INTERSTATE COMPACT ON OIL AND GAS

(10th Extension)

HEARING

BEFORE THE

SUBCOMMITTEE ON COMMUNICATIONS AND POWER

OF THE

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE HOUSE OF REPRESENTATIVES

NINETIETH CONGRESS

FIRST SESSION

ON

H.R. 6737 and H.R. 5757

BILLS CONSENTING TO AN EXTENSION AND RENEWAL OF THE INTERSTATE COMPACT TO CONSERVE OIL AND GAS

APRIL 18, 1967

Serial No. 90–5

Printed for the use of the
Committee on Interstate and Foreign Commerce

U.S. GOVERNMENT PRINTING OFFICE
78-432 O WASHINGTON : 1967

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INTERSTATE COMPACT ON OIL AND GAS

(10th Extension)

TUESDAY, APRIL 18, 1967

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COMMUNICATIONS
AND POWER, OF THE COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 10 a.m., pursuant to call, in room 2322, Rayburn House Office Building, Hon. Torbert H. Macdonald (chairman of the subcommittee) presiding.

Mr. MACDONALD. The committee will come to order.

We are meeting here this morning to take testimony on H.R. 6737, introduced by Chairman Staggers of our full committee, and H.R. 5757, which was introduced by the gentleman from Louisiana, Mr. Boggs.

Mr. Staggers' bill gives the consent of the Congress to the extension and renewal for a period of 4 years to the interstate compact to conserve oil and gas, which was entered into originally in 1935 by the States of Oklahoma, Texas, New Mexico, Illinois, Colorado, and Kansas.

The Congress gave consent to such compact by House Joint Resolution 407, approved August 27, 1935, and has consented nine times since to its extension and renewal.

Unless the Congress gives its consent to the further extension and renewal of this compact, which is now agreed to by 30 States, it will expire on September 1, 1967.

When the compact was first consented to by the Congress in 1935, it was hoped that the several oil-producing States, acting together under the compact, would be able to effect conservation of this important natural resource, prevent its waste, and give aid to the petroleum industry in its effort to promote the maximum ultimate recovery of the oil and gas reserves of each State. During the 32 years that this compact has been in force, that hope has been fulfilled in substantial and ever-increasing degree.

A compact such as the one under consideration is in complete harmony with the spirit of our form of government. It preserves the rights of each separate State, while enabling the several States, as parties to the compact, to work together on a sound program which all of them accept and endorse.

A copy of H.R. 6737, to which H.R. 5757 is identical, and reports thereon will be included in the record at this point.

(The bill, H.R. 6737, and departmental reports thereon, follow:)

[H.R. 6737, 90th Cong., 1st sess.]

A BILL Consenting to an extension and renewal of the interstate compact to conserve oil and gas

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the consent of Congress is hereby given to an extension and renewal for a period of four years from September 1, 1967, to September 1, 1971, of the interstate compact to conserve oil and gas, which was signed in the city of Dallas, Texas, the 16th day of February 1935, by the representatives of Oklahoma, Texas, California, and New Mexico, and at the same time and place was signed by the representatives, as a recommendation for approval to the Governors and Legislatures of the States of Arkansas, Colorado, Illinois, Kansas, and Michigan, and which prior to August 27, 1935, was presented to and approved by the Legislatures and Governors of the States of New Mexico, Kansas, Oklahoma, Illinois, Colorado, and Texas, and which so approved by the six States last above named was deposited in the Department of State of the United States, and thereafter was consented to by the Congress in Public Resolution 64, Seventy-fourth Congress, approved August 27, 1935, for a period of two years, and thereafter was extended by the representatives of the compacting States and consented to by the Congress for successive periods, without interruption, the last extension being for the period from September 1, 1964, to September 1, 1967, consented to by Congress by Public Law 88–115, Eighty-eighth Congress, approved September 6, 1963. The agreement to extend and renew said compact for a period of four years from September 1, 1967, to September 1, 1971, duly executed by representatives of the States of Alabama, Alaska, Arizona, Louisiana, Maryland, Michigan, Mississippi, Montana, Nebraska, Nevada, New Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Utah, West Virginia, and Wyoming, has been deposited in the Department of State of the United States, and reads as follows:

"AN AGREEMENT TO EXTEND THE INTERSTATE COMPACT TO CONSERVE OIL AND GAS

"Whereas, on the 16th day of February 1935 in the City of Dallas, Texas, there was executed 'An Interstate Compact To Conserve Oil and Gas' which was thereafter formally ratified and approved by the States of Oklahoma, Texas, New Mexico, Illinois, Colorado, and Kansas, the original of which is now on deposit with the Department of State of the United States, a true copy of which follows:

" 'AN INTERSTATE COMPACT TO CONSERVE OIL AND GAS

" 'ARTICLE I

" 'This agreement may become effective within any compacting State at any time as prescribed by that State, and shall become effective within those States ratifying it whenever any three of the States of Texas, Oklahoma, California, Kansas, and New Mexico have ratified and Congress has given its consent. Any oil-producing State may become a party hereto as hereinafter provided:

" 'ARTICLE II

" 'The purpose of this compact is to conserve oil and gas by the prevention of physical waste thereof from any cause.

" 'ARTICLE III

" 'Each State bound hereby agrees that within a reasonable time it will enact laws, or if the laws have been enacted, then it agrees to continue the same in force, to accomplish within reasonable limits the prevention of:

" '(a) The operation of any oil well with an inefficient gas-oil ratio.

" '(b) The drowning with water of any stratum capable of producing oil or gas, or both oil and gas, in paying quantities.

" '(c) The avoidable escape into the open air or the wasteful burning of gas from a natural gas well.

" '(d) The creation of unnecessary fire hazards.

" '(e) The drilling, equipping, locating, spacing or operating of a well or wells so as to bring about physical waste of oil or gas or loss in the ultimate recovery thereof.

" '(f) The inefficient, excessive or improper use of the reservoir energy in producing any well.

" 'The enumeration of the foregoing subjects shall not limit the scope of the authority of any State.

" 'ARTICLE IV

" 'Each state bound hereby agrees that it will, within a reasonable time, enact statutes, or if such statutes have been enacted that it will continue the same in force, providing in effect that oil produced in violation of its valid oil and/or gas conservation statutes or any valid rule, order or regulation promulgated thereunder, shall be denied access to commerce; and providing for stringent penalties for the waste of either oil or gas.

" 'ARTICLE V

" 'It is not the purpose of this compact to authorize the States joining herein to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof, or create or perpetuate monopoly, or to promote regimentation, but is limited to the purpose of conserving oil and gas and preventing the avoidable waste thereof within reasonable limitations.

" 'ARTICLE VI

" 'Each State joining herein shall appoint one representative to a commission hereby constituted and designated as The Interstate Oil Compact Commission, the duty of which said commission shall be to make inquiry and ascertain from time to time such methods, practices, circumstances, and conditions as may be disclosed for bringing about conservation and the prevention of physical waste of oil and gas, and at such intervals as said commission deems beneficial it shall report its findings and recommendations to the several States for adoption or rejection.

" 'The Commission shall have power to recommend the coordination of the exercise of the police powers of the several states within their several jurisdictions to promote the maximum ultimate recovery from the petroleum reserves of said states, and to recommend measures for the maximum ultimate recovery of oil and gas. Said Commission shall organize and adopt suitable rules and regulations for the conduct of its business.

" 'No action shall be taken by the Commission except: (1) by the affirmative votes of the majority of the whole number of the compacting States represented at any meeting, and (2) by a concurring vote of a majority in interest of the compacting States at said meeting, such interest to be determined as follows: such vote of each State shall be in the decimal proportion fixed by the ratio of its daily average production during the preceding calendar half-year to the daily average production of the compacting States during said period.

" 'ARTICLE VII

" 'No State by joining herein shall become financially obligated to any other State, nor shall the breach of the terms hereof by any State subject such State to financial responsibility to the other States joining herein.

" 'ARTICLE VIII

" 'This compact shall expire September 1, 1937. But any State joining herein may, upon sixty (60) days notice, withdraw herefrom.

" 'The representatives of the signatory States have signed this agreement in a single original which shall be deposited in the archives of the Department of State of the United States, and a duly certified copy shall be forwarded to the Governor of each of the signatory States.

" 'This compact shall become effective when ratified and approved as provided in Article I. Any oil-producing State may become a party hereto by affixing its signature to a counterpart to be similarly deposited, certified, and ratified.'

"Whereas, the said Interstate Compact to Conserve Oil and Gas has heretofore been duly renewed and extended with the consent of the Congress to September 1, 1967; and

"Whereas, it is desired to renew and extend the said Interstate Compact to Conserve Oil and Gas for a period of four (4) years from September 1, 1967, to September 1, 1971:

"Now, therefore, this writing witnesseth:

"It is hereby agreed that the Compact entitled 'An Interstate Compact To Conserve Oil and Gas' executed in the City of Dallas, Texas, on the 16th day of February 1935, and now on deposit with the Department of State of the United States, a correct copy of which appears above, be, and the same hereby is, extended for a period of four (4) years from September 1, 1967, its present date of expiration, to September 1, 1971. This agreement shall become effective when executed, ratified, and approved as provided in Article I of the original compact.

"The signatory States have executed this agreement in a single original which shall be deposited in the archives of the Department of State of the United States and a duly certified copy thereof shall be forwarded to the Governor of each of the signatory States. Any oil-producing State may become a party hereto by executing a counterpart of this agreement to be similarly deposited, certified, and ratified.

"Executed by the several undersigned States, at their several State capitols, through their proper officials on the dates as shown, as duly authorized by statutes and resolutions, subject to the limitations and qualifications of the act of the respective State Legislatures:

"THE STATE OF ALABAMA
"By GEORGE C. WALLACE, Governor
"Dated: Aug. 11, 1966
"Attest: MRS. AGNES BAGGETT, Secretary of State

(SEAL)

"THE STATE OF ALASKA
"By WILLIAM A. EGAN, Governor
"Dated: July 13, 1966
"Attest: HUGH J. WADE, Secretary of State

(SEAL)

"THE STATE OF ARIZONA
"By SAMUEL P. GODDARD, Governor
"Dated: March 8, 1966
"Attest: WESLEY BOLIN, Secretary of State

(SEAL)

"THE STATE OF ARKANSAS
"By ORVAL E. FAUBUS, Governor
"Dated: May 3, 1966
"Attest: KELLY BRYANT, Secretary of State

(SEAL)

"THE STATE OF COLORADO
"By JOHN A. LOVE, Governor
"Dated: January 13, 1966
"Attest: BYRON A. ANDERSON, Secretary of State

(SEAL)

"THE STATE OF FLORIDA
"By HAYDON BURNS, Governor
"Dated: June 28, 1966
"Attest: TOM ADAMS, Secretary of State

(SEAL)

"THE STATE OF ILLINOIS
"By OTTO KERNER, Governor
"Dated: January 24, 1966
"Attest: PAUL POWELL, Secretary of State

(SEAL)

"THE STATE OF INDIANA
"By ROGER D. BRANIGIN, Governor
"Dated: May 31, 1966
"Attest: JOHN D. BOTTORFF, Secretary of State

(SEAL)

"THE STATE OF KANSAS
"By WM. H. AVERY, Governor
"Dated: December 1, 1965
"Attest: PAUL R. SHANAHAN, Secretary of State

(SEAL)

"THE STATE OF KENTUCKY
"By EDWARD T. BREATHITT, Governor
"Dated: 6-6-66
"Attest: THELMA L. STOVALL, Secretary of State

(SEAL)

"THE STATE OF LOUISIANA
"By JOHN J. McKEITHEN, Governor
"Dated: November 22, 1965
"Attest: WADE O. MARTIN, JR., Secretary of State

(SEAL)

"THE STATE OF MARYLAND
"By J. MILLARD TAWES, Governor
"Dated: October 10, 1966

"Attest: LLOYD L. SIMPKINS, Secretary of State

(SEAL)

"THE STATE OF MICHIGAN
"By GEORGE ROMNEY, Governor
"Dated: 5/19/66
"Attest JAMES M. HARE, Secretary of State

(SEAL)

"THE STATE OF MISSISSIPPI
"By PAUL B. JOHNSON, Governor
"Dated: April 27, 1966
"Attest: HEBER LADNER, Secretary of State

(SEAL)

"THE STATE OF MONTANA
"By TIM BABCOCK, Governor
"Dated: Feb. 14, 1966
"Attest: FRANK MURRAY, Secretary of State

(SEAL)

"THE STATE OF NEBRASKA
"By FRANK B. MORRISON, Governor
"Dated: Jan. 31, 1966
"Attest: FRANK MARSH, Secretary of State

(SEAL)

"THE STATE OF NEVADA
"By GRANT SAWYER, Governor
"Dated: June 17, 1966
"Attest: JOHN KOONTZ, Secretary of State

(SEAL)

"THE STATE OF NEW MEXICO
"By JACK M. CAMPBELL, Governor
"Dated: 11-8-65
"Attest: ALBERTA MILLER, Secretary of State

(SEAL)

"THE STATE OF NEW YORK
"By NELSON A. ROCKEFELLER, Governor
"Dated: Nov. 28, 1966
"Attest: JOHN P. LOMENZO, Secretary of State

(SEAL)

"THE STATE OF NORTH DAKOTA
"By WILLIAM L. GUY, Governor
"Dated: Dec. 19, 1966
"Attest: BEN MEIER, Secretary of State

(SEAL)

"THE STATE OF OHIO
"By JAMES A. RHODES, Governor
"Dated: July 25, 1966
"Attest: TED W. BROWN, Secretary of State

(SEAL)

"THE STATE OF OKLAHOMA
"By HENRY BELLMON, Governor
"Dated: November 15, 1965
"Attest: JAMES M. BULLARD, Secretary of State

(SEAL)

"THE COMMONWEALTH OF PENNSYLVANIA
"By WILLIAM W. SCRANTON, Governor
"Dated: Sept. 16, 1966
"Attest: W. STUART HELM, Secretary of the Commonwealth

(SEAL)

"THE STATE OF SOUTH DAKOTA
"By NILS A. BOE, Governor
"Dated: Sept. 26, 1966
"Attest: ALMA LARSON, Secretary of State

(SEAL)

"THE STATE OF TENNESSEE
"By FRANK G. CLEMENT, Governor
"Dated: 4-18-66
"Attest: JOE C. CARR, Secretary of State

(SEAL)

"THE STATE OF TEXAS
"By JOHN CONNALLY, Governor
"Dated: October 11, 1965
"Attest: CRAWFORD C. MARTIN, Secretary of State

(SEAL)

"THE STATE OF UTAH
"By CALVIN L. RAMPTON, Governor
"Dated: 4/11/66
"Attest: CLYDE L. MILLER, Secretary of State

(SEAL)

"THE STATE OF WEST VIRGINIA
"By HULETT C. SMITH, Governor
"Dated: July 14, 1966
"Attest: ROBERT D. BAILEY, Secretary of State

(SEAL)

"THE STATE OF WYOMING
"By CLIFFORD P. HANSEN, Governor
"Dated: Jan. 18, 1966
"Attest: THYRA THOMSON, Secretary of State"

(SEAL)

SEC. 2. The Attorney General of the United States shall continue to make an annual report to Congress, as provided in section 2 of Public Law 185, Eighty-fourth Congress, for the duration of the Interstate Compact to Conserve Oil and Gas as to whether or not the activities of the States under the provisions of such compact have been consistent with the purposes as set out in article V of such compact.

SEC. 3. The right to alter, amend, or repeal the provisions of the first section of this joint resolution is hereby expressly reserved.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., May 1, 1967.

Hon. HARLEY O. STAGGERS
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives,
Rayburn House Office Building,
Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your letters of March 14, 1967, inviting the Bureau of the Budget to comment on H.R. 5757 and H.R. 6737, bills "Consenting to an extension and renewal of the interstate compact to conserve oil and gas."

Enactment of either of these bills would serve to extend the Interstate Compact to Conserve Oil and Gas until September 1, 1971.

The Bureau of the Budget would have no objection to the enactment of either of these measures.

Sincerely yours,

(Signed) Wilfred H. Rommel
WILFRED H. ROMMEL,
Assistant Director for Legislative Reference.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 18, 1967.

Hon. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives,
Washington, D.C.

DEAR MR. STAGGERS: Your committee has requested a report on H.R. 6737, a bill "Consenting to an extension and renewal of the interstate compact to conserve oil and gas." This report applies equally to H.R. 5757, an identical bill.

We recommended enactment of the bill.

The bill would approve an extension and renewal of the Interstate Compact to Conserve Oil and Gas for a period of four years, changing the expiration date from September 1, 1967, to September 1, 1971.

