curb air pollution in many parts of the area served by these petitions have necessitated the use of low sulphur fuels in facilities that have formerly used high sulphur coal. To meet fuel needs in the immediate future, oil must be imported because there is a general shortage of suitable domestic fuels, such as coal, natural gas, and residual fuel oils.

3. Neither the consumers, nor the suppliers of domestic fuels anticipated shortages of suitable fuels as evidenced by depressed market conditions during the immediately preceding several years. In turn, the depressed market conditions contributed to the severe shortages by further reducing incentive to produce these fuels.

4. The relaxation of East Coast residual fuel oil imports control, accounted in mid-1967, resulted in Gulf Coast residual prices being decreased to be competitive with foreign supplies. The economics then dictated that refiners develop more profitable markets for this material. This was accomplished by building refinery units such as cokers, deasphalting units and hydrocrackers, that would utilize most of these new facilities as inputs. Construction of most of these new facilities was completed in 1969 and early 1970 coinciding in time with the sudden demand outlined above.

The Board concludes that the foregoing combination has created shortages of residual fuel oils of the desired quality in District II and has considered the requests of each petitioner to reach determinations as to whether or not an exceptional hardship is suffered attributable to the limiting factors of the Mandatory Oil Import Program.

The findings and conclusions of the OIAB are applicable today. Schools, hospitals, factories and office buildings in the Midwest have been threatened in the past by a lack of heat. This situation could again manifest itself. Yet nothing has been done by the Oil Import Administration [hereinafter OIA] to ease possible shortages. There are several steps available. For example:

(1) The OIA could adopt a residual incentive program for refiners in Districts I-IV. Under such a plan, domestic refiners would be encouraged to produce residual fuel oil by awarding them an import license for one barrel of crude oil for every barrel of low sulphur fuel oil they produce.

(2) The OIA could increase imports of crude oil into the Middle West from Canada so that refineries in the area could turn out more heating fuels.

(3) The OIA could treat Districts II-IV the same as District I insofar as residual fuel oil is concerned. Greater access to overseas supplies of residual fuel oil would of course immediately alleviate both supply and price problems.

II. No. 2 Fuel Oil Program.—In June 1970 the Oil Import Administration adopted a program which permitted deepwater terminal operators in District I to import a total of 40,000 b/d of No. 2 fuel oil from Western Hemisphere sources. The program was extended through 1971. Very recently the Administration announced that in 1972 45,000 b/d of No. 2 fuel oil could be imported into District I, but again deepwater terminal operators were limited to Western Hemisphere sources. This decision by the Administration was received by Eastern marketers with considerable dismay. They had anticipated that the Program would be expanded up to 100,000 b/d and that the Western Hemisphere limitation would be dropped.

MAPMA shares the disappointment of the Eastern terminal operators even though the Midwest would not have been directly affected by any of the proposed No. 2 oil programs. MAPMA supports all efforts to ease the Program's restrictions, and it is conceivable that if more product were made available to the East Coast the supply shortages of the midcontinent would be lessened.

The Western Hemisphere limitation is in our view particularly onerous. Such limitation effectively restricts District I terminal operators to purchases in the Caribbean where two major refiners hold a dominant position. Shortly after the Program was initiated, these two refineries raised the posted cargo price of No. 2 fuel oil from $6\frac{1}{2}$ to $8\frac{1}{2}$ cents per gallon—more than 30 percent—thus eliminating any price benefits which might have accrued to East Coast consumers. Had cargo postings remained stable, it would have been possible for independent marketers to provide some price stability. Approximately six months after the Program was initiated, the posted cargo price of No. 2 fuel oil in the Caribbean moved up to 9.5 cents thereby eliminating all price savings and in some cases making the price of offshore No. 2 fuel oil higher than domestic No. 2 fuel oil. The major oil companies with the knowledge of the Western Hemisphere limitation and the posted price in the Caribbean continued to have the clear dominance in negotiating with East Coast terminal operators.

If the purpose of the No. 2 fuel oil program is to alleviate the price, supply, and the competitive situation in connection with No. 2 fuel oil on the East Coast, it has failed. The current extension of the Program will not alter the failure in any appreciable degree. Clearly if the posted price of No. 2 fuel oil in the Caribbean today had remained consistent with the price in the Caribbean immediately prior to the announcement of the Program, many of the problems of the deepwater terminal operators would have been solved.

The present No. 2 fuel oil program contains three obvious shortcomings:

1. The No. 2 fuel oil program should not be limited to East Coast Terminal Operators. As a practical matter, we will concede that some limitation on participants is required. However, we see no reason why the Program cannot be extended to all terminal operators in Districts I-IV.
2. The amount of No. 2 fuel oil for allocation should be increased substantially. If the Program is extended beyond District I, the increase must be substantial. Under the present program, the amount available should be increased to at least 10,000 b/d.
3. The requirement that the product which is imported be manufactured from Western Hemisphere crude oil produced in the Western Hemisphere should be abandoned. Whereas approximately 80 percent of Caribbean refining capacity is controlled by major domestic oil companies, approximately 30 percent of European refining capacity is controlled by major domestic oil companies. The allocations should be usable on a worldwide basis.

III. *Canadian Crude Oil Program.*—Licenses are required to import crude or unfinished oils from Canada into Districts I-IV. Prior to March 10, 1970 imports of Canadian crude or unfinished oils "entering the United States by pipeline, motor carrier, or rail" were exempt from control. However, on that date a Presidential Proclamation limited Canadian imports of crude and unfinished oils to 395,000 b/d. In 1971 total imports into Districts I-IV was increased but still limited to 450,000 b/d. In November 1971, an additional 25,000 b/d was added. For 1972 an additional 65,000 b/d was added bringing the total available to 540,000 b/d. Finished products may be imported into all districts without license or limitation but as a practical matter few product pipelines exist and the vast majority of product imported from Canada goes to an area east of Chicago and to major domestic oil companies.

Members of MAPMA see no justifiable reasons for limiting the amount of the oil that can be imported from Canada into the United States. We believe that all restrictions on crude oil imports into Districts I-IV should be removed. As the Background Study for the Use of the Joint Economic Committee on the *Crude Oil and Gasoline Price Increases of November 1970* observed:

"During 1971, these crude oil imports [from Canada] have been averaging 200,000 b/d below pipeline capacity. Paradoxically, U.S. controls on Canadian imports were imposed in 1970-71 when the closing of Tapline and reduced production in Libya disturbed world markets. The 'Rube Goldberg in oil' regulations have effectively sabotaged 200,000 b/d of oil from a secure source."

Canada must be considered as basically a secure source of oil. Our country places part of our ABM system in Canada yet we refuse to use it as an unrestricted source of crude oil. The Cabinet Task Force on Oil Import Control in its Report on the Relationship of Oil Imports to the National Security concluded:

"The risk of political instability or animosity is generally conceded to be very low in Canada. The risks of political interruption or diversion of Canadian oil to other export markets in an emergency is also minimal for those deliveries

made by inland transport. And potentially divertible Canadian oil moving by tanker from the Arctic or Atlantic areas could be covered by appropriate inter-governmental arrangements."

MAPMA concedes that Eastern Canada imports its petroleum requirements from potentially insecure sources and in the case of a supply interruption, Canada could be expected to turn to the United States to furnish those imports, or to compete for whatever supply is available, and thereby to subtract from the security value of U.S. imports from Western Canada. Nevertheless a restriction of imports at the present level is, in our view, completely irrelevant to the risk involved. The total amount of the Canadian crude allocation should immediately be increased by at least 200,000 b/d, and consideration should be given to a total abandonment of restrictions on Canadian imports.

IV. The Oil Import Appeals Board.—The Interior Department is presently considering reconstituting the staff and functions of the Oil Import Appeals Board. Plans apparently exist to abolish the Board as presently constituted and to create a substitute panel within the Department of the Interior's appeals division. MAPMA is opposed to any plans which would detract from the independence and role of the OIAB. This Board was specifically created to bring equity to those businesses injured as a result of the Oil Import Program. It is the only place where injured and aggrieved small businessmen may petition the Federal government to obtain relief from the inequities inherent in the oil import quota system. The Board by its position and through its experience is best able to deal with the uneven and frequently inequitable treatment produced by oil import quotas.

For the past five years the Board under the very able chairmanship of Glenn Johnson and Lewis Flagg III has enabled marketers of petroleum products in many cases to survive. Were it not for timely awards of import allocations made by the Board, many of the small independent oil companies would not be in business today. During 1970 and 1971, the Board handled over 300 cases. It was able to perform its tasks in an admirable manner even though its staff was extremely limited in number and its burdens were substantial. Rather than limiting the Board, the Government should increase its stature and staff. The recent addition of George Schueller from the Justice Department has enabled the Board to increase its capacity and gives the Board a greater relevance to the problems of those who appear before it. The assignment of Dr. Kelly as assistant to the Chairman was also a step in the right direction. The granting in 1971 of an increased "kitty" amounting to a total of 40,000 b/d was a positive step.

But if the Board is now stripped of its independence and authority these recent moves will be merely a cruel offering of hope to those who have been victimized by the Program. Rather than limiting the position of the Board, the Government should expand its role and authority.

MAPMA suggests that the Oil Import Appeals Board be given complete independence within the Department of the Interior. Its decision should be reviewed only by the courts and not by further Administrative process. MAPMA further suggests that the Board have unlimited quantities of oil to distribute to those who have been adversely affected by the Oil Import Program and who are suffering an exceptional hardship as a result thereto. We believe that the Board has this authority although in the past it has confined itself to making allocations from a "kitty" assigned to it by the Secretary. Its authority in this regard should be made clear.

Respectfully submitted.

WILLIAM W. SCOTT.

STATEMENT OF GEORGE P. MITCHELL, CHAIRMAN, NATIONAL ENERGY POLICY COMMITTEE, TEXAS INDEPENDENT PRODUCERS & ROYALTY OWNERS ASSOCIATION

Mr. Chairman, I am George P. Mitchell of Houston, an independent oil and gas producer-explorer, and am submitting this statement as chairman of the National Energy Policy Committee of the Texas Independent Producers & Royalty Owners Association.

We respectfully submit that the record is now clear for all who will look at the facts: independent producers were *not crying wolf* when we issued repeated warnings during the past decade that federal energy policy was unnecessarily

leading this nation down the path to a second-rate power—for lack of reliable energy sources.

Drilling for oil and gas today is near the lowest in three decades; we are drilling slightly more than half as many today as were being drilled in the years immediately preceding implementation of the oil import program. In consequence, this nation has already used up almost all of its reserve productive capacity and is woefully deficient in natural gas resources. We believe this could have been avoided without significant impact on consumers if a greater portion of industry profits had been permitted to flow back to domestic explorers-producers in the form of realistic wellhead price incentives or if the import program had been designed to permit domestic explorers-producers to share more directly in the benefits of cheaper foreign-produced oil imported here.

No longer are the Arabs impressed by implied threats that we can unleash two or three million barrels per day reserve capacity in Texas and Louisiana. We don't have any significant unused capacity which can be produced and transported efficiently without waste. Remember that it is the reserve productive capacity which in previous crises enabled this nation to fill the energy gap for those free world allies which had become dependent upon unreliable energy sources. No longer will this be possible. If confronted with another Mideast cutoff as in 1956 and again in 1967, severe rationing would be necessary throughout the free world.

Even though our most responsible federal officials have acknowledged that there is indeed an "energy crunch" in this country, and that the situation might become drastically worse if changes of some kind are not forthcoming, nothing of any real significance is yet being done about it. Federal energy policy is woefully inadequate to the times and the condition in which our nation finds itself energy-wise.

Let's talk first about the oil import program which was supposed to prevent the very situation which is occurring.

No constructive change is being made in an oil import program, which long ago was proved to be only remotely related to its fundamental purpose. Once again in 1972, oil imports will be allowed to rise, this time some 500,000 b/d.

Domestic independents fought a successful battle in Congress to provide for import restraints, over importer opposition. But when the program was implemented it provided only trickle-down benefits to the domestic explorers and producers on whom the nation depends for keeping us secure in terms of energy. Today it is the importers themselves who most staunchly defend the import program, recognizing it alone may stand between them and expropriation of their foreign concessions. API expresses concern with a 26 percent jump in crude oil imports during 1971, and alarm at the prospect of over 50 percent dependence on foreign oil soon. But the changes proposed by importers in the main relate to their individual equities under the quota scheme, and bear little relationship to the objective of restoring domestic exploration and drilling.

The allocation procedure as originally conceived was supposed to provide import equity for all refiners in this country. Thus crude oil imports into the east coast (Districts I-IV) were supposed to be allocated to refiners on an equitable basis, with the scale tilted toward the small refiner, enabling all to share in the benefits of cheaper foreign oil. Product imports, under the program concept, were to be discouraged and whenever possible phased out entirely—except for residual fuel oil which was decontrolled for all practical purposes early in the program.