The Compact was originally approved by six member States and presented to the Congress in 1935. It was approved by the Congress at that time, and it has been extended periodically with an increasing number of member States. Last extended from September 1, 1963, to September 1, 1967 (Public Law 88–115), the present agreement, which has been executed by 29 States, would extend the Compact to September 1, 1971.

As stated in the articles of agreement, "The purpose of this compact is to conserve oil and gas by the prevention of physical waste thereof from any cause. It is not the purpose of this compact to authorize the states joining herein to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof, or create or perpetuate monopoly, or to promote regimentation, but is limited to the purpose of conserving oil and gas and preventing the avoidable waste thereof within reasonable limitations."

The Interstate Oil Compact Commission was established in 1935 to carry out the objectives of the Compact. The Commission provides a forum for free discussion of oil and gas conservation practices and related problems and the study of State conservation laws, regulations, and administrative procedures. Through the many technical and specialized committees organized through the initiative of the Compact Commission, considerable information of value to the conservation of oil and gas has been developed. The Commission also provides a medium for informing the public of the necessity for oil and gas conservation and the methods by which this conservation can be achieved.

We believe that extending the Compact as proposed in H.R. 6737 would be very much in the national interest.

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely yours,

J. CORDELL MOORE,
Assistant Secretary of the Interior.

DEPARTMENT OF STATE,
Washington, D.C., April 18, 1967.

Hon. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

DEAR MR. CHAIRMAN: The Secretary has asked me to reply to your letters of March 14, 1967, requesting a report on H.R. 5757 and H.R. 6737, bills "Consenting to an extension and renewal of the interstate compact to conserve oil and gas".

The Department of State perceives no objection to the proposed legislation to extend and renew the Interstate Company for four years from September 1, 1967 to September 1, 1971.

The Bureau of the Budget advised that from the standpoint of the Administration's program there is no objection to the submission of this report.

Sincerely,

WILLIAM B. MACOMBER, Jr.,
Assistant Secretary for Congressional Relations.

OFFICE OF THE ATTORNEY GENERAL,
Washington, D.C., May 2, 1967.

Hon. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives,
Washington, D.C.

Dear MR. CHAIRMAN: This is in response to your request for the views of the Department of Justice on H.R. 6737, a bill "Consenting to an extension and renewal of the interstate compact to conserve oil and gas."

The Interstate Compact to Conserve Oil and Gas, to which thirty States are now signatory, is intended to foster action by oil-producing States to conserve resources of oil and gas by ending wasteful production practices. It was originally entered into in 1935, and has since been periodically extended. Consent to the previous four year extension expiring September 1967, was given by Public Law 88–115, 88th Congress, 77 Stat. 145. The current bill would provide consent for a further period of four years, to September 1, 1971.

Section 2 of the bill would direct annual report by the Attorney General on the activities of the States thereunder. Section 3 would declare the reservation of right by Congress to alter, amend or repeal the provisions granting consent to the Compact.

This Department has no objection to the extension of the Compact, and urges the desirability of the reservation provisions of Section 3 as usual and appropriate in such legislation.

However, the Department of Justice recommends that the proposed Section 2 be amended in its requirement for annual report, to provide a more realistic reporting period. This Section, originally enacted as part of the 1955 Compact extension resolution, requires annual report by the Attorney General as to the impact of State conservation activities under the Compact on competition in the oil industry. The reports so far filed have reviewed in detail the existing structure of the conservation regulatory system and the relevance of its various parts to competition in the oil industry.

However, the structure of this system has not been fundamentally altered over recent years, and activities of the States under the Interstate Compact have not changed from year to year in a manner which would require separate annual reports. At the same time, since the competitive significance of actions taken under the Compact can be understood only in the context of an analysis of the structure and competitive behavior and performance of the oil industry, meaningful reports on this system require extensive investigation, taxing the Department's limited personnel without commensurate benefit. The department of Justice may also be placed in the difficult position of being required to report on industry practices while in the process of investigating these practices for possible violations of the law.

In view of these considerations, we believe that the interest of Congress in obtaining a thorough and meaningful analysis by the Department of the competitive implications of the oil conservation system can be accommodated with the difficulties inherent in annual reporting by requiring a single report for the current extension period. This would permit the Department to give more thorough consideration to the competitive problems raised by this system and would assure that Congress would have the benefit of the Department's views prior to any consideration of extension and renewal of the Compact. Quadrennial reporting would also minimize possible conflicts between antitrust investigations and the obligations to file reports with the Congress. To accomplish this, Section 2 should be amended to read as follows:

"SEC. 2. The Attorney General of the United States shall make a report to Congress not later than December 31, 1970, as to whether or not the activities of the States under the Interstate Compact to Conserve Oil and Gas have been consistent with the purpose as set out in article V of such compact.

The Bureau of the Budget has advised that there is no objection to the submission of this report from the standpoint of the Administration's program.

Sincerely,

RAMSEY CLARK,
Attorney General.

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE,
Washington, D.C., April 18, 1967.

Hon. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in reply to your request for the views of the Department of Defense with respect to H.R. 6737, 90th Congress, a bill "Consenting to an extension and renewal of the interstate compact to conserve oil and gas."

The purpose of the legislation is to secure the consent of Congress for the extension and renewal of an interstate compact to conserve oil and gas for the period of four years beginning on September 1, 1967, until September 1, 1971. As stated in the bill, Congress originally consented to the interstate compact in 1935 for a period of two years, and the compact was thereafter extended by the States and consented to by the Congress for successive periods without interruption. The last such extension was a period from September 1, 1964, to September 1, 1967.

Oil and gas are resources that are essential to national security. Accordingly, the conservation of these resources is supported, and the Department of Defense favors the enactment of this bill.

The Bureau of the Budget advises that, from the standpoint of the administration's program, there is no objection to the presentation of this report for the consideration of the committee.

Sincerely yours,

PAUL C. WARNKE,
General Counsel.

FEDERAL POWER COMMISSION,
Washington, D.C., April 25, 1967.

Re identical bills, H.R. 6737 (Staggers), and H.R. 5757 (Boggs).

Hon. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce, House of Representatives, Rayburn House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: In response to your requests of March 14, 1967, we enclose the report of the Federal Power Commission on the subject bills.

We contemplate release of this report by the Commission to the public within three working days from the date of this letter unless there is a request that its release be withheld.

The Bureau of the Budget advises us that there would be no objection to the presentation of this report from the standpoint of the program of the President.

Sincerely,

JOHN A. CARVER, Jr.,
Vice Chairman.

FEDERAL POWER COMMISSION REPORT ON H.R. 5757 AND H.R. 6737 90TH CONGRESS

IDENTICAL BILLS "CONSENTING TO AN EXTENSION AND RENEWAL OF THE INTERSTATE COMPACT TO CONSERVE OIL AND GAS"

Identical bills, H.R. 5757 and H.R. 6737, would grant the consent of Congress to the extension and renewal for a period of four years from September 1, 1967 to September 1, 1971 of the Interstate Compact to Conserve Oil and Gas.

The Interstate Compact to Conserve Oil and Gas was originally approved by Congress in 1935 for the purpose of conserving these irreplaceable natural resources. Extensions and renewals of the Compact have been continuously granted by Congress, with the current 4-year extension period running to September 1, 1967.[1] The Interstate Oil Compact Commission created by the Compact is composed of representatives of the member States, and has continuously functioned under that authority.

The Compact enables the signatory States to work together voluntarily to develop and improve conservation programs and thereby accomplish desirable ends which might otherwise remain unfilled, while at the same time preserving the rights and responsibilities of each of the separate States. It appears to the Federal Power Commission that the Compact is in harmony with our Federal form of Government.

Section 11(b) of the Natural Gas Act [52 Stat. 827; 15 U.S.C. 717j (b)] requires the Federal Power Commission "to assemble and keep current pertinent information relative to the effect and operation of any compact between two or more States heretofore or hereafter approved by the Congress, to make such information public, and to report to the Congress from time to time, the information so obtained together with such recommendations as may appear to be appropriate or necessary to promote the purposes of such compact." In accordance with this provision of the Gas Act, the Federal Power Commission has maintained a continuing interest in the Interstate Oil Compact Commission, and has been represented at the meetings of the Oil Compact Commission, thereby keeping informed of the work of that organization. The Power Commission's annual reports to Congress describe the functioning of the Interstate Oil Compact Commission and our relationship to the work of that body. (See *FPC Forty-sixth Annual Report* (1966), p. 140.)

The Interstate Oil Compact Commission, which is a regular source for statistical information, is increasing its efforts in gathering more meaningful gas data. This data is not only helpful in our regulatory work but could be useful in connection with a propspective national gas survey.

The Power Commission has consistently given its support to the Interstate Oil Compact Commission when the extension of the latter's basic authority has been before the Congress. We believe continuance of the Compact organization is important to the conservation of the Nation's natural gas supplies, and that the Compact Commission's program should be continued and fully supported. We favor adoption of either bill.

FEDERAL POWER COMMISSION,
JOHN A. CARVER, Jr., *Vice Chairman.*

[1] Public Law 88-115, Sept. 6, 1963, 77 Stat. 145.

Mr. MACDONALD. We will hear first this morning from our colleague, Representative Hale Boggs, who has introduced H.R. 5757. Mr. Boggs, you may proceed.

STATEMENT OF HON. HALE BOGGS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF LOUISIANA

Mr. BOGGS. Mr. Chairman, and members of the Subcommittee on Communications and Power: The Interstate Oil Compact Commission has been a great success, and I am pleased to recommend the extension and renewal of this important interstate compact to conserve our oil and gas resources.

The establishment of this compact in 1935 has proved to be a vital step forward in conserving from waste one of our Nation's most critical assets. It has brought stability to the petroleum industry, so significant a part of our economy. This compact is an outstanding example of a positive cooperative effort between the member States and the National Government.

Article 11 of the compact states very succinctly that "the purpose of this compact is to conserve oil and gas by the prevention of physical waste thereof from any cause." The fact is, Mr. Chairman, that more than 15 billion barrels of oil—and this may be a conservative estimate—have been saved by virtue of the implementation of the provisions of the compact. The savings of natural gas over the past 32 years are inestimable.

Twenty-nine States, including my own State of Louisiana, which are parties to this compact, have profited from its constructive provisions. I can tell you that my State is more dependent on the oil and gas industry for its economic strength than is any other State in America. The fact is that more than $1 million in taxes and fees is generated for my State every day of the Year—and this represents more than half of all the income which Louisiana realizes from any State source. And 95,000 Louisiana citizens depend on the petroleum industry for employment—one out of every seven covered under the employment security law. Furthermore, in my State, $2 million per day is invested in the cost of drilling and equipping oil and gas wells or drilling dry holes—the largest capital investment in Louisiana. Some $2.2 million is spent per day by Louisiana refineries for the oil they process.

There are many other salient factors I could cite on the tremendous impact of oil and gas on the economy of my State. I am certain the same can be said for the other member States to this compact.

I urge the subcommittee to report favorably this 4-year extension of the Compact Commission from September 1, 1967, to September 1971.

Thank you.

Mr. MACDONALD. Thank you, Mr. Boggs.

We will hear next from Representative John Bell Williams, who has a statement in support of H.R. 5757.

STATEMENT OF HON. JOHN BELL WILLIAMS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MISSISSIPPI

Mr. WILLIAMS. Mr. Chairman, I am pleased to have this opportunity to present my views in support of H.R. 5757, a bill which would give the consent of Congress to an extension and renewal for a period of 4 years to the interstate compact to conserve oil and gas.

The compact has existed since August 27, 1935, when Congress consented to the agreement signed at Dallas, Tex. the previous February 16, by the States of Oklahoma, Texas, New Mexico, Illinois, Colorado, and Kansas. Mississippi later became a signatory.

The compact, since its inception, has made significant contributions by providing the means for exchanging information on oil and gas conservation practices, and thus eliminating waste. The compact's administrative agency, the Interstate Oil Compact Commission, dedicates itself to promoting the most efficient production practices and obtaining the maximum ultimate recovery.

It is vital to our national defense and our economic welfare that we conserve our petroleum resources. Oil and gas producing States, under the compact, have done a magnificent job in this direction through the exchange of technical and economic data; the study of State laws and administrative procedures; and through promotion of free discussion and the interchange of ideas and theories.

No rights or powers are surrendered by the individual States by reason of the compact. All actions and recommendations of the Commission are voluntarily accepted or rejected by the States. The compact permits the States to coordinate all efforts aimed at conserving this important natural resource, beyond the capacity of separate action.

It is important to the people of Mississippi that we be fully informed on matters relating to the conservation of oil and gas. The livelihood of many Mississippians is dependent on a healthy petroleum extracting industry. It may be of interest to the subcommittee to present a summary of oil activity in Mississippi.

Production of crude petroleum and condensate in Mississippi in January 1967, totaled 4,679,000 barrels—1.2 percent below that of December 1966, and 3.4 percent below that of January 1966.

In November 1966, the five refineries in Mississippi processed 4,710,852 barrels of crude oil—an increase of 1,991,650 barrels over the 2,719,202 barrels processed during October 1966.

In November 1966, there were 73 test wells completed in Mississippi—40 field development wells and 33 exploratory wells. Eighteen of the field development wells and 30 of the exploratory wells turned out dry and thus were abandoned—leaving 25 new producible wells.

On November 30, 1966, there were in Mississippi 320 oil pools and 55 gas pools producing in 301 fields—with 3,495 producible wells.

I heartily favor renewal and extension of the interstate compact to conserve oil and gas, and express the hope that your subcommittee, and the Congress, will approve this worthwhile legislation.

Thank you.

Mr. MACDONALD. Thank you for your views, Mr. Williams.

Our next witness is Mr. Joseph J. Simmons III, Assistant Director, Office of Oil and Gas, Department of the Interior. Would you come forward, please, sir.

STATEMENT OF JOSEPH J. SIMMONS III, ASSISTANT DIRECTOR, OFFICE OF OIL AND GAS, DEPARTMENT OF THE INTERIOR

Mr. SIMMONS. It is a distinct honor and pleasure for me to appear before this committee for the purpose of making a statement in support of the extension of the authority for the interstate oil compact to conserve oil and gas. On 10 previous occasions, the Congress has given its approval of the compact.

The Interstate Oil Compact Commission, which was created in 1935, is a cooperative advisory body which provides a forum for interstate cooperation. The purpose of the compact is to conserve oil and gas by the prevention of physical waste thereof from any cause and to further efficient practices in oil and gas production, and to preserve to the States their fundamental rights of local self-government.

Since the creation of the compact, 30 States concerned with the conservation of their oil and gas have ratified the compact and three other prospective oil and gas producing States participate as associate members. Also, official observers are welcomed as representatives of the Departments of Defense, Interior, Justice, and Federal Power Commission; of Venezuela and Colombia; and of Alberta and Saskatchewan, Canada.

The Interstate Oil Compact Commission is the administrative agency organized to carry out the functions of the compact. The Commission is composed of the Governors of the member States who have authority to appoint an assistant, called an "official representative." Committee members, appointed by the Commission, are chosen from the best legal, technical, and engineering talent in the Nation.

It is through the expert guidance of the committee members that makes possible the valuable research on petroleum resources, scientific and technological advancements in production, secondary recovery and pressure maintenance, leasing, physical and underground waste, and regulatory practices.

Petroleum is one of our most vital resources. The responsibility of producing this irreplaceable resource without waste rests upon the oil and gas producing States and the Federal Government. The IOCC, acting as an interstate advisory committee, furnishes facilities for the States, by cooperative action, to perform this obligation in the public interest.

The adequacy of the domestic petroleum supply system is also a responsibility of the State and Federal Governments. The Department of the Interior, charged with the responsibility of assuring the sufficiency of future supplies of fossil fuel resources of the Nation, as administrator of the public lands, as administrator of the oil import control program, and of Connally Act compliance if necessary, has a proprietary interest with the States in the conservation practices which are used to insure wise and efficient use of these resources. More than one-third of the total land area of the United States is Federal land from which is produced 13.1 percent of the crude oil and almost 10 percent of the natural gas in the United States (1965 figures).

In an effort to maintain a condition of health and activity in the domestic industry, some thought must be given toward the conserva-

tion of our resources by the prevention of early abandonment of marginal reserves.

The conservation of our domestic petroleum reserves by prevention of waste and obtaining the maximum permissible recovery is essential to our national security.

The compact has played a very prominent role in the substantial progress that has been made in oil conservation. As a result of a suggestion by the Department of the Interior to the Interstate Oil Compact Commission, the Governors' Special Study Committee, which was a special committee appointed to objectively study the conservation regulations of the oil producing States, recently issued a publication entitled "A Study of Conservation of Oil and Gas." This very comprehensive study again demonstrated that the Interstate Oil Compact Commission is the most logical body through which various State governments may work to develop a solution to their many common problems.