The theory was this: By allocating crude imports equitably among all domestic refiners, those refiners would all be in a position to pay realistic prices to domestic oil producers. Adequate incentives would thus trickle down to domestic explorers and enable them to keep this nation relatively self sufficient in energy. This trickle-down theory didn't really work from the beginning. But even if the concept had been sound, gradual quota exemptions and alterations have eroded its foundation.

While refiners in Districts I-IV with overseas crude quotas were importing 33 percent of total imports in 1959, by 1971 this percentage had dropped to 15 percent.

In other words, the theory of allocating imports to refiners on an equitable basis so that they could pay equitable prices for domestic crude was nullified by changes in the policy favoring some importers, without due regard to equity among domestic refiners.

A review of the accompanying chart will reflect what has occurred. During the first 13 years of the Mandatory Oil Imports Program, dating from 1959 through 1971, total oil imports into the U.S. more than doubled. The total rose from 1,780,000 barrels daily in 1959 to 3,850,000 barrels daily in 1971, an increase in barrels per day of more than 2,000,000. Residual fuel oil, which was early de-

controlled for all intents and purposes, increased from 610,000 barrels daily to 1,583,000 barrels daily—a jump of some 973,000 barrels per day. Similarly, overland crude from Canada increased from 92,000 to 730,000 b/d, a 638,000 barrel leap. More flagrant from our viewpoint were increases in product imports resulting from a series of special authorizations to individual companies and industry segments. This import category increased from 204,000 to 602,000 b/d, a 398,000 barrel advance. Remember that originally it was widely believed that the import program would phase out product imports in this category, so that our nation's refining potential would not be exported. Still another category enjoying increases at the expense of refinery quota holders were special allowances beginning in 1966 to the petrochemical industry. From a modest start of 30,000 b/d for Districts I-IV and 2,000 b/d for District V, the totals had increased by 1971 to 106,000 b/d and 4,000 b/d respectively.

Each of these changes were justified on one ground or another, with all too little regard for the national security concept on which import limitations are based. Nor was consideration given to the stated objective of assuring domestic refiners an equitable share of imports. Result: Overseas crude quotas for refiners in District I-IV actually dropped from 675,000 barrels to 592,000 b/d, an 83,000 barrel decrease in the daily rate.

It seems obvious to us, in consequence, that the time has arrived to recognize that the original concept of allocations to refiners, to enable them to provide stimulus to adequate domestic exploration, has not worked. We need more direct participation by domestic explorers-producers if the import program is to serve the purpose of encouraging domestic exploration and drilling—and preventing an energy collapse in this country.

In TIPRO and through the Liaison Committee of Cooperating Oil and Gas Associations, we have offered plans which would allow domestic explorers to share more directly in the rapid increases in oil imports. This Administration like its predecessors promises only to keep studying the plans. And during 1971 only one major company executive, the president of Sun Oil, publicly advocated a set-aside of some portion of imports to provide a direct incentive to greater domestic exploration and development.

Unfortunately we must conclude that present Administration officials are content to criticize the effects of an inadequate oil policy—and do little more than previous Administrations to change it. Making our task more troublesome is the increasing difficulty in learning where policy is being made. Interior appears to have virtually abdicated its traditional oil-policy role; the Oil Policy Committee is bogged down in performing myriad other tasks assigned it; and White House advisers seem inclined to hip-shoot oil policy which gives insignificant weight to the national interest in a healthy home energy industry.

In fairness to the Administration, we recognize it is confronting many difficulties in trying to evolve a realistic energy policy. Some, such as the environmental problems which are thwarting offshore exploration efforts, are relatively new and immense. A hostile public attitude must be considered by any public official, and answers don't come easy. But priorities must be considered soon, and Americans cannot be left without adequate reliable energy sources.

We recognize fully that it is too late to keep oil imports from increasing at a rapid pace in the years just ahead. So no longer are domestic independents fighting the battle for markets. We don't need to sell more crude from existing fields. We need and must have—in one form or another—incentives adequate to prevent our selling crude for less than replacement cost today.

We surely know, and the government should know by now, that we can't go on living off the shelf. Drilling must be stepped up as rapidly as possible to lessen dependence upon unreliable foreign sources. Projections that our nation will soon be dependent for over half its oil needs will come true unless we start now doing something significant to prevent it.

On natural gas, it is generally recognized in both industry and government that the shortage is so severe that potential demand for this premium fuel is virtually insatiable. Yet federal officials cling to an outmoded bureaucratic structure which prevents wellhead prices from even approaching their realistic price relationship to competitive fuels.

Instead of using the period of price controls to clarify the actual status of our gas supply situation, the Administration dilly-dallied in even acknowledging that FPC price controls are more than sufficient to keep gas at the wellhead from contributing to the evils of inflation.

So severe is the gas crisis that government officials find themselves out searching for foreign supplies. Not even imports from Russia are discouraged. Astonish-

ingly, officials indicate no alarm at the prospect of paying several times as much for gas imported from such unreliable sources as for domestic gas. Adequate well-head prices would go a long way to alleviating the need for dependence upon the U.S.S.R. and the Mideast for our nation's energy requirements. What's more, realistic wellhead prices at home would still make the product available at less cost to consumers, and would not contribute to our nation's still-critical balance-of-payments problems.

Perhaps the most dramatic setback for domestic explorers during 1971 was defeat of our attempt to extend the Administration's 7 percent investment tax credit to expenditures for domestic exploration. This would have restored a significant part of the exploration funds lost in 1969 when percentage depletion was cut from 27½ to 22 percent.

What makes this defeat the more galling is that the proposal enjoyed little across-the-board industry support—and the Administration would do no more than promise to study it when the chips were down and the votes about to be taken. We suffered a humiliating 65 to 22 vote defeat in the Senate November 20, with at most 30 Senators indicating support.

Why was this nominal tax measure opposed? New England Senators argued it wasn't necessary because the petroleum industry was already favored with an oil import program. For domestic independent explorers, those who would have benefited from inclusion in the tax incentive measure, it is hardly fair to say they are favored by the present import control system.

Furthermore, those critics of percentage depletion who argue that it is relatively inefficient in encouraging domestic exploration could not make such a case against application of the investment tax credit to expenditures for exploration. Inherent in that proposal was a sort of built-in "plowback" provision, since it would apply only if and when the funds were expended in domestic exploration.

We simply failed to get over our message somehow. We were again by-passed by Congress and the Administration on a measure calculated to do what all-too-clearly needs doing. To some independents, furthermore, this appears to be another instance in which they could have used more active major company support. Even more desperately needed was some public acknowledgment from the President's Oil Policy Committee spokesmen that this was indeed a needed measure.