The Commission last year volunteered its support of and cooperation with the Federal interagency statistical program for which the Department of the Interior has been given the lead responsibility. The offer was gratefully accepted, and to implement its proposal, the Commission appointed a Statistical Subcommittee of its Energy Resources Committee to assist the Department of the Interior in its development of the Federal petroleum statistics program. Representatives of the Commission and the Department have been in continuous communication, and a productive relationship has been established.

I recommend that congressional approval be granted for the continuation of the authority for the Interstate Oil Compact Commission to continue its favorable conservation activities.

Mr. MACDONALD. Thank you very much, Mr. Simmons.

Actually it doesn't come under your Department, but I know that you must work closely with the Department of Justice on this bill in the antitrust aspects.

On page 15 of H.R. 6737, section 2, which is a carryover from the bill as last passed by the Congress, talks about the Attorney General of the United States continuing to make an annual report to Congress as provided in section 2 of Public Law 185, et cetera, for the duration of this compact.

Mr. SIMMONS. Yes, sir.

Mr. MACDONALD. Actually, as I recall, the report was due last September and it would have come to this committee and, as I recall, it has not ever been seen by the committee. I know it has not been seen by this member of the committee, and I don't believe it has been seen by the staff.

I was wondering if you could give us a sort of wrap-up of the status of the report.

Mr. SIMMONS. I haven't seen it, sir, and I understand that it should have been forthcoming a couple of months ago at least. We have not received a copy of it at Interior yet.

Mr. MACDONALD. Have you made inquiry of the Department about it?

Mr. SIMMONS. I have not personally, sir, but there was some concern about it a month ago because within the Office of Oil and Gas I was asked if I had seen such a report by the Director of our Office and we delved back into the records to find when the last one was re-

ceived, and I reported my findings to him that we had not received it, and what the Director of the Office of Oil and Gas did, whether or not he conferred with Mr. Lamont over at Justice or just what happened, I cannot say.

Mr. MACDONALD. The reason I bring up the point is that obviously, if the provisions governing the compact are not being lived up to, it would seem difficult to have this committee go ahead and pass a bill such as this which is not controversial really, because I think most people support the purposes of it. However, if the departments don't live up to what they have agreed to, then it makes it a little difficult, and I was wondering if you had any suggestion along that line as to what this committee should do?

Mr. SIMMONS. The only thing, sir, that I can say is that in the past the Justice Department has given its blessings to the compact and I am hoping that maybe the history that has existed in the past might so guide.

Mr. MACDONALD. There are many times that I would like the blessings of the Justice Department, but this time I would be more interested in their report.

Mr. SIMMONS. I would say the content of the report seemed to give its blessing, sir.

Mr. MACDONALD. But I haven't seen the report and you say you haven't either.

Mr. SIMMONS. Not the last one, sir.

Mr. MACDONALD. Is there some way that, this committee making demand on the Department of Justice, someone in your shop can talk to someone over there and get the report to us?

Mr. SIMMONS. We can pursue it immediately, sir.

Mr. MACDONALD. I wish you would.

Mr. SIMMONS. Yes, sir.

Mr. MACDONALD. Mr. Ottinger?

Mr. OTTINGER. What does the Commission actually do? This is my first exposure to this and the requirements of the act are rather vague. It is supposed to conserve oil and gas. Can you give us a brief outline?

Mr. SIMMONS. The most recent thing that they have done, sir, is the study that I referred to in my prepared statement. Secretary Kelly, who is the former Assistant Secretary for Resources for Interior, undertook to make this study of the conservation of oil and gas. It was a very thorough study in that it is the first time that this had been done. Each State has its own statutes and rules and regulations governing the oil and gas that is produced in that particular State.

A need has been found for a uniform set of standards to be practiced throughout the States. This study points up the deficiencies that some particular States might have in their oil and gas regulations, and once these deficiencies are pointed up, it is incumbent upon the States to enact legislation so that these deficiencies might be overcome.

There are any number of studies that have been prepared in the past prior to my coming to Interior that I think have been of immense benefit to the oil and gas producers in the Nation.

Mr. OTTINGER. Can you give us any examples of actions taken by the Commission other than requiring studies which are very useful?

Has it made any requirements with respect to State laws that should be enacted?

Mr. SIMMONS. This is a voluntary organization, and they don't have any jurisdiction over these States whatsoever. They can only suggest that they do these things.

Mr. OTTINGER. How often does the Commission meet?

Mr. SIMMONS. The Commission meets twice a year, in December and in June, and they have reports of these committees and the studies that they undertake, that they might be engaged in at this particular time.

Mr. OTTINGER. How are the expenses of the Commission borne?

Mr. SIMMONS. To the best of my knowledge, the expenses of the Commission are borne by voluntary contributions of the States. If any State does not contribute, that is their business; but by and large most States contribute.

Mr. OTTINGER. Do you think it performs a useful function?

Mr. SIMMONS. I certainly do, sir.

Mr. OTTINGER. I have nothing further.

Mr. MACDONALD. Mr. Broyhill.

Mr. BROYHILL. No questions, Mr. Chairman.

Mr. MACDONALD. Mr. Harvey.

Mr. HARVEY. As I understand this, Mr. Simmons, this is a usual extension of this. It has been extended 10 times in the past?

Mr. SIMMONS. Yes.

Mr. HARVEY. This is a 4-year extension rather than a 2-year?

Mr. SIMMONS. Yes; right. There were three 2-year extensions granted after the compact was formed in 1935, and after 1943 there were 4-year extensions, and six times we have granted 4-year extensions and three times we have granted 2-year extensions, sir, a total of nine.

Mr. HARVEY. I see. I have no further questions.

Mr. MACDONALD. Mr. Brotzman.

Mr. BROTZMAN. Thank you, Mr. Chairman.

Mr. Simmons, there are 30 States I believe according to your statement here that are concerned with the conservation of oil and gas and have ratified the compact. Do these 30 States number most of the oil producing States of the Union?

Mr. SIMMONS. I have them right here, sir, and they are oil producing States. They are not all of the States, sir.

Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Montana, Nebraska, Nevada, New Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, and Wyoming, and three associate States, Georgia, Idaho, and Oregon.

Mr. BROTZMAN. As a result of the studies from the Commission do States normally pass laws that are germane to this particular subject? Is that what I understand?

Mr. SIMMONS. Yes, sir. This is not as easy as it sounds. They try to pass legislation to correct the inequities in their conservation laws, and then from the statutes that are passed the oil and gas regulations are formed by the regulatory body in each State.

Mr. BROTZMAN. I have no further questions.

Mr. HARVEY. Mr. Chairman, could I ask just one question?

Mr. MACDONALD. Of course, Mr. Harvey.

Mr. HARVEY. Does the Commission have anything to do with safety regulations concerning the transmission of gas?

Mr. SIMMONS. I would think not, sir.

Mr. HARVEY. Has it considered that at all at its meetings?

Mr. SIMMONS. We have with us Mr. Lawrence Alley from the Interstate Oil Compact Commission. I have attended only one meeting since I have been a Federal employee.

Mr. HARVEY. I have no further questions.

Mr. MACDONALD. Thank you very much, Mr. Simmons.

To follow up my original question, could you furnish to the committee copies of the correspondence that your people send to the Department of Justice and what they send back to you?

Mr. SIMMONS. You mean our most recent correspondence?

Mr. MACDONALD. Asking for compliance or what has happened to this report that should have been sent last September.

Mr. SIMMONS. I will get into this right away, sir.

Mr. MACDONALD. Would you let us see copies of the correspondence, please.

Mr. SIMMONS. If we have such I am sure there must be correspondence there and I will certainly give it to you, sir.

Mr. MACDONALD. I take it that you will correspond with them after this meeting.

Mr. SIMMONS. Yes, sir.

Mr. MACDONALD. I would like copies of that, too, please.

Thank you very much, Mr. Simmons.

Mr. SIMMONS. Thank you.

(The correspondence referred to follows:)

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 21, 1967.

Hon. DONALD F. TURNER,
Assistant Attorney General,
Antitrust Division,
Department of Justice
Washington, D.C.

DEAR MR. TURNER: On April 18 members of the staff of the Office of Oil and Gas, Department of the Interior, appeared before the Communications and Power Subcommittee of the House Committee on Interstate and Foreign Commerce in public hearings on H.R. 6737 which would extend the Interstate Compact to Conserve Oil and Gas.

Mr. J. J. Simmons, III, Assistant Director of the Office of Oil and Gas, presented a prepared statement and answered questions propounded by the Subcommittee members. Mr. Simmons was specifically requested by the Subcommittee Chairman, Rep. T. H. Macdonald, to contact the Department of Justice to "determine why the Attorney General had not filed the latest annual report as required by section 2 of the enabling statute."

The request of the Subcommittee Chairman is transmitted to you for your information.

Sincerely yours,

J. CORDELL MOORE,
Assistant Secretary of the Interior.

DEPARTMENT OF JUSTICE,
Washington, D.C., May 9, 1967.

Hon. TORBERT H. MACDONALD,
Chairman, Subcommittee of Communications and Power, Interstate and Foreign Commerce Committee, House of Representatives, Washington, D.C.

DEAR CONGRESSMAN MACDONALD: In the course of testimony before the Communications and Power Subcommittee of the House Committee on Interstate and

Foreign Commerce, you requested an Interior Department witness to inquire on your behalf into the status of the annual report of the Attorney General as required by the 1963 statute approving the Interstate Compact to Conserve Oil and Gas (77 Stat. 145). A proposed report is now in the process of editing and review, and I am hopeful that it can be issued in the very near future.

Sincerely yours,

DONALD F. TURNER,
Assistant Attorney General, Antitrust Division.

MAY 19, 1967.

Hon. DONALD F. TURNER,
Assistant Attorney General, Antitrust Division,
Department of Justice, Washington, D.C.

DEAR MR. TURNER: I am in receipt of your letter of May 9 relating to the testimony before our Subcommittee by a witness from the Interior Department as to the status of the annual report of the Attorney General required by the statute approving the interstate compact to conserve oil and gas.

I note that you indicate that the proposed report is now in the process of editing and review and that you state that you were hopeful that it could be issued in the very near future.

Inasmuch as the Subcommittee is desirous of considering the action which should be taken upon reporting out the bill which is before us, which would extend the interstate compact to conserve oil and gas for another four years, I am writing to inquire whether the report now is ready and can be made available to the Committee. We do have some time before the Act terminates next September, but I should like to move forward with the consideration of this bill and thus would like to have this report at your very earliest convenience.

Sincerely yours,

TORBERT H. MACDONALD,
Chairman, Subcommittee on Communications and Power.

DEPARTMENT OF JUSTICE,
Washington, May 24, 1967.

Hon. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives,
Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your recent letter suggesting that the submission of our annual report on the operations of the interstate oil compact would make it easier to evaluate our proposal that on renewal of the Act it be amended to provide for a report only every four years.

We deeply regret that our report is, as you indicate, now several months overdue. We have been in the process of preparing a more extensive staff study than is normally submitted, and this has taken more time than we had anticipated. However, a draft of the study has been completed and is being reviewed; and I hope to submit the required report within the next two weeks.

Sincerely,

RAMSEY CLARK, *Attorney General.*

DEPARTMENT OF JUSTICE,
Washington, May 31, 1967.

Hon. TORBERT H. MACDONALD,
Chairman, Subcommittee of Communications and Power, Interstate and Foreign Commerce Committee, House of Representatives, Washington, D.C.

DEAR CONGRESSMAN MACDONALD: Your letter of May 19 to Mr. Turner asked the present status of the current Interstate Oil Compact report.

The current report is still undergoing revision, and therefore is not yet ready for submission. It will be completed as rapidly as possible and we anticipate that this will be well before the expiration of the Compact. We appreciate your desire to move the renewal legislation forward and will make the report available as soon as we are able to do so.

Sincerely yours,

EDWIN M. ZIMMERMAN,
Acting Assistant Attorney General, Antitrust Division.

JUNE 6, 1967.

Hon. EDWIN M. ZIMMERMAN,
Acting Assistant Attorney General, Antitrust Division,
Department of Justice, Washington, D.C.

DEAR MR. ZIMMERMAN: This will acknowledge your letter of May 31 replying to my inquiry of May 19 of Mr. Turner, regarding the status of the current interstate oil compact report. I note that you indicate the current report is still undergoing revision and that you anticipate that this will be completed well before the expiration of the compact.

It is my understanding that under date of May 24, Attorney General Clark wrote Chairman Staggers and expressed the hope that the required report would be submitted within the next two weeks. We should look forward to the arrival of the report so that we may give it study in our consideration of the extension of the compact.

Sincerely yours,

TORBERT H. MACDONALD,
Chairman, Subcommittee on Communications and Power.

JULY 25, 1967.

Hon. DONALD F. TURNER,
Assistant Attorney General,
Antitrust Division, Department of Justice,
Washington, D.C.

DEAR MR. TURNER: In the letter of May 31 to me from Mr. Edwin M. Zimmerman, Acting Assistant Attorney General, replying to my inquiry of May 19 regarding the status of the current interstate oil compact report, he indicated that this report was still undergoing revision but that it would be completed as rapidly as possible sometime well before the expiration of the compact.

In Attorney General Clark's reply of May 24 to Chairman Staggers of the Committee, I understand that he indicated the required report would be ready within a few weeks.

As you know, the compact expires the end of August. Before that time I have desired that our committee act on the proposed extension of this compact and in order to do so we must have before us your comments. I think calling on you for a copy of this report, which the present statute requires be made annually, is most appropriate in the light of the proposal made by the Attorney General's letter of May 2, that the law be amended to relieve the Department of making this on an annual basis.

I should very greatly welcome your letting me know the status of this report as well as your furnishing me with a copy of it so that we could go forward with the legislative program. I am certain that you well recognize that this is difficult to do without adequate time.

Sincerely yours,

TORBERT H. MACDONALD,
Chairman, Subcommittee on Communications and Power.

DEPARTMENT OF JUSTICE,
Washington, August 9, 1967.

Hon. TORBERT H. MACDONALD,
Chairman, Subcommittee on Communications and Power,
Commitee on Interstate and Foreign Commerce,
House of Representatives,
Washington, D.C.

DEAR CONGRESSMAN MACDONALD: Your letter of July 25 asks information on the current status of the report due under the Interstate Oil Compact Joint Resolution.

The original of the report was sent to the Government Printing Office for reproduction under date of July 5, 1967. Despite very considerable effort to get that agency to expedite the printing job, we are currently informed that at the earliest it will be available within the next week.

I regret that this unforeseen delay has inconvenienced you. We will most certainly forward copies to you and your Subcommittee as soon as they are available.

Sincerely yours,

EDWIN M. ZIMMERMAN,
Acting Assistant Attorney General, Antitrust Division.

OFFICE OF THE ATTORNEY GENERAL,
Washington, D.C., Aug. 15, 1967.

Hon. JOHN W. MCCORMACK,
Speaker of the House of Representatives,
Washington, D.C.

DEAR MR. SPEAKER: I have the honor to transmit the Report of the Attorney General pursuant to section 2 of Public Law 88–115, the Joint Resolution of September 6, 1963, consenting to the renewal of the Interstate Compact to Conserve Oil and Gas.

Sincerely,

RAMSEY CLARK, *Attorney General.*

REPORT

OF THE

ATTORNEY GENERAL

PURSUANT TO SECTION 2 OF THE JOINT RESOLUTION
OF SEPTEMBER 6, 1963, CONSENTING TO AN INTERSTATE
COMPACT TO CONSERVE OIL AND GAS

July, 1967

Report No. 16-8

This report is submitted pursuant to the Joint Resolution of September 6, 1963 1/ according Congressional consent to the Interstate Compact to Conserve Oil and Gas for a further period of four years.

As in previous extensions since 1955, that resolution in section 2 imposed a requirement that the Attorney General report annually on the effect of oil conservation controls on oil industry competition and price behavior. 2/ The first four such reports undertook to review in detail the complex State and Federal governmental system imposing related controls on oil production and crude oil supply. Later reports undertook only to describe current changes in the basic structure or operation of controls which had discernible effect on competition. 3/

1/ 77 Stat. 145 (1963).

2/ Section 2 of that Joint Resolution requires annual report whether or not the activities of the States under the provisions of such compact have been consistent with the purpose as set out in article V of such compact.

Article V states:

> It is not the purpose of this compact to authorize the states joining herein to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof, or create or perpetuate monopoly, or to promote regimentation, but is limited to the purpose of conserving oil and gas and preventing the avoidable waste thereof within reasonable limitations.