COURSE OF ACTION

In 1972 we plan to present the Administration several opportunities to translate their words of concern into meaningful steps to avert an energy disaster.

First, along with others, we plan to take the second step to gain acceptance by the Price Commission of our proposal to permit at least those wellhead price increases which can be obviously translated into increased productivity.

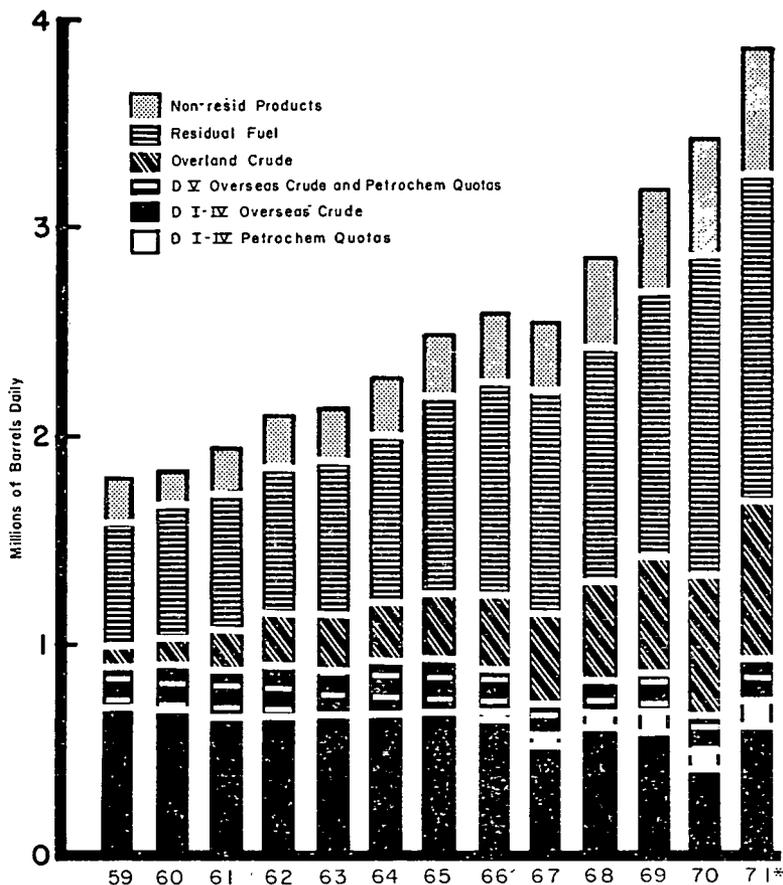
We will continue also to urge the FPC to adopt realistic pricing policies for natural gas at the wellhead.

Additionally, we will have before the Oil Policy Committee specific proposals for changes in the oil import program designed to provide more direct encouragement to domestic exploration and drilling. We have several measures bearing on the objective now under consideration—including both (a) the proposal by Sun Oil for a set-aside of some portion of increased imports earmarked to benefit domestic drilling and (b) allocation procedure changes similar to those proposed during 1971 by the president of Ashland Petroleum, the effect of which would be to distribute quotas in a manner calculated to permit higher wellhead prices with a minimal impact on consumer prices.

We hope for a forum in Congress to gain reconsideration of the tax investment credit proposal for domestic oil and gas explorers, or some similar "plow-back" tax measure, and have been given reason to expect our case will be heard by the Senate Finance and House Ways and Means Committees. This time, we hope to have support from the President's Oil Policy Committee, including the Treasury Department.

Numerous other measures will occupy our attention and may have our support. For example, we are considering support of pending legislation to require that 50 percent of all oil imported into the U.S. be carried in American-flag vessels. In general we will be carrying our case more vigorously than before to various committees of Congress and to the Administration's oil policy people. To us, it seems high time oil policy changes were made which will restore the domestic oil independent to his historic role. The energy self sufficiency of this very nation, and therefore its survival, may well depend on how effective we are in obtaining overdue energy policy changes in Washington during 1972.

TRENDS IN OIL IMPORTS UNDER THE MANDATORY PROGRAM 1959 - 1971



* 1971 data estimated.

STATEMENT OF SOUTHERN CALIFORNIA EDISON CO.

Southern California Edison Company is pleased to present comments concerning its future oil and gas fuel requirements and its proposals for revision of the Oil Import Program applicable to the importation into District V of the low sulfur oils, and other related matters. Low sulfur oils are utilized by Edison to minimize its production of air pollutants and to meet the requirements of air pollution control regulations.

Southern California Edison Company is a California corporation which generates and distributes electric energy to meet the needs of about seven million people in central and southern California. Edison's total effective operating capacity is approximately 12,400,000 kilowatts, of which approximately 8,700,000 kilowatts are from gas and oil fueled steam electric generating plants. These plants combined with the gas and oil fueled plants under construction, will require the equivalent of approximately 1,000,000,000 barrels of fuel oil during their remaining normal operating lives.

The operations of all of Edison's gas and oil fueled electric generating plants are subject to stringent air pollution control regulations which require them to

burn either natural gas or low sulfur liquid fuels containing not more than 0.5 percent sulfur by weight. These requirements cannot be met by California residual fuel oil because of its higher sulfur content.

In spite of strenuous effort over a period of more than 15 years, Edison has been only partially successful in obtaining independent gas supplies and is, therefore, almost wholly dependent upon the local gas distributing utilities for its gas fuel supplies. These gas supplies are served to Edison on an interruptible basis at lowest priority. Edison utilizes all the gas fuel made available to it and uses fuel oil only as required to supplement gas supplies.

The supply of gas fuel available to Edison is decreasing and based on advice by gas suppliers is projected to continue to deteriorate progressively through the first half of this decade. It is presently estimated that the supply of gas available to Edison in 1975, assuming no future curtailment by the out-of-state gas pipelines, will be sufficient to satisfy only about 24 percent of requirements and that Edison will therefore be required to use about 60 million barrels of supplementary oil fuel—five times as much oil as was used in 1970.

The outlook for gas supply during the second half of this decade is very uncertain. If Edison's gas suppliers' most optimistic plans for securing new increments of gas supply are realized, Edison will still be required to use between 50 and 60 million barrels per year of supplementary oil fuel during the period 1976 through 1981. If, on the other hand, no new increments of gas supply are obtained by Edison's suppliers or if what increments are obtained are needed for higher priority uses, Edison will be required to use about 90 million barrels per year during the period.

To receive, store and integrate its oil supplies with its highly variable and unpredictable gas supplies, Edison operates about 12,000,000 barrels of oil storage capacity currently, and has under construction 6,000,000 barrels of capacity and in advance planning an additional 4,000,000 barrels. Edison has the capability of receiving and storing tankship cargoes of petroleum fuels through two deep water tanker terminals, which are connected by pipeline to the storage facilities.

Edison has examined virtually every means of meeting its rapidly growing needs for supplementary low sulfur fuels. It anticipates the need to use some or all of the following means of meeting its resource requirements, and has by letter dated December 2, 1971, to General George A. Lincoln, Director of the Office of Emergency Preparedness, requested the following changes be made in the Oil Import Regulations to make low sulfur fuel resources available for importation by public service electric generating agencies:

1. Proposal: *Modification of the oil import regulation to allow electric generating agencies to import foreign crude oil for processing to low sulfur fuel oil.*

Comment: New processing facilities will be required in District V within the next few years. By the construction in District V of new crude oil processing facilities operated by Edison or jointly owned and operated by Edison with petroleum refiners, a substantial part of Edison's increasing requirement of low sulfur oil can be made available at more attractive prices than under the present regulations.

2. Proposal: *Modification of the oil import regulations to allow electric generating agencies to import foreign low sulfur residual fuel oil.*

Comment: Low sulfur residual oil is produced in Indonesia and other countries and from time to time Edison has opportunities to buy such fuel oil which is available at substantially lower costs and with higher quality with respect to sulfur content than that now available in District V.

3. Proposal: *Modification of the oil import regulations to allow electric generating agencies to import foreign low sulfur crude oil for use in electric generation.*

Comment: It has been proven practical in both Japan and in District I to burn low sulfur crude oil under steam boilers, and Edison believes that this type of fuel will be needed to meet the projected increase in its fuel oil requirements to meet electric demands. The use of low sulfur crude oil as a fuel may have economic advantages and, more importantly, it provides flexibility in fuel resources. Such crude is available in several countries—Indonesia, Peru and Ecuador are within Edison's reach.

4. Proposal: *Modification of the oil import regulations to allow electric generating agencies and gas distributing agencies to import foreign crude oil for gasification.*

Comment: Processes have been developed for producing substitute natural gas and low sulfur fuel oil from crude oil. Edison is studying the feasibility of undertaking a joint gasification project with one or more gas utilities.

The large investments necessary cannot be undertaken without long-term contracts for a supply of suitable crude oil. It is therefore essential that the oil import regulations be amended to permit imports by both electric generating and gas distributing utilities for this purpose.

5. Proposal: *Modification of the oil import regulations to allow electric generating agencies to import foreign high sulfur crude oil to be desulfurized in District V.*

Comment: Edison is studying the feasibility of building a plant to produce low sulfur fuel oil by desulfurizing high sulfur crude oil. The incremental volume of crude needed to supply such a plant is not available in the United States.

Edison has the obligation to provide at the lowest reasonable cost, indispensable and reliable electric service to meet the requirements of its customers. In order to fulfill this responsibility, it must be able to procure suitable fuels at reasonable prices which will meet stringent air pollution control requirements. Its ability to obtain low sulfur crude and residual fuel oils depends on long-term commitments made with suppliers. In addition, major investments must be made for both crude oil handling and burning facilities in existing steam generating stations and for the synthetic gas and oil production facilities referred to above. Obviously, in order to obtain financing for these facilities, Edison must be assured of the right to import the petroleum raw materials on a long term basis.

These imports should have no effect on domestic oil producers. The incremental oil supplies needed must be imported, since the U.S. oil industry is producing at essentially full capacity, and all authoritative studies agree that the present deficiency in domestic crude oil supply will inevitably increase.

Thank you for the opportunity to present this statement.

STATEMENT OF U.S. OIL WEEK

The American Petroleum Institute comment on our annual report of federal income taxes paid by the largest U.S. oil refining companies is the first attempt by petroleum sources to rebut the figures published by U.S. Oil Week annually since 1964.

The viewpoint is simply a disclaimer for the record attempting to cloud the issue. In fact the statement claims that our report doesn't show the foreign income taxes paid.

This statement shows the API writer failed to read the tops of the columns at the beginning of the table (page 4, Oct. 25, 1971) as follows:

Net income before taxes	Foreign, some states tax
Federal income tax	Profit after tax
Percentage	

Stressing the income paid by large international companies abroad evades the point. Is it proper for a U.S. company (and they are American companies aren't they?) to earn as take-home pay \$990,197,000 while paying Uncle Same a little under \$12 million in federal income tax?

It's interesting to note that few if any major oil companies report their U.S. federal income taxes in reports to shareholder. The actual figures appear only in records of the Securities & Exchange Commission in 10K files. And indeed, some companies try to keep these figures out of their 10K folders for fear Americans will get to know the actual income tax figures.

The relative secrecy of these federal tax figures has made our annual report compiling them a much sought after issue down through the years and has led to many requests for extra copies and the right to reprint the figures.

U.S. Oil Week's editorial staff compiles the figures by xeroxing the 10K report pages showing the taxes and then send the figures to its accountant who compiles the table. The figures are not published with an eye to informing tax inequities, but to report what certainly is news in the petroleum marketing industry.

The figures do not ignore the foreign tax credit provisions of the law, as the API statement fatuously claims, but are put together specifically to show the effects of foreign tax credits.

In many foreign countries major oil companies are able to have classified as income tax levies that would be treated as royalties at home. If you consider

that a royalty is deductible from the gross income as a cost of doing business, it would be wise—although possibly unethical—to have friendly foreign governments classify as much of a royalty as possible as an income tax. For the foreign government, it makes little difference what the payment is called so long as they get the money. But for the international firm, treating the payment as income tax makes it deductible from the federal income tax as a credit at home.

Very few Americans realize the tax treatment of foreign oil income and it certainly should be investigated by Congress, although there's serious doubt that the tax-writing committees—so long enamoured of the oil-producing firms—would care to bring the light of day to the subsidies they have created.

By adding in gasoline excise and other taxes, the API statement claims the industry's taxes are 20% of revenues.

The taxes collected on gasoline are actually paid by the motorist and aren't taxed on income or profits. Oil firms merely collect these sums for the federal government. The gasoline tax is used mainly to build roads and freeways creating new markets for gasoline-making companies.