3/ Six reports have been filed under this and the two previous Compact extension resolutions containing this requirement, 69 Stat. 385 (1955) and 73 Stat. 290 (1959). The first four, under the 1955 Joint Resolution, were filed as of September 1, 1956, September 1, 1957, September 1, 1958 and September 1, 1959; one report was filed under the 1959 Joint Resolution, May 15, 1963; and two have been filed under the 1963 enactment, June 1964 and May 1965.

Changes in the structure of the control system during the period of this report 4/ have been minimal. Limitation of production by the principal oil-producing States, authorized by statute -- the Connally "Hot Oil" Act 5/ -- independently of the Compact, has continued in the same pattern previously reported.

The Interstate Oil Compact Commission, established under the Compact as an agency for the exchange of information on oil conservation, has also followed its long-set course of action. The Commission's technical committees, composed largely though not wholly of State conservation agency personnel, have constituted a source of active studies of the technological problems of enhancing oil recovery. The Commission itself has not undertaken to direct the activities of any of the State members. It has, however, increasingly undertaken to represent the State members in matters concerning Federal-State relationships, on the one hand acting to assist in the collection of more accurate and meaningful statistics of oil operations, as desired by the Federal Government, and on the other to express collectively the individual State concern with federal action on imports and, of current importance, the application

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4/ The period reported, previously a single year, has been extended for this report to cover the period including calendar 1966, for the reasons noted in the text.

5/ 15 U.S.C. 616 et seq.

of conservation regulation to the increasingly prolific production on the Outer Continental Shelf, a federal responsibility under statute.

I conclude that no evidence has appeared that the action of the individual States has been exercised collusively, and the record of their proration decisions displays the individual variances previously noted.

I am attaching to this report a staff memorandum which reviews comprehensively the mechanics by which interaction among the various components of the governmental system, of which the Compact is but one, may affect competition in crude oil markets. The emphasis in this memorandum reflects a primary concern with the overall control structure as it affects the ability of the industry, as a part of the competitive free enterprise system, to supply desirable products of adequate quality at objectively determined prices with greatest efficiency.

Respectfully submitted,

Ramsey Clark

RAMSEY CLARK
Attorney General

Department of Justice
Washington, D.C. 20530

MEMORANDUM FOR THE ATTORNEY GENERAL

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Department of Justice
Washington, D.C. 20530

MEMORANDUM FOR THE ATTORNEY GENERAL

This memorandum reviews the effect of the oil conservation system on oil industry competition in aid of the determinations and report you are required to make pursuant to the Joint Resolution of September 6, 1963 1/, consenting to the Interstate Compact to Conserve Oil and Gas.

It follows the course first, of outlining the nature of the problems which led originally to adoption of the conservation system; second, describing the structure of the governmental system, State, Federal and interstate, that was created to meet those problems and has since been modified to meet new ones; third, reviewing the structure and organization of the industry and its markets; and finally, summarizing some of the existing problems of public policy.

I.

The Flow of Commerce in Oil

The physical characteristics of oil and the investment needed for its efficient employment alike dictate a virtually continuous flow of petroleum in commerce from initial production through processing to its ultimate consumer. This flow concept is basic both to industry operating practices and governmental regulation, which alike set oil

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1/ 77 Stat. 145 (1963).

industry activity in terms of barrels per day. This section undertakes to sketch the processes and conditions under which petroleum is found and produced, as the beginning of that flow, and to outline the economic and legal questions peculiarly present in oil's early history, from which the control system evolved.

A. Physical Occurrence and Recovery

Petroleum is a mixture of hydrocarbons created under pressure from sedimentary deposits in the beds of ancient geologic seas. It may be found in any part of the world where such seas once overlaid the land. Its existence as surface seepage has been known, if not understood, from ancient times. But only within the past century has its concealed deposits been actively sought, with efforts increasingly scientific and successful. Only within the last fifty years did development of the automobile age develop the major oil product -- gasoline -- as a major mass market commodity, with fuel by-products an important source of space heating and industrial energy.

1. Geography

The growing value for illumination of a petroleum extract, kerosine, led to serious attempts to discover underground pools of oil. In 1869, by means of cable-tool equipment used for water drilling, the first successful oil well was completed in northwestern Pennsylvania. A sustained oil industry was launched, with operations spreading to both flanks of the northern portion of the Appalachians. This spread was accelerated by the refining discovery that the heavy oils left

from efforts to obtain kerosine made excellent fuels for industrial heating and power.

Operations in this early industry, and for many years later, were highly primitive and wasteful. The science of geology, essential to oil exploration, was in its infancy. Principles of reservoir engineering were then unknown, so that pools were depleted rapidly. Primitive distillation technologies for refining took off the few petroleum fractions of immediate use and discarded the remainder. Transportation delays and difficulties led to more waste. Oil stored above-ground ran into streams or evaporated. Oil in barrels was initially rafted downstream to refineries, with accidents contributing heavily to stream pollution. The crude wooden pipelines also employed at that time added to the waste by leakage. Under these conditions many newly-discovered fields were soon depleted, and the Appalachian region gradually subsided to the small, settled production it still has today.

The rise of the automobile coincided with the westward shift of the oil industry's center of gravity. Although significant quantities of oil were found in the Ohio Valley and other areas of the Mid-Continent, oil production centered in the Southwest following the discovery of the Spindletop Field in Texas in 1901. Large reserves of petroleum continued to be found there and in nearby States. Meanwhile a separate large oil province was opened in California and later substantial quantities of oil were discovered in the Rocky Mountain States. Most recently commercial oil production has been extended to

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Alaska and to the large offshore reserves of California and the Gulf Coast, particularly in the U.S. waters off Louisiana.

For many years Texas has ranked as by far the largest oil-producing State, with more than a third of total domestic production. Two other very large producing States have been Louisiana and California. These three States, together with Oklahoma, Wyoming, New Mexico and Kansas, provide some 85 percent of our domestic output. However, oil and gas have been found and are now produced in significant commercial quantities in about thirty States. In these States petroleum production is an important factor in the economy and tax revenues, and, in the larger producers, an indispensable part of the local economy.

For many years the petroleum industry was virtually a United States monopoly, with few significant sources of production in other areas of the world. In recent years, however, major rival petroleum resources have been developed in Canada, southeastern Europe, the Persian Gulf area, and Venezuela, and most recently, large pools were discovered in the Sahara Desert regions of North Africa, providing a wide range of alternative sources for the growing worldwide consumer market.

Unlike the United States, development abroad was not by indigenous capital. For example, development of Arabian and Venezuelan fields has been the work of major United States companies, while in Iran and other Persian Gulf areas there was an international rivalry, British, Dutch,

French and American. Since, unlike the United States, the subsurface mineral rights in most foreign oil-producing countries are held by the government, a producing company, by negotiating solely with that government, may assemble large blocks of acreage for exploratory and development drilling on a unitized and scientifically controlled basis with much less difficulty than is possible in the United States. This, together with the prolific nature of the fields discovered in the Middle East and Venezuela, has contributed to a lower unit cost of oil in these areas than in the United States. 2/

The United States is still the largest oil-producing country, with about one-quarter of total world output. This is more than twice as much as that of the next ranking country, Venezuela, and somewhat more than the combined production of the four leading Middle East states, Kuwait, Saudi Arabia, Iran and Iraq. These six countries, together with the newly-developing contribution of Libya, provide about sixty-five percent of total world production.

The relation of this production to world markets may be sketched briefly in broad outline. Though for many years the United States

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2/ No solid information is available as to the actual scale of real costs on Middle East or Venezuelan production. It is lower in real cost than U.S. production, perhaps strikingly so, but there is some question whether the scale of its apparent price advantage is a reflection of the real cost difference or merely of the peculiar tax advantages inherent in classifying the foreign governments' half share in the proceeds of production as a "tax" rather than a royalty payment. See Nelson, Prices, Costs and Conservation in Petroleum, American Economic Review, Vol. 48, Part 2, 502, 508 (1958).

was exporter to the world, as Middle East production grew it invaded and finally absorbed much of the European market, principally through its geographic advantage and cost. In recent years, at least up to the establishment of import controls in the United States, an increasing proportion was drawn to the high-price markets of the United States; and during the same period fed the growing industrial requirements of Japan and Europe. 3/ Part of European requirements are now also being met by additional supplies from the new output of North Africa, which enjoys natural transportation advantages, and by the growing shipments from Russian production. In addition, some of Europe's needs come from Venezuelan sources. Venezuelan output otherwise has, of course, always supplied the bulk of the Latin American market. It also has long held markets in the coastal areas of the United States, although from the beginning, U.S. needs have been overwhelmingly supplied from U.S. sources.

2. Geology and Technology

Discovery and production of petroleum are complex and exacting operations requiring heavy reliance on technology, particularly that supplied by the geologist and engineer. Development of the oil industry has been highly influential in, and influenced by, the development of the earth sciences, and the early wastes in drilling and in misuse of oil reservoirs due to ignorance of the physical,

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3/ Much of the other requirements of Asia are supplied by the substantial indigenous production of Indonesia.

geological and chemical processes involved were a strong incentive to advance in those fields.

Inadequate knowledge of reservoir characteristics and proper use also gave rise to ill-advised legal concepts of property rights in oil -- principally, the "rule of capture," the foundation of many problems in oil recovery which led to the conservation system. Though subsurface rights have always belonged to the American surface owner, underground reservoirs of petroleum did not follow the tidy pattern of surface boundaries. Oil underground is a liquid, under high pressures, and moves, though sometimes slowly, across the reservoir to the point where pressures are lowered by production. Early, question arose as to the conflict of rights to oil drained from beneath adjacent surface property by wells. By analogy to the law governing capture of wild animals, the early courts established the "rule of capture": the oil belonged to him who brought it to the surface. This legalized drainage of oil from neighboring land, and created the need for counter-measures in drilling and production by owners and lease-holders to protect and preserve the valuable resources under their land by drilling and producing as fast as possible. And the production races which resulted were seriously compounded by the inequality of marketing opportunity, where an integrated producer, with available pipeline and refinery capacity, had a great advantage in realizing value from its share of the production.

Without the present knowledge of reservoir characteristics, these

pressures for over-drilling and over-production dictated practices violently counter to modern principles of efficient reservoir management.

Petroleum is, as noted, a complex mixture of hydrogen-carbon compounds, ranging from gases to liquids to solids at normal pressure and temperature. It is accumulated under high pressures in porous rock which geologic conditions form into various types of underground traps. The traps may be vertically thick or thin, and may run horizontally for many miles, or only a few thousand yards. They may be comparatively close to the surface or very deep underground, but consist of porous rock formations, such as sandstone, permeable enough to permit fluids to pass through the interconnected porosites occupied by petroleum, but which are overlaid by impermeable rock formations preventing upward migration toward the surface.

When the reservoir is tapped and pressures released, the dissolved gas escapes and the liquid oil in place becomes more viscous and difficult to move to the wellhead as pressure is dissipated. Thus if the pressure is released too fast only a small proportion of the oil in place, that directly around the well-bore, may be recovered.

The energy to supply the necessary pressure to move the oil may come from the dissolved gases in solution with the liquid hydrocarbons, which carry with them a portion of the oil toward the pressure release point. It may come from a free gas cap overlaying the oil formation which expands and invades the oil zone from above as oil is withdrawn, driving the oil before it towards the wellhead. It may also come from

a water drive from beneath the oil formation. Salt water usually underlying oil formations is generally under hydrostatic pressure so that as pressure drops with production of oil, the water moves upward and flushes the oil ahead of it. The long-term effectiveness of this less depletable drive of course depends on the volume of water present and sufficiently widespread areas of permeability in the oil-water interface formations.

The problem of premature dissipation of these energy drives is evident. When the pressure is released beyond a certain point the oil can be moved only as far as the drill pipe; pressure enough to push it to the surface is lacking, and it must be forced by pumps or pressure injection. Most producing wells in the United States today are "on the pump."

No technique presently known is capable of recovery of all the oil from a reservoir. But increasing recognition of reservoir characteristics, a main objective of the conservation system, has led to development of a variety of secondary recovery techniques increasing the yield from all fields. By reinjection of gas and water to the reservoir, or by various thermal treatments, these measures enable a substantially greater total volume of reservoir oil to reach the surface over time. And, if present cost-price factors should change, presently-known but economically infeasible practices will provide the technical basis for greater total recovery of oil from each reservoir in the future.

Economic pressures from the "rule of capture" had to be met by regulation, not only as a matter of ending resource waste, but as a matter of public safety and protection. When a discovery well was completed each property owner in the area, no matter how small the surface plot, had to drill or lose his share of oil. A system of off-setting wells evolved, with wells drilled along property boundaries to prevent drainage from adjacent wells. Not only were far more wells drilled than necessary, but more important, since each well was operated full-tilt, with little attention to reservoir pressures, the flowing field was soon depleted, necessitating either the expense of pumping equipment or abandonment.

Public safety was seriously endangered by this frantic production cycle. Open completions, too hasty to be concerned with controlling the pressures, saturated the vicinity with highly inflammable oil and gas, occasionally creating conditions of near-catastrophe. Abandoned wells, inadequately plugged, created physical hazards. Improper drilling practices contaminated ground water sources. The oil, and the salt brine produced in association with oil, dumped on the earth or in streams, spoiled surface water sources. Since the owner had to produce as much oil as fast as possible whether he could sell it or not, above-ground storage was a hazard. Adequate metal tanks were too expensive, but open-pit storage behind earthen dikes was subject, in addition to loss through evaporation, to run-off in the earth and into streams, as well as the risk of fire.

The problem of above-ground storage made the oil purchaser-pipeliner -- the refiner -- a pivotal factor in the oil production race. The oil was worthless to the producer unless it could be soon sold, and worthless to the purchaser unless it could be cheaply moved to the refinery. Since experience showed that the pipeline was the most economic form of land transport and since only refiners had the capital available to construct the pipelines to the fields the system of field purchase was evolved. But most refiners were also in the production business and naturally preferred to take their own oil first. Since the independent producer in most cases had to sell his oil at whatever price he could get or drown in it, there were strong pressures to get enough governmental control of the marketing system to assure producers a fair opportunity to market their oil in exchange for producing less oil more sensibly.

Gradually, the producing States began to legislate to regulate these problems. In the interests of safety regulations were adopted to reduce contamination of water supplies and agricultural land. Plugging abandoned wells was required, and above-ground storage was controlled. Rules were developed to achieve a degree of equitable purchase from all producers in a field and all fields in a State, at least enough to protect the correlative rights of property-owners whose oil would be drained if unable to produce for lack of immediate markets.

As technical knowledge improved the States have gradually introduced measures aimed at requiring more sensible reservoir management.

The concept of M.E.R. -- the maximum efficient rate at which a well could be produced -- was developed, and gas-oil ratios were established to prevent too rapid withdrawal of gas pressures. The flaring of produced gas was curtailed first, by regulation, then more efficiently by growth of markets for its direct use, and processes were developed for extraction of the liquid hydrocarbons associated with produced gas.

In addition, over the years rules were developed in many States requiring wider spacing of wells for more efficient production. In further recognition of proper reservoir management, surface owners have been to some degree encouraged to combine their interests to operate a field as a unit. However, in many cases State preoccupation with individual property rights slowed the drive for wider well spacing rules and prevented them from requiring field unitization. At present it is fair to say that although these various regulations, together with increasing use of secondary recovery practices, have greatly increased total oil recovery, the existing system is still far from approximating the ideal in reservoir management.

B. Transportation, Refining and Marketing

Wells produce in a continuous flow. Storage of oils is expensive and hazardous. The oil itself is heavy in relation to its value, and refining processes, like production, a phase of the flow, requires continuity of supply for optimum efficiency. These factors converged to place high importance on the availability of regular and cheap transportation, specialized to the characteristics of the commodity

involved and the geography of the industry. This section sketches the physical outlines of the industry segments involved in this continuous flow from wellhead through plant to ultimate consumer.

1. Transportation

Through the industry's history, many modes of crude oil transportation have been used, by choice or necessity, pipeline, barge, tank-car, truck -- even in early days by rafting in barrels down the Appalachian streams.

Bulky in relation to its value, oil is most economically moved by tanker, and the refining industry first grew to large size at tidewater on the Gulf, East and West Coasts, and at lake ports in the Midwest, where crude could come in and products go out by water. As the pipeline grew in efficiency and use, and oil production moved inland, the flow moved to ocean ports by pipeline, then by tanker to the major consuming centers. With development of product lines, however, refineries of size were oriented toward the pipeline almost entirely, and inland areas played a larger role in the refining industry.

For the overland transport which is a part of virtually all lines of supply and distribution, the pipeline is by far the most economical method for bulk shipment. Before World War I, pipelines were largely simple facilities collecting from scattered fields to central points from which tanker or rail shipment could be made over long distance. Since that time have developed the larger trunk pipelines moving oil

in large quantities over long distances, but the practices followed in the gathering lines have varied little to the present. When a field was opened and wells put into production a small diameter gathering line connection was made to the producer's lease storage tanks -- sufficient in size to hold several days' production -- after the purchase arrangements were completed. Thereafter, periodically the tanks were gauged for quality and quantity of oil contained, a ticket made out recording the data, and the oil was then run into the gathering system and to the pipeline's central field tankage. There it was accumulated for pumping through a feeder line to a main trunkline station connection and thence through a large-diameter pipe to the refinery.

However, the intermingling of oils from various fields in a common stream to the refinery posed problems. The precise mix of hydrocarbons in the individual reservoirs varied considerably from field to field. Different crudes range from very high to very low in specific gravity, and from "sweet" to "sour" depending upon the degree of admixture of sulphur. Other metallic impurities placed a penalty on value, especially after catalytic refining processes were developed. More important, the range of different hydrocarbons in each crude oil can make a vast difference in the type and range of products that can be made from it by the various refining processes, and even under the crude refining processes of early days, these differences were recognized by classing oils in general types carrying different values. These differences posed a problem in pipeline

shipment, met by the development of techniques for batch shipment, although these techniques have required economically the use of very large batches to keep intermingling to a minimum.

In earlier days of rather simple refinery processing these differences were not so critical and common stream shipment was rather the rule. But with the increasing sophistication of refinery operations, it became more necessary to segregate shipments. This increased the need for field and trunk line connection storage facilities to keep apart crudes of varying gravities and qualities for batch shipments to the refinery after adequate accumulation in separate "slugs." Thus the economics of continuous flow and the need to keep expensive storage facilities to the minimum made necessary the development of complex and exact scheduling arrangements in pipeline operations.

These operational problems increased, of course, as fields were discovered farther and farther from the refinery to be served, with main trunklines now operating over many hundreds of miles. Operations were further complicated by increasing interconnection of pipelines, a process rapidly progressing during the World War II need to conserve transport by eliminating expensive cross-hauling for long distances. As this process developed the trunk pipeline systems lost their characteristics as mere individual refinery facilities, and more and more became units of general service to refinery areas. Thus, the domestic pipeline system is now a vast interconnected

network physically linking broad production areas to refining centers. And the complications of scheduling and interconnection have led to development of control systems of great complexity and efficiency which make the movement of crude and products by pipeline almost completely automated.

Supplementing pipeline gathering of crude oil are truck shipments which have handled an increasing volume of crude in recent years. During oversupply, new field discoveries do not attract the construction of gathering systems to handle them, purely on the basis of transport profits. Particularly where the integrated company itself has no production to be served, the construction of gathering lines is considered unprofitable. Thus, either on a temporary or permanent basis in certain fields, some independent operators play an important role in buying and carrying production to the nearest gathering or trunkline connection point where the oil can be resold.

Another significant part of the transport system is the barge lines. In coastal areas, barges offer significant economies in gathering. And inland barges collect crude oil at pipeline terminals for shipment to refineries along the mid-continent river systems. However, this method is seasonal to a considerable extent because of winter conditions on the northern stretches of the rivers. And, projected plans for a large crude pipeline connecting Gulf Coast production with mid-continent refining centers may, by reason of its low shipping costs and year-around availability, reduce barge operations to less significance.

2. Refining and Marketing

An increasingly complex chemical process of refining is necessary to make the varying hydrocarbon mix of the different crude oils commercially useful. In earlier days this was usually a comparatively simple distillation process separating the mixture into its various components, only a few of which were then deemed valuable. Early refineries were small -- with only a few hundred barrels per day capacity -- often operating on an individual "batch" system, and frequently located in or very near the fields supplying them. Gradually, however, the obvious advantages in shipment of both crude and products by tanker led to concentration of the refinery industry, particularly of its major segments, at deepwater points, and still later, with growth of pipelines, at areas of heavy marketing concentration.

While economies of scale of individual refineries taper off after 30-50,000 b/d capacity, diversification of processes, development of new products, and centralization of transport facilities have led to growth of refining facilities of considerable size, many in excess of 100,000 b/d. The modern refinery, then, produces a wide range of products, of a quality unknown 25 years ago, under highly automated processes developed in that period. New methods of disassembly and reassembly of hydrocarbon molecules have greatly raised the per-barrel yield of high-value products from the crude oil input, and the still-standard traditional products -- gasolines and light fuel oils -- are

produced at markedly lower costs and to more exacting specifications. During World War II, for example, only major effort could derive enough 100-octane gasoline for the war effort. Now much greater quantities of that specification are available through the filling station routinely. And the output of remaining heavy residual oils has diminished virtually to nothing. In this process refinery design has been highly specialized to handle specific types of crudes for optimum yield. Even sour crudes can be made to yield highly valuable products in processing units designed for them, with by-product profits from the sulfuric acid produced. Moreover, the growth of chemical products in our economy had led to vast increase in refinery output of feedstocks for the still-developing petrochemical industry.

These varied developments have not decreased the continuity of interstate flow of oil from producer through refiner to consumer. They have sharply differentiated individual refineries in terms of desired sources of crude oil and unit costs of operations, but they have also continuously reduced the real costs of petroleum product manufacture.

But it is also clear from these developments that different refineries, even those under common ownership, have sharply differing unit costs of operation, and a differing realization of products from the same crude. These variations reflect primarily the basic refinery design, and to them must be added the physical variables of location, transport availability, and even, though to a minimal extent, labor

costs. Finally, variation in cost is affected by the age of the equipment, particularly since optimal refining costs require continuous throughput, and shutdowns for repairs. The latter exact a heavy cost in efficiency and time in starting again the complicated process of treatment, recycling and blending of components through the separate processes involved. And the difficulties of scheduling that complex of flows, to meet seasonally changing balance of requirements for the joint products, which require changes in relative production rates of various sub-processes, are compounded by the risks of shutdown if storage for one of the joint products is inadequate.

In distributing the refinery's line of products for ultimate marketing the pipeline and tanker again play a major role. Products are shipped from the refinery to bulk distribution terminals for breakup into smaller lots in sales to regional or local distributors. The regularity of such shipments is an essential both in scheduling refinery output and deliveries from marketing terminals. Tanker shipment, cheapest in actual moving cost, requires tankage enough at both ends to handle the large quantities involved. Delay in tanker movements may well mean a refinery shutdown if tanks are full, or a distress sale of product to clear the tanks, on the production end; or a loss of important customers if supplies fail at the terminal. Consequently, pipeline facilities slightly higher in cost but more regular in scheduling, may offer significant economic advantages over the apparently cheaper use of tankers.

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From the primary terminal, oil products are taken to smaller local storage points -- bulk stations -- for transshipment by tankwagon to individual points of ultimate consumption. Gasoline goes to the service station; and fuel oil is usually delivered from the bulk station to the individual home or business establishment. It is clear that in this distribution process economy dictates the same continuity of flow as in other levels of the industry. Within the limits of need for efficient handling and breakup to smaller lots, expensive storage facilities are held to the minimum and a continuous flow of products is maintained from refinery to consumer.

The makeup of products delivered to the consumer may vary considerably in actual chemical analysis, and be virtually the same in use. Over the last twenty-five years, the potentially great differences in competing specifications for motor fuel or home heating have tended to become closely similar. Gasoline is not an homogeneous product, but a blend of many chemically identifiable individual components, which may be differently blended yet produce a similar set of performance characteristics; and wide differentiation in the basic specifications could produce a product emphasizing one or another of different characteristics. Particularly since World War II, however, the basic gasolines are regarded by customer and supplier alike as virtually fungible, providing a considerable opportunity for cost-saving where one company buys supply locally available from another, rather than investing heavily in the facilities necessary to provide

its own supply. This practice, naturally, cuts seriously into the validity of individual brand advertising. To some extent, however, brand identity is maintained through the mixture, as the gasolines move out of the primary terminals, of various chemical "additives" designed to improve performance or reduce corrosion.

II.

The Conservation System

The partial control of the rate of additions to supply in the name of conservation, with which this report must be concerned, is primarily a matter of action by some of the individual oil-producing States. This process, stabilizing in its effects, is complex to evaluate, being more a passively inhibitory support of the market than any active management of oil supply. But even this action does not stand alone. Any assessment of the effects of State action on prices and competition must be prefaced by recognition that they cannot realistically be isolated within the complex of results which flow from other governmental action, sharing common general objectives and having a coincident and reinforcing effect on State action, and from the industry's own organization. The State action is only one part in a functioning whole, part State, part Federal, part inhibition by regulatory control and part grant of special incentive, intended in broad purpose to assure continuing adequacy of American oil supply by compelling or coaxing industry action. This section therefore presents a brief description of the elements of this system, and the purpose and function of those parts.

A. State Action

The chaos of oil production in the pre-conservation period stemmed from the related problems of "rule of capture" production and the ensuing disorder in the marketing of crude. These conditions involved

an obvious threat both to public interest in oil resources and the public safety; and to the healthy survival of this area of the economy.

The regulation by the individual oil-producing States which evolved in response sought to meet both aspects of the problem. The first was primarily a matter of defining correlative rights to make the production race unnecessary, accompanied by direct regulation to insure that at least a minimum of proper engineering practice would be observed: protecting against the worst hazards to public safety and providing an approach to adequate reservoir management. Developments since have been paralleled by increase in the sophistication of regulations, now covering enforcement of a broad spectrum of rules on drilling, completing, operating and abandoning wells, specifying protective and waste disposal devices to be used, and, in general providing a comprehensive enough set of requirements to insure that field management will not be unduly wasteful. And, at the same time, realization by producers of the money loss in wasteful production has provided an incentive to avoid it, which some commentators feel may be more effective for the future of conservation than direct compulsion. 4/

A second important area of State control was the imposing of

4/ See Davidson, Public Policy Problems of the Crude Oil Industry, 53 The American Economic Review 85 (1963); and see McKie and McDonald, Petroleum Conservation in Theory and Practice, 76 Quarterly Journal of Economics 98 (1962).

order in field markets by direct regulation. This was originally evoked by the protests of independent producers, seeking protection from the market power of the integrated producer-purchaser-pipeliner, to whom orders simply shutting in the independent production that could not immediately be marketed would have meant tremendous loss by drainage. Here, the action took the form of attempts to insure all producers a reasonable access to the regular market-transport facilities by requiring that available market for each field's output must be shared by each producer. This was accomplished in some States under a "market demand proration" system -- the assignment of a regular market quota for each field, administratively determined on the basis of statements of anticpated purchases by the regular purchasing companies, "prorated" back in the form of a production quota for each well. Other States instituted a "common purchaser" system, requiring that whatever oil might be taken from a field by a pipeline company, by statute clothed with the characteristics of a public utility, must be taken "ratably" from among all wells on the basis of their administratively determined proper capacity. 5/

Of these systems, that most consequential to the performance of the industry has been "market demand proration." It applied in those States most important in oil production, with something near two-thirds

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5/ A more detailed comparison of these systems is made in Att'y Gen., Fourth Report Pursuant to Section 2 of the Joint Resolution of July 28, 1955 (As of Sept. 1, 1959) 11-19. Prior reports in this series will hereafter be cited as First Report, Second Report, etc.

of domestic production during the period before 1950. At that time domestic producing facilities were almost the sole source for domestic refining, and, indeed, for the principal world markets. Of this share, one State alone -- Texas -- controlled more than half of total capacity to produce.

It is also significant that, in these States, oil production represented a singularly important factor in the local economy. Expenditures for exploration and production directly or indirectly provided the principal source of income for a large proportion of these States' populations. The elaboration of rules to insure safe and orderly practices within fields thus also included concern with incentive factors to make such practices profitable and to stimulate continued drilling and development of the entirety of State oil resources. Also, the revenue derived from taxes on oil production was the major source of State financing for roads, schools and other essential public services. Quite naturally, therefore, the original concern with orderly marketing within fields, came to embrace a concern that markets be shared among fields, to compel development over the entire State and maximize State benefits from industry operations. And it quickly came to embrace concern with the general level of the industry, as a national whole, translated into consideration of national oil activity as a factor in the State's marketing regulation. While this did not take the form of national price-setting, it was in Texas, particularly, reflected in direct concern

with balancing national stock with supply available from all sources, to avoid collapse of oil markets, constituting the State's output as the "national balance wheel." 6/ Protection of individual wells through compulsory sharing of field markets was supplemented by a statewide order allocating the total market for State oil among all fields within the State. This was to insure as far as possible the extension of purchase and transport facilities to all fields.

However, the function of proration was only to subtract some potential current additions to supply from the supply base total. No State had power to compel interstate companies to buy any portion of their needs from State production, or, in fact, to take any particular amount of State needs from any particular field. What the States have done is to prevent any company, or the entire industry, from taking its entire wants from a few fields; but their power to inhibit seriously the total supply is increasingly frustrated by the growing ability of the interstate companies to find ample oil outside the periphery of State control.

This aspect of State concern, it must be emphasized, took the form, not of direct price-setting, 7/ but of maintaining the established

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6/ Zimmerman, Conservation in the Production of Petroleum 213-226 (1957).

7/ There have been very infrequent occasions when sharp changes in local crude prices, threatening to upset orderliness in marketing or to lower production returns substantially under the loss line, evoked direct State-action aimed at restoring the price. Indeed, the controversy in the East Texas field in 1931, from which the Texas proration system developed, was triggered by one purchaser's temporary posting of ten cents a barrel as its offering price. And, as recently as 1960, the Kansas Corporation Commission ordered 40 fields wholly shut down because the small refiner who was purchasing in the field had cut its posted price by a substantial amount. See The Oil and Gas Journal issues of May 30, 1960, p. 60; June 6, 1960, pp. 72-73; and July 4, 1960, p. 60.

channels for purchases in the primary oil market. 8/ This involved setting monthly production quotas in a range based on purchasers' statements of intention to purchase, allowing some small quantity of production in excess of estimates of actual need, unless stored supply was high. While producing no real "shortage," this insured that no over-large amounts in storage or produced elsewhere would so disrupt markets as to threaten the State's multifold interests. Also, current additions to oil supply would not overload the regular purchasing machinery, tempting disposal at distress prices.

But even when the Texas share of national capacity was a more significant share of the total production facility than it is at present, no single State controlled a sufficient share of oil output to be able to dictate higher prices to the refining industry without a complete shutdown of fields for a longer period than internal economics or politics would permit. Moreover, such drastic action would affront the overriding national interest in continued flow, and would undoubtedly evoke federal action nullifying the legality of local marketing controls. 9/ And, as for common action on prices,

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8/ "We should emphasize that the Texas Commission does not actively control or fix prices. It acts passively to support the going price by restricting output to 'market demand.'" McKie and McDonald, supra, at 120, n. 4.

9/ See infra, p. 31. The Connally Act, which permits State prorationing even though it is "interference" with interstate commerce, would require suspension of State controls if such a shortage were to appear.

the oil States collectively differed sufficiently in identity of purchasers, share of the market, stage of development, local needs, and concern with national reactions, that no common proration action was or could be easily arrived at, particularly in the face of each State's eagerness to expand its share of total output.

Developments in the postwar years have even further diminished any real possibility of State control of crude oil prices. These include the increased availability of low-priced overseas production for import and the potential of the prolific fields on the Outer Continental Shelf, both outside the perimeter of State jurisdiction and by statute subject to federal controls on the basis of national interests differing necessarily at times from the State interest. In addition, the effectiveness of "balance wheel" State control was affected by development of domestic production beyond present needs in areas outside the "market demand" States but not outside the increasingly interconnected major company pipeline systems. These factors, together with the steady pressure of growing local supplies exempted from State regulation -- such as the natural gas liquid by-products of expanding natural gas production and the increasing share of the marginal, or "stripper," well output 10/ -- combined to impress upon the producer in the "balance wheel" States a serious question whether he alone should shoulder the cost of stabilizing the oil

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10/ See Fifth Report at 18 et seq.

economy by shutting in a progressively larger proportion of his most prolific and most profitable producing wells.

B. Federal Regulation

It was this growing inability of the States to balance out supply from sources outside the control system that led to direct federal involvement in oil supply control.

Federal involvement in oil conservation had been considerable from the very beginning of efforts to install order in oil production. One of the first serious efforts to control the "rule of capture" chaos was the federal advocacy of unitized operations -- the efficient drainage and orderly sharing of individual producer rights in common oil reservoirs on public lands. Another was the activity of the Federal Oil Conservation Board, beginning in the early 1920's, looking toward a comprehensive federally supervised regulatory system, either on a mandatory or "voluntary" basis.