[Draft, March 19, 1971]

MEMORANDUM FOR THE PRESIDENT OF THE UNITED STATES FROM
THE ATTORNEY GENERAL, DEPARTMENT OF JUSTICE, RE PETRO-
CHEMICAL FEEDSTOCKS AND THE OIL IMPORT PROGRAM

I. THE PROBLEM

Petroleum is used as a raw material for a great variety of petrochemical products. These include plastics, fertilizers, insecticides, pharmaceuticals, synthetic rubber, explosives, and many others. The petroleum feedstocks used as a raw material are of two basic kinds: (a) natural gas liquids (methane commonly used as fuel and associated gases in liquefied form), and (b) crude oil distillates (principally naphthas), which can also be used to produce gasoline. The domestic petrochemical industry has historically relied almost entirely on natural gas feedstocks. In foreign countries, where crude petroleum has been less expensive than in the United States, and where less refinery throughput is used to make gasoline, petrochemicals have been manufactured from crude oil derivatives. The domestic petrochemical industry, which hardly existed when oil import controls were imposed in 1959, has grown rapidly and competed successfully in the export market because its natural gas feedstocks have been competitive with foreign crude based feedstocks. Consequently, until now the oil import program has not been a handicap to the domestic petrochemical industry, which contributes approximately \$1.7 billion a year to the balance of payments.

These circumstances are changing. The growing demand for petrochemical feedstocks cannot be met from projected supplies of natural gas liquids. The crude oil derived feedstocks also have more product applications than natural gas feedstocks. Existing plants designed to use natural gas feedstocks will continue to do so because they cannot economically be converted to crude oil derivatives, and natural gas liquids will continue to be available as a by-product of natural gas. New plant investments, however, will be designed to use heavy liquids. Thus, for the first time, the difference in cost between domestic and foreign crude oil based feedstocks will be a factor in the economics of plant investments, and consequently, of location. And chemical producers face the prospect of becoming increasingly dependent on their competitors—the integrated oil-chemical producers—for their essential raw materials.

Petrochemical firms began receiving a share of crude import licenses in 1965. This was not for the purpose of importing feedstocks—which could not be used in the natural gas based plants—but to give the chemical companies a financial benefit equivalent to that received by refiners. These allocations have grown to account for a major part of the administrative burden of oil import controls. The majority report of the Cabinet Task Force recommended that they be phased out.

Beginning in 1969, the chemical companies requested the Cabinet Task Force, and subsequently the Oil Policy Committee, to recommend both free access to import feedstocks, and continued and increased allocations for those plants that would not be able to import their raw materials. The Task Force was unanimous in recommending that access be granted. There was a split on the continuation of allocations, with the majority recommending their termination and the separate report that they be continued.

The Oil Policy Committee has developed a different split between an access program as recommended by the Task Force, and an alternate plan which would expand the allocation program but deny access. Those who favor access would compromise on the issue of allocations to plants that cannot use imports by continuing the present allocations but gradually phasing them out.

II. THE ALTERNATE PLANS

A. AN ACCESS PROGRAM

The principle of an access program would be to permit imports outside the quota limits of the oil import program of the amount of petroleum used for the manufacture of petrochemicals. The quantities can be determined mathematically. The proposal would not be for unrestricted access, because fuel by-products—mainly residual fuel oil—result from most petrochemical manufacturing processes. The amount of fuels produced would be subject to the quota and licensing requirements of the import program. To the extent that residual fuel oil is produced, this should present no problem in District I (the East Coast) where most of the plants are likely to be built, since there are no quantitative restrictions on residual fuel oil imports in that District.

B. AN ALLOCATION PROGRAM

The distinctive features of the allocation alternatives are that (a) all petrochemical feedstock imports would be subject to the quota restrictions, with the allocations being deducted from the permitted quota levels, and (b) the amount of feedstocks made available to the chemical companies would be less than under an access program. Option I, which General Lincoln recommends, would add only 20,000 b/d over existing allocation levels, which would not be enough to meet any of the problems that have been raised. Option II would provide only about one-half of feedstock needs. So long as the quantity of imports for chemical uses is kept within the quota limits under either option, consideration should be given to the making of a finding under section 232 of the Trade Expansion Act that such imports threaten to impair the national security.

III. THE CASE FOR AN ACCESS PROGRAM

1. THE SECURITY PURPOSE OF IMPORT CONTROLS DOES NOT APPLY TO PETROCHEMICALS

The imposition of oil import controls in 1959 was based entirely on the importance of petroleum as a source of energy. Its use as a chemical feedstock was negligible and not considered in appraising the security importance of imports. It also appears that there were no imports for chemical purposes in 1959.

The use of petroleum as a chemical raw material is different in kind than its use for energy. No presumption of security importance can attach to a product by reason of its manufacture from petroleum. A trash bag or a plastic toy is no more essential to national security because it is made from petroleum rather than from paper or metal. No study has been made which shows that the imports that would result from an access program for petrochemicals would create excessive import dependence for any national security requirement. We know that some petrochemical uses are relevant to security needs, such as carbon black for use in synthetic rubber. But we also know that (a) substantial uses of petrochemicals are of no evident importance to security, and that (b) a large portion of total feedstock demand will continue to be supplied from domestic natural gas liquids even if access is permitted. There is no more reason to conclude that the end use requirements for petrochemical products require import restrictions than for any other product that has not been made the subject of a security investigation under section 232 of the Trade Expansion Act.

Moreover, the facts that (a) domestic petroleum reserves are rapidly losing their capacity to supply the domestic market and (b) chemical feedstock uses are less profitable than energy uses, mean that total import dependence on foreign sources would not be affected by granting access to chemical feedstocks. Imported feedstocks will not displace domestic production because the short supplies of domestic petroleum will tend to be used for more profitable energy purposes rather than for chemical feedstocks. As long as there is a domestic supply deficit larger than feedstock demand,¹ imported feedstocks will not

¹ Which will surely be the case. See *infra*, p. 9.

compete with domestic fuels. On the other hand, if access were denied, and chemical buyers had to bid for domestic supplies against energy consumers, every barrel diverted to chemical uses would have to be replaced by a barrel imported for energy uses. Moreover, if chemical plants are built abroad and the products imported, our dependence on foreign raw materials will be as great as if the plants were built in the United States and the feedstocks imported.

2. AN EXEMPTION FOR PETROCHEMICAL FEEDSTOCKS WILL NOT HARM THE DOMESTIC OIL INDUSTRY

It has been argued that the market for chemical feedstocks is needed to maintain an incentive for exploration and development. This is unsound for several reasons:

(1) Domestic energy demand for petroleum exceeds domestic supply by far more than the largest projections of petrochemical demand. Total feedstock imports for 1975 are projected at 420,000 barrels per day (b/d) under an access program. This would be only 9% of the Interior Department's projection of total imports (4.7 million b/d) and 6% of the Commerce Department's estimate (6.6 million b/d). The argument has also been made that the total import figures should be reduced by the amount of Canadian and residual fuel oil imports. Deducting Interior's estimates of 3 million b/d of residual fuel oil and 1 million b/d of Canadian imports in 1975 would still leave total imports of 1.7 million b/d, of which petrochemical feedstocks would be less than 25%. This leaves a wide margin for error before feedstock imports would be even as much as energy imports. Moreover, the theory on which Canadian and residual oil imports would be deducted is that they present lesser security risks (residual fuel oil on the speculative ground that other fuels could be substituted). On this theory, the nonessential and substitutable uses of petrochemical products should also be deducted. And a further deduction should be made because the import figure for petrochemical feedstocks represents about 20% residual oil as a by-product of chemical manufacture, which would be subject to the import control program and probably displace a like amount of residual oil imports.

(2) The chemical feedstock uses of petroleum are less profitable than the energy uses of the same refinery products. Consequently, imports that do not compete for the domestic energy market will not displace domestic production so long as the domestic energy deficit in petroleum continues. That deficit was approximately 23% in 1970—represented by imports—and is projected by the Interior Department to increase substantially in the future, especially after 1975.

(3) Because petroleum is an exhaustible natural resource, an indefinite expansion of consumption will tend to deplete our most secure and low-cost reserves rather than to increase supply. With the domestic industry able to supply only a decreasing proportion of the domestic energy market, the loss of an additional, and less profitable, market for feedstocks cannot have any meaningful effect on incentive.

3. DENIAL OF ACCESS WOULD HURT COMPETITION BETWEEN OIL AND CHEMICAL COMPANIES

To deny access to imported feedstocks would have highly adverse effects on domestic competition between oil and chemical companies. Petrochemicals are manufactured by both integrated oil companies and chemical companies having no significant production of crude oil or refined products. If access were denied, domestic chemical companies would be forced to purchase an increasing portion of their raw materials from integrated oil-chemical companies which are their competitors in the chemical market.

4. DENIAL OF ACCESS WOULD CREATE DISTORTIONS AND HURT THE INTERNATIONAL COMPETITIVE POSITION OF THE DOMESTIC PETROCHEMICAL INDUSTRY

Denial of access would result in higher manufacturing costs for petrochemicals in the United States which would (a) increase domestic prices, (b) decrease the export competitiveness of the domestic petrochemical industry and (c) operate as an incentive to build plants abroad rather than in the United States. The petrochemical industry is virtually unique in the degree to which its economics are sensitive to the cost of petroleum. The cost of fuel is a relatively minor item for most industries, but when petroleum is the principal raw material of a manufactured product, its price is of major competitive importance.

This is especially true for petrochemicals because the market is international and foreign competitors can obtain raw material free of the costs imposed by our own Oil Import Program. Another industry in a comparable situation is the international airlines, which are permitted to use bonded foreign fuel on international flights in which they are in direct competition with foreign firms.

Recent price increases for foreign oil do not affect any of the foregoing conclusions. Some spread between domestic and foreign prices is likely to continue; and different market conditions in Europe are likely to result in lower refinery costs for petrochemical feedstocks than in the United States even if crude prices were identical. Plants constructed in eastern Canada could take advantage of this differential—and be located to take advantage of others that may develop, without incurring any substantial locational disadvantage for U.S. markets. Moreover, a program that provides access only does not require or induce companies to use foreign feedstocks if they do not find it in their interest to do so. Nothing is lost if they decide not to import.

IV. THE CASE FOR AN ALLOCATION SYSTEM

The two arguments advanced against an access program and in favor of limited allocations are that (1) access could lead to undue dependence on foreign sources, and (2) would lead to further exceptions and weaken the import program. Precisely the opposite is true.

The reasons why an exception for petrochemicals would not harm the security objectives of the program have already been explained.² It follows that the announced rationale for permitting access would be that the security need to limit our dependence on imported energy supplies does not apply to chemical feedstocks. Rather than leading to further exceptions, this rationale would limit them. The only other significant non-energy product is asphalt. Fuel oil dealers, small refiners, and all the others that have sought special exceptions are energy users and so the ground for excepting petrochemicals would not apply to them. This rationale would also accord with the recommendation of the majority report of the Oil Import Task Force. The report criticized the exception for residual fuel oil on the ground that exceptions should be based on differing security needs—and recommended that an exception be provided for feedstocks.

On the other hand, if greater allocations were to be awarded to some plants on the theory that an incentive is needed to keep plants in the United States, any plausible economic argument for exceptions in favor of any petroleum users would be able to cite the petrochemical action as a precedent.

In addition to the disadvantages of an allocation system as a precedent for other exceptions, there would be serious problems even in its application to petrochemicals.

First, there are serious practical risks in seeking to induce investments by awarding import licenses for less than full feedstock requirements. The value of import licenses is subject to severe fluctuation, as during the past year. Such changes will undoubtedly lead to claims for increased allocations to avoid the risk of loss to investments that have become dependent on the value of import licenses. We are already receiving complaints of this kind from small refiners who receive a preference in the allocation of licenses. And the Government would be in an awkward position to resist such demands. The industry has asked for access, which, if granted, would leave companies free to take their own chances on both the price and security of imported raw material. If instead, we seek to induce investment in the United States on the basis of a level of allocations reflecting the current value of import tickets, we would, in effect, be offering the companies a price to make their investments in the United States. There would also be an artificial incentive to import feedstocks; otherwise the value of the licenses might be lost. If we do no more than remove restrictions on a limited category of imports, there would be no artificial incentive to import, and no implicit commitment by the government to adjust the level of allocations in response to fluctuations in the value of import licenses.

Second, a lesser, but important, consideration is the administrative complexity that would result from a new allocation program. The existing allocations to petrochemical producers have come to be the most complex part of the program's administration. An access program would not only avoid further complicating this system, but could pave the way for phasing out existing petrochemical alloca-

² The additional argument that refinery capacity would be exported is answered by the end use test. If the end product is not essential to security, there is no security need for the plant itself. Moreover, since foreign refineries tend to produce more naphtha than domestic refiners, the practical effect is rather to concentrate domestic refining in fuel uses rather than to displace it.

tions. In addition, foreign trade zones are a problem that would be solved under an access program but not under an allocation program. Petrochemical plants in foreign trade zones already have the advantage of access of foreign feedstocks. Because of this a license is required for shipments into foreign trade zones, although the legality of that requirement was questioned in the majority report of the Oil Import Task Force. There is thus a considerable bonus in administrative reform in avoiding a new allocations program.