The Federal Government was concerned in this disorderly situation initially from the standpoint of national defense -- underscored by the importance of oil as boiler fuel for Navy vessels in the recently-ended World War I. In addition, it was conscious of a national interest in the gasoline supply to meet the vastly expanding need for this fuel. Equally important, the Government was also concerned as the largest land-owner in the country, whose long-term substantial revenues from royalty interests depended on efficient production from wells on public lands. Indeed, because of the breadth of federal concern, one prime

aspect of conservation development in the 1930's was a long drawn out and bitter controversy whether the Federal Government ought not to undertake the direct administration of conservation, a controversy largely moot after the early phases of emergency in World War II. The concern of the States with federal control of so vital a part of their economy defeated legislative effort to provide for such control, in effect a decision in favor of reliance on the abilities of the State control system.

1. The Connally Act

From the beginning of State supply regulation, federal agencies played a necessary supplementary role. In the early 1930's, even under prevailing views of the Constitution's interstate commerce clause, there were serious questions as to State authority to impede the flow of interstate commerce by production controls. Oil commerce is signally interstate; and State prorationing did impede that flow, particularly in its concern with regional and national markets. The interstate character of the problem was compounded by the ineffectuality of a State in enforcing local production rules where both the producer and the oil were apt to be out of State before the violation was uncovered.

The key to the effectiveness of State regulation, then, was a federal consent to these market controls, and federal enforcement of prohibitions on interstate shipment of oil produced in violation of them. This federal action was taken under the so-called Connally

"Hot Oil" Act of 1935. 11/ However, in allotting to producing States the prime function of production control, backed by federal enforcement, the act reserved specifically the federal obligation to "suspend its operation" -- presumably both enforcement activity as well as basic consent legalizing State action -- if State action should "unduly burden" interstate commerce. 12/

2. Public Land Administration

As noted above, the United States, with a vast area of public domain, has a large and valuable royalty interest in oil production, and jurisdiction to impose conservation controls on the operations under mineral leases on public lands from which the royalty interest derives.

Prior to the institution of State prorationing this supervision was exercised by an independent and direct overseeing of proper production practice, largely to insure that wasteful handling of production not diminish the worth of the royalty interest. Since development of the State control system, however, federal conservation supervision over public land production sources has in practice been done largely by cooperation with State agencies, particularly in adapting for oil production on public lands the production control rates applicable to adjoining areas under State control. This posed

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11/ 15 U.S.C. § 715-715m.

12/ 15 U.S.C. § 715c.

no particular problem, since such production was widely scattered, and in the aggregate the portion in States with market controls did not constitute a significant part of the total national supply.

Development of offshore oil production on the Continental Shelf, together with statutory resolution of some aspects of the ancient "tidelands" dispute, has led to a new phase in this relationship. By that statute conservation regulation on the Outer Continental Shelf was specifically made the obligation of the Secretary of the Interior, 13/ to be administered in the national interest, though the statute authorizes cooperation with adjoining States to the extent that national and State interests may coincide. The virtual certainty of highly prolific offshore production, with the promise of still further development, has made this a potentially significant segment of U.S. oil supply. Market regulation of this oil will then be of major importance in terms of market levels for domestic crude generally. While the form and direction of the actual administration of this regulatory function is still under consideration, 14/ the regulation of offshore production by the Federal Government necessarily carries with it a responsibility for national oil supply and prices far beyond the immediate importance of the royalty interest.

13/ 43 U.S.C. § 1334.

14/ The Interstate Oil Compact Commission has undertaken to express the State views on the form of regulation.

3. Control of Imports

During twenty years of active stabilization effort by the States, domestic production under conservation control constituted the overwhelming bulk of U.S. supply. 15/ After 1950, however, huge new fields in the Middle East and Venezuela, producing oil at lower prices than domestic production, began to dominate world oil markets and to provide a substantial and rapidly growing share of U.S. refinery input.

The growing availability of this uncontrolled and cheaper increment to the crude oil supply threatened the abilities of the States to affect the stability of U.S. markets. Concern was expressed in 1952 that imports might lead eventually to serious diminishment of United States productive capacity and thereby jeopardize national security interest in maintaining a domestic production base. A Cabinet Committee so declared in 1955, stating that if the share of imports of crude exceeded substantially the 1954 proportion (just under 10 percent of total supply), steps should be taken to apply limitations. That same year, statutory provision was made for authority by the President to impose limitations on imports of materials which were found, after investigation, to "threaten to impair the national security." Beginning in 1954, the Director,

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15/ Some foreign-produced crude, notably from Venezuela, was regularly imported over this period. Save for the war years 1941-1945, however, when crude oil imports constituted about a quarter of the East Coast refinery feed, the amounts involved were relatively insignificant, on the order of five percent of total oil supply.

Office of Civil and Defense Mobilization, 16/ had called for regular report by refiners of plans of projected imports, and had urged individual companies to hold down their imports voluntarily. 17/

In 1957, this approach was formalized, on recommendation of a new Cabinet Committee, by issuance of a Voluntary Oil Imports Program which assigned quotas for each company based largely on their estimates of projected imports. Shortly thereafter, the program was given some teeth by provision that Government oil purchases would be limited to products of complying companies. 18/

On March 10, 1959, following recommendation by a Special Cabinet Committee and investigation by the OCDM, Presidential Proclamation No. 3279 made mandatory the prohibition of imports of crude oil or oil products except under established quotas. The proclamation provided for determination of the total level of permissible imports, and specified that distribution of quota allocations be made among all domestic refiners on the basis of their refinery inputs by a sliding scale weighted in favor of smaller refiners. It also specified that quota oil could not be sold; if not used directly, it could only be exchanged in kind for domestic oil. This permitted inland refiners, though on a somewhat limited basis, to share in the cheaper

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16/ Now the Office of Emergency Planning.

17/ See Second Report at 53 et seq.

18/ See Third Report at 13-14.

prices of imported crude. Since 1959, the imports share of total crude markets has been around 10 percent of domestic requirements, although since 1962, a progressively larger share has been imports from Canada, the price of which is substantially higher than imported offshore crudes.

The share of crude supply subject to disposition under these controls is highly important to the stabilization effort. The strikingly lower costs of overseas crude dictates that every barrel of permissible quota will in fact be imported. In contrast to domestic proration orders, where increases in permissible production rates may go unused, a rise in import levels is immediately effective in increasing supply.

Moreover, unlike domestic prorationing, which in practice has been concerned almost wholly with development of oil production and orderly crude oil marketing, the statutory national security basis of import controls specifically requires balancing of more diverse interests. Aside from its obvious connotations, the national security determination under the statute must include consideration of oil costs as well as oil supply; the economic welfare of consuming industries, as well as producing States and regions; and aspects of international trade and foreign relations. 19/ These factors include many not ordinarily within the ambit of those considerations upon

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19/ See A Report to the President by the Petroleum Study Committee, September 4, 1962.

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which the action of State conservation agencies is based.

4. Tax Incentives

The federal concern with oil supply is far less fully expressed in its direct regulation than it is in its special tax provisions aimed to provide incentives inducing adequate oil development.

It has been noted that State conservation regulation includes some consideration of incentives to producers to expand development of the State's oil resources. At the federal level, however, the incentives provided to spur continued exploratory and development effort are the most important part of its contribution to oil development. While not directly part of the regulatory system these tax incentives have strongly influenced the manner in which oil industry competition and pricing has operated within the regulatory framework.

The principal tax incentive provisions are those relating to percentage depletion, to the option to expense intangible drilling and development costs, and those providing for taxing of capital gains at rates lower than those on ordinary income. As with other mineral resources, oil and gas are depletable capital assets, and a portion of the income from their production is therefore excluded from gross income for tax purposes. This is considered a return of risk capital, for reinvestment in new ventures. Federal tax law provides for determining this portion for each productive well as the larger of (1) a pro rata fraction of the capitalized costs of the property (cost depletion), or (2) 27 1/2 percent of the gross value

of production during the tax period, not to exceed 50 percent of the property's net income (percentage depletion).

Unless costs of operation are high relative to current crude prices the percentage depletion formula usually produces the higher figure for deduction from gross income. It has other advantages as well. If cost depletion is used throughout the life of the productive property the periodic tax deductions will add up to the property's initial capitalized cost. In contrast, under percentage depletion the tax deductions continue, depending on the life of the well, long after the actual outlay of funds by way of capital investment has been recovered.

Depletion provisions for oil and gas present several important consequences to oil industry operating practices. Although it was designed as incentive to overcome the risks of exploratory drilling and increase the domestic production base, percentage depletion is somewhat indirect in its operation. It applies to production, not drilling, and, by magnifying the reward for success while ignoring the "dry hole" failures, benefits only those drillers whose operations are large enough to spread risks and rewards over a number of drilling ventures. Also, it applies to foreign operations as well as domestic, and thus provides no special advantage in adding to the domestic production base. In addition, since it applies to all producing wells, the incentive tends to favor the investment of funds in development drilling in known fields rather than the more risky wildcat drilling necessary to add new fields to the resource base.

The second special tax provision pertains to the intangible costs of drilling wells and preparing them for production. Expenditures for tangible items such as pipe, tanks and pumps are part of the capital investment and cannot be used directly to offset income for tax purposes. However, the largest share of over-all costs, the intangible development costs -- including, for example, labor, materials, fuel and equipment repairs -- are permitted to be treated as expenses. The taxpayer thus has an option of either capitalizing these costs and recovering them through cost depletion or writing them off as current expense. In practical terms, capitalizing intangibles would increase the depletable base drastically, operating in many cases to make cost depletion greater than percentage depletion. On the other hand, expensing intangibles enables immediate recovery of most of this money for reinvestment. Moreover, unless intangible expenses are so large as to reduce the net income enough to make the 50 percent of net income limitation on percentage depletion a serious factor, they do not affect the full allowable deduction available under that tax method. Accordingly, the option of expensing intangibles operates as a powerful tax incentive reinforcement to percentage depletion, by providing for quick recovery of funds outlaid, for reinvestment.

The provision for taxing capital gains at lower rates than apply to income, while not a special provision intended specifically for the oil industry, has a special force in shaping oil industry structure and operations, particularly during periods when oversupply of oil occasions intense proration. Realization of full income from successful wells, with production curtailed, requires an extended

period of time. Marginal drillers, operating on risk capital borrowed at relatively high rates, cannot afford to wait for realization through regular production, and for this reason seek quickly to sell the oil "in place," discounting future income in terms of an immediate gain.

The immediacy of the need to liquidate, however, places the smaller firm in an unequal bargaining position as against the large integrated company, largely self-financed from internal cash flow. Here, advantage of capital gains tax provisions, in providing a substantially more favorable rate for such gains than would be applicable to income earned over extended production, does much to make more palatable the unequal bargain. But, by the same token, it becomes a powerful force toward the drift of oil reserves to the integrated companies and attrition in the ranks of independent oil producers, with those remaining producers acting more as "contract" drillers for their own account than as producers. 20/

These provisions interact with the direct supply control provisions which contemplate at least a stable price of crude oil, by permitting producers to retain a larger share of the returns after taxes realized from the price of crude. It has been suggested that these special tax provisions have had the effect of favoring the integrated producers, who can to some degree establish for tax purposes an internal price for crude which exceeds the price actually realized

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20/ See infra, pp. 49-52.

by independent producers in the same general area. 21/

5. Statistics

A most important part of the federal contribution to the conservation system lies in its responsibilities for the statistical base for governmental and industry use. From the beginning, the Federal Government has provided most of the general statistics on oil, 22/ including those specially devised for the needs of the control system, although the individual State and Federal agencies have consistently supplemented that base, not only by data as to operations within the State but in some instances, as to national and international activity. 23/ In addition, a vast quantity of statistical information as to the activity of the industry generally has been provided by various industry groups, 24/ including those measuring such critical areas as total domestic resources, productive capacity, and exploratory activity.

However, despite the expense and detail involved in the collection of this large mass of overlapping statistics, it became increasingly clear over many years, that the statistical base available was

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21/ See infra, pp. 77-81.

22/ See Second Report at 33.

23/ For example, the Texas Railroad Commission has regularly collected reports from purchasers of Texas oil as to actual and desired general stock levels for crude and products.

24/ See Sixth Report at 35.

both too proliferate, too diffuse, and subject to too many gaps to be useful for either private investment or public policy decision. 25/

A major effort at rational improvement of petroleum statistics began with recommendations by a federal interdepartmental group in 1962, calling attention to the inadequacy of available statistics, and consequently of analytical studies, 26/ and asking for a co-ordinated program to provide the necessary data on a rational basis.

This recommendation led to study of the need, under Budget Bureau direction, and to a report proposing a rounded information system, covering information concerning petroleum industry activity up to the refinery. 27/ Since that time, a careful process of implementation 28/ of the general recommendations has undertaken an evaluation of existing petroleum information needs and avails of federal agencies, and established liaison with State agencies and private groups on the problems.

Although this may seem only an indirect component of the over-all structure of the control system, it must be observed that the existence of valid fact is a prerequisite of valid decision, and therefore this

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25/ Ibid.

26/ As to the latter, it was observed in a 1959 study that "Despite an abundance of statistical and historical information about the oil industry dismaying little will be found to have direct relevance to the public policy issues posed by the inquiry . . . ." de Chazeau and Kahn, Integration and Competition in the Petroleum Industry 58 (1959).

27/ Bureau of the Budget, Petroleum Statistics Report 1 (March 22, 1965).

28/ By the Department of Interior.

program must be accounted as one most important aspect of public policy concern. Particularly, since the cost and burden on industry of information collection, whether for Government or private use, has become a substantial penalty on current operations, a coordinated approach aimed at deriving the most useful figures with the least duplication of effort is a highly worthwhile addition to the efficiency of both industry and Government.

C. Interstate Action

In the interlocking State-Federal system of conservation regulation the Interstate Oil Compact Commission continues to be a focal point of State attitudes.

The Compact Commission's resolutions have continued to reflect the State regulatory agency attitudes of concern that federal action on imports reflecting that range of federal obligations beyond those coinciding with State interests may impair the continued development of State resources. The Compact has also undertaken to formulate a collective State agency view as to the steps to be taken by the Department of the Interior to revise the long-standing Federal-State relationships on public land oil production in the context of the federal obligations on Outer Continental Shelf production. 29/ Most recently, there has been use of the Compact Commission as a source for the coordination of State conservation agency action on collecting

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29/ See supra, p. 32.

statistical information, as a part of efforts to improve and standardize oil statistical information.

The structure, organization and membership of the Compact and its Commission agencies have seen no significant change from those described in previous reports. Its committees have been active in studies of conservation questions in the fields of law, public lands, petroleum engineering and secondary recovery, to name but a few technical areas.

In sum, the Compact organization appears to remain principally a forum for study and discussion of common State interests on conservation developments and a convenient focal point of Federal-State liaison on policy and practice. 30/

D. Summary

In sum, the conservation regulatory system, accomplishes only an indirect and partial balancing of over-all crude oil supply, which permits higher prices to be established than would normally prevail if no controls existed. At its utmost, the effectiveness of control is limited to insuring only that no supplies enter crude oil markets outside the regular market channels maintained by the industry. With other related Government action, notably tax provisions providing for

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30/ A detailed history of the background leading to establishment of the Interstate Oil Compact Commission is found in First Report, pp. 27-54. For the most complete prior analysis of structure and operation of the Interstate Compact, see Second Report, pp. 15-31

a greater return after taxes in the business of oil production, this was intended to stabilize crude oil price, providing the after-tax returns assertedly needed to attract investment of money and effort into the exploration, development and wise use of oil production resources. The consequences to the consumer of the resulting crude oil price were said to be necessary to assure future consumers an adequate supply.

At the same time, it was conceded from the beginning of conservation in oil that the controls might have at times undesirable price reactions but the machinery provided is inadequate to protect the Government responsibility for the prices resulting from the action of controls, save in the most extreme eventuality. On the contrary, the States particularly, carrying the major part of control responsibility, have explicitly disclaimed any real effort to consider the possible price results of their action, leaving the whole responsibility in this regard on the federal agencies.

But some of the machinery provided to curb price results, should competition prove inadequate, has been too drastic to be effective. The Connally Act, the foundation supporting State action affecting interstate markets, contemplated that, if price reactions were too great, the whole machinery would be suspended. Since this obviously would produce results to industry stability totally out of scale with price increase less than extreme, it has as a practical matter quite understandably never been carried into effect.