V. CONCLUSION

The adoption of an access program would in no way impair the integrity of the Oil Import Program. The program proposed would require that fuel by-products of chemical production remain subject to import controls. There would be no loss of meaningful incentive to the domestic oil industry, and a very substantial danger to competition would be removed. The petrochemical industry would be given an important stimulus to added investment in the United States, which would both reduce investment abroad and increase exports. At the same time a substantial amount of administrative complexity would be avoided and much existing complexity eventually eliminated from the Oil Import Program.

COMMENTS OF S. DAVID FREEMAN ON RICHARD J. GONZALEZ' STATEMENT ENTITLED "APPRAISAL OF THE COST OF OIL IMPORT CONTROLS"

Mr. Gonzalez' statement submitted for the record on January 17, 1972, on behalf of the American Petroleum Institute as a supplement to his testimony on January 12 has been made available to me by the Committee for comment.

1. STAFF ESTIMATES OF OIL IMPORT QUOTA PROGRAM'S CONSUMER COST

Although Mr. Gonzalez said that the staff estimates are "unsupported by any evidence as to how this value was determined," the record shows that the staff estimates were based on Office of Emergency Preparedness statistics furnished to Senator Proxmire on December 3, 1971.

As a matter of fact, the committee staff estimates are much too low. They are based on figures from OEP which are much lower than the figures OEP supplied to President Nixon's Cabinet Task Force on Oil Import Control. The OEP estimates furnished to Senator Proxmire put the 1969 market value of oil import tickets at \$1.30 a barrel in District I, \$.80 in Districts II-IV and \$.95 in District V. Yet, the OEP estimates to the Task Force for the same time span were \$1.50, \$1.10 and \$.85 which in turn were similar to estimates of the Interior Department to the Task Force of \$1.40, \$1.10 and \$.95.

The staff recognized that its estimates were too low. Its estimates were entitled "minimum consumer cost." The Cabinet Task Force estimate of \$5 billion for 1969 is the generally accepted estimate which, as I pointed out in my testimony, is still a valid figure. In fact the Department of Interior has cited the \$5 billion a year figure as recently as January 15, 1972 in its Addendum to Final Environmental Impact Statement for a proposed oil and gas lease sale offshore Eastern Louisiana which it filed with the U.S. District Court for the District of Columbia. The Interior Department in discussing the advantages of removing the oil import quotas stated that:

"At present, and in the absence of international tension, imported oil would be available in quantities to meet domestic demand.

"The 'social cost' of the oil import quota system—the difference between domestic price and price of imports, which is currently paid by the consumer—would be eliminated. Estimates have placed this cost at up to \$5 billion per year."¹

2. NATURAL GAS AS AN OIL CO-PRODUCT

Mr. Gonzalez' estimate of consumer savings on natural gas because of increased oil prices resulting from the oil import quota program is based on three assump-

¹ The Oil Import Question, p. 22.

tions: (1) all natural gas availability is derived from oil exploration and development; (2) the increased revenues to the oil industry from the higher oil prices caused by the oil import quota program result in a proportionate expansion of outlays on oil and gas exploration which yield a corresponding increase in natural gas reserves; and (3) the cost savings to consumers of natural gas is equal to the difference between the projected cost of imported liquified natural gas (LNG) and the average cost of natural gas from domestic sources.

He thus estimated that consumers saved \$2.99 billion in 1970 on natural gas as a result of the oil import quota program. Actually even if we adopt his theory, the facts indicate the actual savings to be only \$314 million compared to a cost of the oil import quota program of \$5 billion.

First of all Mr. Gonzalez' analysis fails to reflect the growing ability of industry to direct their exploration toward natural gas. An analysis of where money on exploration is being spent suggests that natural gas exploration is becoming more and more separable rather than being intertwined in oil exploration activities. According to the JAS data, expenditures on gas wells have been increasing in relation to expenditures on oil wells. In 1959 expenditures on gas wells equalled 38.53 per cent of expenditures on oil wells, but by 1970 gas wells expenditures were 56.8 per cent of oil wells. Actually, 1970 outlays on oil wells were considerably lower than in 1959. Oil expenditures declined from \$1.32 billion to \$1.09 billion while gas well expenditures increased from \$509 million to \$618 million (excluding dry holes).

Actually gas is now the primary objective in exploration, in some cases. The offshore Louisiana sale of December 1970 involved gas potential. The Department of the Interior report to the Council on Environmental Quality characterizes the area as having significant gas potential and early results are in accord with that expectation. Also drilling in the deeper horizons onshore is primarily for gas.

An impartial study of the impact of oil import controls on natural gas production was made by the Cabinet Committee Task Force. The analysis is summarized in Section 207e of the Task Force Report, at pages 24-25. The conclusion is that 28 per cent of gas reserves can be attributed to oil exploration and production. Thus Mr. Gonzalez' estimate of the volume of gas affected—which assumed that the relationship was 100 per cent—should be reduced to 28 per cent of his figure.

Mr. Gonzalez also assumed that increased expenditures are proportionate to the increased receipts from higher oil prices. But during the years 1965 to 1970 as compared to 1959 to 1964 revenues were up 30 per cent while expenditures for exploration and drilling went up only 22.3 per cent. Thus increased revenues appear to yield only a $\frac{3}{4}$ increase in E & D expenditures so Mr. Gonzalez' estimate of consumer savings should be adjusted from 28 per cent to 21 per cent of his original figure.

Next he assumes that the gas which is attributable to the oil import quota program would be replaced by LNG costing 65¢ more per MCF than domestic gas. The 65¢ is the spread between the *average* cost of domestic gas and the *marginal* cost of imported LNG. The relevant comparison is with marginal cost of new domestic gas delivered to the east coast where imported LNG is to be used and not the average cost. The actual unit cost differential is about half of the 65¢ used by Mr. Gonzalez. Accordingly, the 21 per cent needs to be reduced to 10.5 per cent.

Thus, after applying Mr. Gonzalez' theory to the facts we conclude that the consumer savings on natural gas from the oil import quota program is 10.5 per cent of the \$2.99 million figure or about \$314 million as against a cost of the oil import quota program of at least \$5 billion. In other words, even if Mr. Gonzalez is right, the consumers of natural gas get a benefit worth about 6 per cent of the cost of the oil import quota program. But even this small benefit is only one of the side effects of the import program. Other side effects such as consumption foregone from the higher oil prices would add to the consumer costs. And the consumer benefits from enhanced competition as independent refiners gain access to lower price crude has yet to be quantified.

In any event I doubt that even a proponent of the present oil import controls would want to suggest that a consumer who drives a car or heats his home with oil should pay higher prices simply because gas consumers, who are primarily industrial customers, may receive some slight benefit.