Just less drastic, provision was made in the basic oil import control proclamation, again realistically recognizing that occasionally unjustified price results might follow the operation of import controls, but similarly without machinery for regular implementation. Since, by the statute which authorized controls, 31/ continued consideration had to be given the "economic welfare of the Nation," the proclamation stated:

> Sec. 6. (a) The Director of the Office of Civil and Defense Mobilization shall maintain a constant surveillance of imports of petroleum and its primary derivatives in respect of the national security and, after consultation with the Secretaries of State, Defense, Treasury, the Interior, Commerce, and Labor, he shall inform the President of any circumstances which, in the Director's opinion might indicate the need for further Presidential action under section 2 of the act of July 1, 1954, as amended. In the event prices of crude oil or its products or derivatives should be increased after the effective date of this proclamation, such surveillance shall include a determination as to whether such increase or increases are necessary to accomplish the national security objectives of the act of July 1, 1954, as amended, and of this proclamation.

Thus, while the basic controls reflect a concern with and a recognition of responsibility for the price effects on the general economy, the controls provide no immediately operative machinery to alter those results.

31/ 19 U.S.C. 1862 (b).

III.

Industry Organization and Function

The organization of the most influential business units in the industry stresses integration heavily. The major enterprises typically engage in active operations at every stage of the industry -- production and transportation of raw materials, manufacture of product and its distribution, and marketing at several levels in the complex wholesale-retail markets for oil products. Traditional criticism of the industry has assumed that this integration, by destruction of intermediate markets, distorts or destroys competition. Nevertheless, there still exists a substantial though probably diminishing number of independent business units operating primarily within each level of the industry, and the particular type of integration found in this industry 32/ need not of itself impair continued vitality of markets at these levels. However, such markets do not in fact adequately reflect effective competition.

Traditional analysis weights heavily the difference in pursuit of profit between the integrated and the nonintegrated companies, usually termed the "majors" and the "independents." The integrated company can take a broad view of shifting profit opportunities within the whole of industry operation. It is relatively indifferent to the particular level at which its profit is made, so long as the total

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32/ See infra, pp. 75-77.

revenues from all operations, less its real over-all costs of operation, provide an adequate return on its total investment. In contrast, the independent is committed for successful operation to the balance of costs and returns at one level. If reasonably objective markets for a commodity obtained at the various stages of its movement from raw material to finished product, disparity between the two would be measured only in terms of any real cost advantages of integration in added efficiency or in economy of scale. But the peculiar structure of oil markets and the form of industry operations suggest that integration may be less a matter of real economic efficiency than of operational response to the forces set up by the governmental system of control and incentive.

To sketch this, we describe the general characteristics of the business population of each level of the industry, centering first on the nonintegrated components, followed by description of the over-all integrated company operations, and an appraisal of market structure at various levels. Finally, questions are raised as to the functioning of this business system in terms of the public policy objectives for which the control system was established.

A. Organization by Industry Levels

1. Oil Production

Far from being a monopolistic structure consisting of the very wealthy person and the very large company, the business firms in oil production are very numerous, comprising a broad collection of diverse

types and sizes of organizations and interests. While such classifications as producer, driller, field service contractor or royalty owner are usually made, these categories often tend to become almost indistinguishable. Because the purpose of governmental controls is primarily to spur activity at this level of the industry, it is of special importance to point out some facets of this diversity.

Of the interests in oil production, most numerous are the royalty owners. These are primarily investors, individual and institutional, who own direct real property interests in producing acreage, ranging from minute fractional interests to majority ownership. The interest may derive from the original oil-lease of land for exploration, providing the landowner with a fractional interest in any resulting production; or it may represent investment of money or services in the exploratory venture. Indeed, royalty interests are a coinage freely exchanged to secure property, financing or services necessary to oil exploration and production, and the holders represent every kind and size of financial and business entity.

Their interest in the producing venture represents a partnership share. 33/ The virtual fiduciary obligation to other partners assumed by the person in charge of actual operations, and the reciprocal

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33/ It is worth noting that Government is the largest of royalty owners. Federal mineral leases cover a vast acreage of oil producing lands, accounting in 1966 for some 430 million barrels of oil. State royalty returns vary widely; but in some cases they represent a substantial share of the income supporting usual State services.

obligation to meet his special expenses, compels a distinction of the "operating royalty interests" from the others. Yet even this distinction represents only a difference in contract interrelationships within the group, not a basic distinction in purpose or interest. For example, a large landowner may simply contract for drilling and production services, conveying a minority operating royalty interest as a part of the contract, but retain the dominant interest in the resulting operations.

Similarly, there are a great many persons and firms who are equipped and available to drill and complete wells. They range widely, from the small individual businessman, with only one or two rigs, capable of handling relatively shallow drilling, to large and well-financed firms which can handle almost any depth onshore or offshore. These include many who work on a highly competitive basis primarily for other companies on a contract fee basis, the "independent drilling contractor." 34/ In most contract drilling for the larger oil companies, the sole compensation is the contract fee. Yet in many instances, especially with smaller firms, the contractor may assume a share of the risk, obtaining part or all of his compensation in the form of a royalty interest. In other cases, if an attractive prospect is located, a contract drilling company may often undertake to drill on its own account, and to operate any producing well which

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34/ Hodges and Cookenboo, The Oil Well Drilling Contractor, The Rice Institute Pamphlet, Vol. XL, No. 2 (July 1953).

results. Thus, in some of its operations the company assumes the characteristics of an oil producer.

The oil producer category similarly shades at other boundaries. Classically, the business involves the general exploration for oil; the acquisition of lease interests in acreage large enough and attractive enough to justify the cost of drilling; the drilling and completion of wells at the business' own risk and expense; their operation over an extended period, and the concomitant sale of the oil produced.

A few of the larger independent companies still operate in this manner. 35/ But for the most part, the "oil producer" label has come to apply to a variety of firms, whose emphasis is placed on the financial and managerial aspects of pooled exploration efforts, rather than individual knowledge and risk. As attractive mineral lands available for lease have diminished, single-handed assembly of "drilling blocks" 36/ has become increasingly difficult for the independent producer. Individual action is further complicated by the large company's ability to acquire and hold rights on large acreages of the

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35/ Among these, very large corporations such as Superior Oil Company, Amerada Oil Company, and Kern County Land and Exploration Company provide significant examples.

36/ Few wells are drilled for the purpose of finding only one successful well. Therefore, effort is made before drilling to assemble rights to a sufficient area that a successful wildcat can be followed by a regular program of development wells.

most attractive of prospective oil lands. 37/ Thus, cooperative arrangements have become more prevalent. For example, several of the large companies, holding scattered lease rights in a local area, may prefer to "farm out" a lease to an independent for exploration at his risk. As consideration, they would obtain at small risk the valuable geological information acquired in drilling and a substantial interest in any resulting production. Alternately, the large company may simply share the risk by contributing a share of the exploratory well cost, or by guaranteeing some cash payment if the venture is unsuccessful -- so-called "dry hole" or "bottom hole" contributions.

Many firms no longer operate successful wells over an extended period. In increasingly frequent instances, having defined to its satisfaction the amount of oil underlying its acreage, the smaller producer may simply prefer to sell the oil "in place." He discounts the future value of the production in favor of an immediate lump sum realization which can be again put at risk in a new venture. 38/ As this trend accelerates, the independent oil producer becomes less "producer" than "driller," even as the increasing number of "farm-outs" and contribution payments tends further to diminish the

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37/ See Third Report at 30 et seq.

38/ Alternately, in line with their views on present economic conditions, it is reported that a number of independent producers are now merely "playing out the string," operating their existing holdings without attempting any further exploratory effort.

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distinction between the two in terms of risk incurred.

Dominant in the actual operation of domestic crude production, the integrated companies are engaged for their own account in all aspects of exploration and well operation. Typically, their superior resources are usually devoted more directly to development rather than "wildcat" exploration. However, the degree of participation in the latter may simply be obscured by lack of detailed information on the amount of contribution aid to independent drilling. Such contributions, added to the growing number of drilling operations by syndicates of integrated companies, especially in high-risk or high-expense areas, give the typical large integrated company a substantial amount of scattered nonoperating royalty production which is simply sold at the wellhead to the regular purchaser. Despite the unavailability of precise figures, it is estimated that nearly two-thirds of U.S. domestic production, and vastly more of foreign production, is by integrated companies. 39/

In any event, whether the interest in production is active or passive, financial or operational, major company or independent,

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39/ See e.g. National Petroleum Council, Factors Affecting U.S. Exploration, Development and Production, 1946-1965, Part III, Table XIV (January 1967). Compare this with the statement in the 1938 study by Professor Hamilton and associates that the "bulk of production" was left to "independents," with the "fully integrated organization" producing only about 40 percent of its own requirements. Hamilton, Price and Price Policies 158 (1938). The figure in McLean and Haigh, Twenty Integrated Oil Companies, Exhibit II-8 (1950), as 71.3 percent of total production by integrated companies, seems too high.

there is a universal interest in crude oil price. But the wide difference in opportunities between multi-level integrated companies and those limited to production makes it far from a "common interest."

2. Crude Oil Purchase and Transportation

Crude oil gathering and transport, performed as a single operation, is distinguished by the virtual nonexistence of nonintegrated interests. It would seem that the oil industry, processing raw material from thousands of sources at relatively few centers, would be a fertile field for independent brokers purchasing small lots for aggregation and resale to processors. But, in fact, there are only a very few other than the integrated refiners themselves who engage in this operation. 40/ Much of this anomaly can be traced to the characteristics of the oil transportation system, particularly in its operation in the producing fields.

Crude oil, of low unit value in relation to weight, is produced at steady average rates, 41/ and requires expensive tankage for accumulation. Therefore, regularly available transport is an essential

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40/ The few nonintegrated companies handle oil purchasing in areas of scattered new production or declining stripper production. These companies, however, can usually only resell at the major's trunk pipeline. Thus, they are so closely governed by standing contracts with the pipeline company that they must be viewed as primarily in transportation, not purchase.

41/ Estimates placed the total producing wells at just under 600,000 at the end of 1964, located in some 31 States and producing an average of 12.9 barrels per day. U.S. Department of Interior, Bureau of Mines, Mineral Industry Surveys: Annual Petroleum Statement, 1964. Table 3 (December 1965).

precondition of purchase. The relative costs of moving this commodity dictate that continuous profitable gathering must be by low cost pipeline. 42/ But the pipeline network of gathering and trunk lines is overwhelmingly a system constructed, owned, operated and used by the integrated companies for their immediate purposes, carrying almost entirely oil owned by the operating companies. By virtue of this, nearly all crude oil passes through the hands of the integrated companies either in the gathering lines or on trunk line movement.

The volume of crude oil purchase at the wellhead by an integrated company reflects a variety of considerations. In large part, it stems from insufficiency of required supplies, since only some two-thirds of crude oil is produced within integrated systems, leaving one-third to be secured from outside purchases. But even where a company's own production equals or exceeds its refinery runs, and it has gathering facilities for that oil, it will purchase substantial additional amounts of oil. Part of this is due to a desire to spread its gathering line investment and operating costs over a larger base. Running additional purchases involves little incremental investment or cost, while bringing profit from resale to independent refiners on a delivered basis. In addition, State conservation requirements make such purchasing necessary; a company cannot run oil from its own wells without

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42/ Relative costs of pipeline movement in gathering lines are probably on the order of one fifth to one quarter the cost by truck or tankcar.

taking a ratable amount from other wells in the same reservoir. Additional purchasing also stems from efforts to maximize the supply of the crude oils best adapted to the company's own refining processes.

However, the pattern of ownership and operation of this pipeline system provides significant barriers to the access of domestically-produced oil to refineries except through the integrated companies. Physically, the pipeline network presents a surprisingly flexible transportation pattern in terms of geography. 43/ Oil from West Texas can be shipped at low cost to any of the refining centers of the Midwest, the Gulf Coast or, using tankers for the last leg, to the East Coast. But, as a practical matter, this flexibility is only available to oil owned by an integrated company. The entire crude oil pipeline system is so dominated by the integrated companies that virtually all shipments, even if handled at origin or near destination by one of the few independent lines, must have intermediate access to an integrated company line. And outsiders simply are unable to use these lines as they could other types of common carriers. This is probably due less to direct refusal to accept outside shipment as to the multiple inconveniences which an outsider would encounter in attempting shipment over a line designed and geared almost entirely to handle the refiner-owner's own shipments.

Scheduling over a pipeline is rarely practical on a single shipment

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43/ See Third Report at 73 et seq.

basis. Pipelines operate by establishing a line of flow from origin to destination for a given daily quantity for an extended period. Thus, shipping is set, not by total barrels to be moved, but by barrel per day rates to be handled within the line on a coordinated basis with other segregated flows in a regular cycle. Where the pipeline interconnects with another having a different capacity and cycle, separate arrangements must be made for each regular transshipment, in effect gearing one cycle to another, with storage made available at that point to provide the necessary interruptions in flow to accommodate the cycles.

Where the entire scheduling -- of origin points, rate, cycle, tankage, and destinations -- is originally established for the carefully calculated needs of the particular refiner 44/ constructing the line, the intrusion of additional shipments affecting the line's ability to meet these needs can easily be resisted without direct refusal. 45/

"Minimum tender" -- the least amount which a common carrier can be forced to accept for shipment -- is an especially useful basis of practical exclusion, when taken with other requirements. For example,

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44/ Or refiners, in the increasingly frequent instance where the line is jointly owned.

45/ Where the line is constructed with outside funds, increasingly the case, the security for loans most usually is a "throughput guarantee" by which the line's owner guarantees that its own transportation requirements will suffice to pay for the line.

a crude pipeline may have a "minimum tender" requirement of 10,000 barrels for a single shipment to one consignee or destination, a reasonably small amount in terms of regulatory agency requirements. 46/ But that oil must be of a type that "will not materially affect the quality of other shipments or cause disadvantage to other shippers and/or carrier." It must also be tendered at points established by the carrier -- by definition the points most convenient to the owner's shipments -- where the shipper must provide tanks and, most usually, connecting facilities for input. Finally, the shipper must provide and hold available destination tankage on terms set by, and for the convenience of, the line.

True, shipment may in some instances be accepted in quantities less than the 10,000 barrels minimum. Pipeline tariffs would permit this if the total quantity is available within a set period -- typically 60 days -- and if other shippers "agree to a commingling of the lesser amounts with shipments to make up the tender total, which when aggregated must then be deliverable to a single destination." Clearly, an outsider could conceivably induce or force a line operating under such rules to accept its oil for shipment on a regular basis, if enough time were available for a regulatory agency proceeding. Even so, it would take considerable time and substantial investment in facilities to connect with established origin points.

46/ A summary of the minimum tender requirement cases appears in Third Report at 62-63.

Moreover, after this investment, there is no assurance that such an "origin station" would not be changed in future, a portion of the line itself changed or discontinued, 47/ or the shipping convenience of the other shippers might change. Consequently, it is in most instances far less costly and more convenient for the outsider simply to sell to the line's owner and purchase equivalent oil on a delivered basis. 48/

As a result, virtually all crude oil passing through a pipeline carrier system is oil owned by the carrier's refining affiliate. 49/ Some exception is made where the "outsider" is also an integrated company whose lines elsewhere the carrier's refining affiliate may wish to use. Even in this situation, however, the appearance of discrimination is avoided by the exchange and re-exchange of the oil involved, or its "sale" and "repurchase."

3. Refining

It is more difficult to assess the immediate standing of

47/ There is no explicit regulatory agency authority to compel an interstate pipeline to establish any particular facility, or to prohibit its discontinuance. Conceivably, such authority might be implied from authority to prohibit discriminations, or to enforce the obligations of "common carrier" status, but this has never been clearly tested.

48/ The importance of this in marketing terms, discussed infra, pp. 69-72, depends upon the power of the pipeline owner to insist that such a sale-resale transaction reflect the price basis which the owner has set for his own production and purchases.

49/ See supra, p. 54.

"independent" versus "major" in refining than in transportation. Previous reports described the decline in numbers of those refineries owned by companies operating solely at the refining level. This decline, apparently still continuing, is attributable both to disappearance of existing independent companies and absence of effective new entrants. At the same time, some firms previously operating only as refiners have integrated forward into marketing and backward into transportation and production. Others have oriented their operations toward contract refining for the account of major companies. They take the latter's crude at contract rates and deliver products made therefrom at rates scheduled to the crude rates, the spread providing the fee.

As noted above, crude oil import quotas are graduated on input capacity, weighted in favor of the smaller refiners. Thus, a 30,000 b/d refinery operated at capacity received, at 1966 rates, a quota of 3294 b/d import rights. In contrast, a large integrated company with around 500,000 b/d capacity, would have obtained in additional quota only 1578 b/d if it had itself built 30,000 b/d new refinery capacity. With imported crude roughly valued at $1.25 per barrel cheaper than domestic, the difference in quota rights translates to over $2100/day, or $750,000 per year. This lower cost basis, made the foundation of a contract refining arrangement, diminishes considerably the out-of-pocket product cost to the major-company sponsor and permits him to share in the value of the "small business" quota. At the same time,

where the sponsor is also a substantial producer of foreign crude, it may stand to profit further as the supplier of the crude imported by the small business contract refiner.

Excluding such contract refiners, the balance between the integrated and the independent refiner has substantially increased the former's dominance. A 1958 report indicated that the large integrated companies owned around 83 percent of refining capacity. Considering the facts that, on the average, refineries owned by the larger companies are operated at a higher percentage of capacity; that an unknown amount of independently-owned capacity is found to be effectively tied by contract to the large integrated companies; and that an increasing number of smaller refiners have undertaken to integrate forward into marketing; the amounts of gasoline and fuel oil produced by nonintegrated refiners for open sale at the refinery gate is now certainly less than ten and possibly less then five percent of total refinery products.

Looking backward from refining to crude oil purchase, nonintegrated refiners seem to be no significant factor in crude purchasing. For the most part, their crude supplies are bought on a delivered basis from one of the integrated companies whose pipeline facilities are convenient enough to an independent refinery to permit delivery. 50/

50/ The fact that this may involve purchase by one competitor from another is not the problem. The serious difficulty for the independent is that such a transaction usually involves a price and a rate of transportation that is considerably above real cost, and reflecting monopoly profit for the competitor-seller. Compare Adelman, Efficiency of Resource Use in Crude Petroleum, 31 Southern Economic Journal 108 (1964); and de Chazeau and Kahn, supra, 484 et seq.

4. Product Marketing

Marketing is a most complex sector. While it contains a great many independently-owned enterprises, in contrast to most other levels, their competition is seriously constricted within the apparently narrow and rigid spread between the prices at which product supply is available and the prices they can successfully charge. As in other levels, direct information on the numbers, size and importance of the different groups and their actual prices is largely unavailable. This lack makes possible only a general sketch.

Beyond the refinery gate marketing begins at the refiner's product terminal, fed by pipeline or tankers, where the aggregate amounts usual to bulk transport are stored for further delivery. As noted above, generic petroleum products such as gasoline and fuel oil are inherently fungible. The different additives which somewhat distinguish one brand of product from another in service stations are quite frequently blended into the final product only on redelivery from these primary terminals.

At these points, a large share of the refiner's total output is sold out of the integrated system to independently-owned marketing firms called "jobbers." These firms purchase in large quantities at the refinery terminals, moving their purchases by truck, barge or tankcar lots to storage at area bulk stations. From these points, they deliver gasoline to service stations and fuel oil directly to consumers. While it is unusual that a jobber does not himself operate

retail stations -- thus sharing in retail as well as wholesale returns -- there is a substantial segment of business whose activities are only at this level. To complicate matters, integrated refiners operate in some instances at wholesale and retail as well, in competition with their jobber customers.

Jobbers fall into two main groups -- the wholesaler who buys gasoline or fuel oil on specification without reference to brand, and the branded jobber who buys for resale to service stations under his supplier's brand name. Of the two, the latter is probably by far the more significant in terms of total product handled. While total amounts involved are unascertainable, the numbers of "private brand jobbers are far fewer than those who fly their suppliers' colors." 51/ On the other hand, the private brand jobbers are probably of far greater significance to competition in gasoline and fuel oil prices.

The branded jobbers, and the stations they serve, are necessarily bound in large part to their supplier's established margins. While they have some leeway to adjust to local prices, enhanced by special discounts to meet "price war" competition, they operate largely at the supplier's discretion as to terminal prices, since, by definition, they must sell under the supplier's brand.

In contrast, the unbranded jobber, in both wholesale and retail operations, can respond very quickly to changes in price and supply.

51/ See de Chazeau and Kahn, supra, p. 425.

While usually committed to the same suppliers as his branded competitor, at least for a large portion of supply, he can ordinarily procure some requirements from "spot" purchases. This could include lower-priced supply of "distress" product from a refiner whose routine operations at optimum capacity temporarily outrun his marketing needs and storage facilities. In such case, the independent marketer can seek to increase his gallonage by a price cut corresponding to the reduction in average acquisition cost represented by the cheaper distress increment.

B. Oil Markets

Basic to appraisal of the effectiveness of competition in any industry is some understanding of the functioning of markets in which its commodities are bought and sold. For it is the effectiveness of these markets as objective determinants of price and quality, and hence of the profitableness of allocating resources to various points within the industry, that the effectiveness of competition in the industry is most clearly reflected.

1. Field Markets

In the flow of oil from well to consumer, the first market encountered is the field market for crude, the sale and purchase of crude oil at the point of production. Strictly speaking, virtually all crude oils produced in the United States are sold and purchased at the well on entry to the pipeline system. Oil produced by the thousands of independent producers -- on the order of one-third the total -- is

purchased outright there. A substantial amount of crude produced by integrated companies is also purchased in the field by other integrated refiners, in those numerous instances where the producer has no gathering lines of its own conveniently available. Even where an integrated producer itself gathers the oil it produces there is a sale transaction, since the producer is usually not the owner of the royalty interest in the oil, but only agent for the owner of the royalty share.

In this sense, the volume of sales at all field markets for crude oil is on the order of 2.8 billion barrels a year. 52/ Average prices of around $2.86 per barrel indicate the size of these markets at a figure in excess of $8 billion annually. 53/

Virtually all of this amount moves from seller to purchaser on a unique kind of open-price sales contract, the "division order." This is a legal document which specifies that the purchaser will take oil from the specified lease, not at any fixed rate or in any fixed amount, but only in quantities "ratable" with that from other leases in the area. The price to be paid is similarly not specified, save that the purchaser promises to pay for the oil taken at the same price he posts for other purchases of the same type in the area.

As pointed out in previous reports, the execution of the division

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52/ Rounded from 1965 production reported by Bureau of Mines.

53/ See National Petroleum Council, supra, Part III, Table VIII.

order is nearly simultaneous with installation of the physical pipeline connection by the purchaser's affiliate. Both usually endure for the life of the well. Customarily, few if any changes are made by the producer while the well still operates; and the few changes made in the purchaser's arrangements usually reflect broad-scale changes in its internal organization or reorientation of its general supply facilities. Rarely does any change made by either seller or buyer reflect dissatisfaction with price or quality of the commodity involved, or the output of a single well or lease. 54/

In short, the field market for crude oil displays all of the indicia of a monopoly market. The physical pipeline connection and the basic division order may be the subject of competition initially, with occasionally real rivalry as to which purchaser-pipeline is to be chosen for the initial connection. But once installed, the expensive physical connections and the complex legal arrangements are long enduring, not easily responsive to supply-demand fluctuations or to price behavior.

Moreover, any price variation is almost wholly the judgment of the purchaser. Few single sellers have production sufficient to exert enough market leverage to compel a purchaser to change the

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54/ Even where there is an area-wide change in purchasing operations, with a change in the effective purchaser, the basic arrangement may not change. This is accomplished by issuance to the original purchaser of a "100% division order" by which the new taker pays the old purchaser for the oil taken in a lump sum and the latter continues the job of distributing royalty checks.

offered price. Thus, in view of the fixed nature and cost of marketing facilities, the seller has no practical alternative. Either he accepts the price, or he closes down production and sees his oil in place drained by less demanding producers.

This is not to say that sellers are wholly without redress, outside the bargain. The whole system of proration was developed largely as a means of restraining the overwhelming power of the purchasers. 55/ Though in recent years prorationing has been used largely only to support the general level of prices, allowing minor fluctuations without fixing any particular prices, there have been occasions where State controls have been used or threatened to redress a price cut considered too extreme. 56/ Nevertheless, in the long-run the closed and noncompetitive nature of the field market, especially in times of ample general supply, leaves the seller no effective alternative to acceptance of the purchaser's offer, with no objective market establishing a price with which to compare that offer with other arm's length transactions. Within some limits, each field

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55/ Prorationing began in part to restrain an integrated purchaser from running only his own production, to the detriment of other producers in the same field, who could not produce because they could not sell, and saw the oil in place beneath their holdings being quickly drained by the integrated company. But the growth of "market demand" prorationing stemmed from price retaliation by major purchasers -- i.e., the East Texas shutdown in early 1931, enforced by the National Guard, was a response to a retaliatory posting of 10 cents a barrel by one large integrated company.

56/ See supra p. 26, n. 7.

market's pipeline orientation toward a limited choice of refinery destinations make it almost entirely distinct from other such markets. While prices tend to assume similar levels, there appears to be no necessary interrelationship by virtue of "competition" between the prices of different crudes bought by different purchasers, even within the same area.

2. Secondary Markets

Following the gathering of the oil into bulk lots, and its introduction into the trunk line system, a very substantial and active market in crude oil operates on a broad regional and even national basis. Nearly the whole of these transactions are deals between integrated companies, as they seek to maximize their available supply of those particular types of crude oil most advantageous for particular refineries to be supplied. As discussed above, different refineries, even where owned and operated by the same company, represent different complexes of processing equipment and may have strikingly different processing costs and yields from the same crude oils. Thus, since the prominent "buyers" and "sellers" already have substantial quantity of oil, self-produced or purchased in field markets, the secondary market process involves largely qualitative, not quantitative change.

The size of this secondary market is impossible to measure with any degree of assurance. It includes the volume of crude oil sold on a delivered price basis to nonintegrated refiners, representing

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the amount of the latters' requirements over and above their own limited field purchases. Thus, this part of the secondary market may be close to 10 percent of total crude supply. 57/ The market also includes some amount sold by nonintegrated gatherers at the trunk pipeline inlets, again on a delivered price basis. 58/

It excludes that portion of total crude supply produced by or purchased at the well by an integrated company, and run directly to the producer-purchaser's own refinery for processing. Possibly this is the largest single share of total oil supply. But, in view of the long-term trend toward geographical dispersion of oil holdings by individual integrated companies, as a defensive measure against the possible risk of adverse regulatory decision in a single State, this is by no means certain. 59/

57/ That is, nonintegrated refiners account for somewhere around 10 percent of total crude runs. Since some independents -- principally those located near producing areas -- do maintain field-purchase operations, the total crude sales by integrated companies to wholly nonintegrated companies is to that extent less than 10 percent.

58/ Since many of these transactions apparently involve long-term arrangements with the integrated company purchaser on oil which it previously had gathered in the field on its own account, they seem to be properly categorized as special arrangements for transportation rather than arm's length purchase and sale.

59/ Indeed, the extent to which the "larger companies" are now ubiquitous in producing areas led one industry economist to suggest that unitization of all fields, with necessary agreement by interest holders on the output of each, would involve the larger companies in antitrust violations, since the total impact of their decisions would affect so large a share of national output. Gonzalez, Progress in State Petroleum Regulations, Oil and Gas Compact Bulletin, Vol. XXIV, No. 2, p. 14 (December 1965).

But, in any event, a considerable share of the total field market avails of any integrated company is clearly intended not for its own refinery, but for counters in a substantial trading operation. Examination of reports by a number of integrated companies hints at the size of this market. Total crude oil avails (production plus purchases) of even highly "self-sufficient" refiners are far greater than their reported refinery inputs, with a balancing crude oil "sales" figure in excess of actual refinery runs. While the data involved prove too misleading and inconsistent to permit safe conclusion, there is at least a clear implication that the total size of this secondary market is considerable. 60/

But this much is certain: of the hundreds of inter-refiner transactions in crude oil, involving thousands of barrels and millions of dollars in value, the overwhelming majority are effectively only barter transactions. These exchanges may take the form of outright trade of a barrel of one crude for a barrel of the other, with any differing transportation costs settled in cash by specified differentials.

60/ Analysis of reported crude oil "purchase" and "sale" figures in company reports proved illusory. The "purchased" amounts obviously include both royalty oil produced on company-operated wells and lease purchases from outside production, as well as "purchases" in the secondary market. "Sales" include the companies' own royalty interests in wells operated by others as well as "sales" in the secondary market. Moreover, the common use of "sale" and "repurchase" in shipping oil through pipelines means that much of the total may be made up of wash transactions involving the same lots of oil, so that any total figures probably involve some double-counting.

Or a greater amount of a less valuable crude may be specified as equal to a lesser amount of a more valuable oil. 61/ In a common variant the exchange may take the form of two reciprocal sale-purchase contracts, with the price of each carefully specified as the field market price plus transportation, with each of the reciprocal agreements coincident in term and amount. In this type of transaction, it is usually specified, as in all other direct exchanges, that if the contract is terminated with the exchange out of balance, the "under-delivered" party is obligated to continue physical delivery until the balance is settled out. Quite clearly, except for minor amounts undeliverable as a practical matter, 62/ the contracts are intended to be strictly barter arrangements for exchange of property without realized gain or loss.

These barter contracts, of course, accomplish a necessary function. 63/ But in the case of most other raw materials it is

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61/ In the exchanges common in the use of import quotas, however, an analyst can become quite confused on "value" where the higher-cost domestic crude exchanges only for a perceptibly lesser amount of the "low-cost" foreign oil. See supra, p. 34.

62/ In some instances, it is only amounts "less than a truckload" that may be paid for rather than delivered. This provision, it might be noted, appears in exchange contracts covering transactions running at several thousand barrels a day for total periods of several years. The settlement price for even these minimum amounts is not specified; it is simply to be agreed upon.

63/ See Interstate Oil Compact Commission, Governors' Special Study Committee, A Study of Conservation of Oil and Gas in the United States 145 (1964).

performed on commodity exchanges by cash purchases and sales. In other commodity areas, supplies held by one manufacturer which are poorly located or qualitatively unsuited for his plant are simply sold and substitute quantities purchased. Alternately, a manufacturer may simply wish to profit from arbitrage, buying the commodity in one area market to realize an opportunity profit from sale in another market. In oil, however, these transactions are performed by barter, on a negotiated basis, not by open-market sale for cash. As a result, no alternate prices appear to put in question the assigned field market price -- the "posted price" -- as the measure of crude oil value.

That this is intended seems clear when comparing the difficulties and added administration costs of the barter method with the simpler procedures of cash purchase and sale. For one thing, the accounting problems are enormous and complex. Ascertaining actual inventory balances at any point for regular accounting statement requires audit of the standing of the exchanges to determine over or under deliveries, and to trace the assigned value for the oil originally traded for oil on hand. Paralleling this is the theoretical problem that, since the proceeds of sale are commodities, not money, the realization of gain or loss and the end of risk in the immediate transaction must await the final marketing of the final commodity received in swaps which may extend in a considerable series. And, not an inconsiderable penalty, there is the fact that the liquidation of balances due or payable

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cannot be accomplished by simple fund transfer, but, absent subsequent negotiations, must be liquidated by actual deliveries of the commodity. Again, the necessary limitation on exchanges -- that the final oil obtained be available to the company's refinery -- imposes some further inconveniences and loss of sale opportunities. 64/

Another problem in barter arrangements would seem to be the added costs in time and personnel as compared to cash transactions. Many exchanges are not simple two-party trades; it may often be necessary for the parties to bring others into the discussion in order to make a three- or four-handed swap which is satisfactory to all.

Since one obvious effect of barter in the secondary markets is to leave the arbitrarily set posted prices the sole indicia of value, the purpose of the use of exchanges, despite inconveniences, must be found in the special importance of the levels of posted price to the operations of the purchaser. 65/

3. Product Markets

Up to the point where oil products reach the jobbers, product markets appear to share the structural and functional characteristics of crude oil markets. Inter-refiner transactions in gasoline at the refinery and terminal levels are very substantial in volume and value,

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64/ See McLean and Haigh, supra, p. 503.

65/ See infra, pp. 77-81.

though again no close calculation of the absolute or proportionate size of the integrated company share can be made. In this primary distribution of products -- where integrated companies hold the bulk of the available commodity -- the handling of products, as in crude oil, only very partially depends on actual physical integration of a company's facilities. Nearly all refiner-marketers derive a substantial part of their gasoline and fuel oil product supply from other refiners. These transactions accomplish an economically necessary result, permitting a company without direct supply facilities in an area to acquire products from another supplier without the capital and operating expense of establishing separate local facilities. 66/ But, as in crude oil, the bulk of these inter-refinery transactions are barter transactions, either direct exchanges or reciprocal sales. They perform the same functions accomplished by cash purchase and sale in other commodity markets, though under the special difficulties inherent in barter transactions.

The absolute or proportionate volume of light products involved in exchanges is unknown. The scale of these transactions is suggested from published hearings in 1964. Four of the larger integrated companies, all fairly balanced in refining and marketing, reported varying proportions of their total sales attributable to exchange: Atlantic Refining Co. (now Atlantic-Richfield), 1.5 percent of sales;

66/ See McLean and Haigh, supra, p. 436.

Humble Oil and Refining Company (marketing subsidiary of Jersey Standard), 17.3 percent of sales; American Oil Co. (marketing subsidiary of Indiana Standard), 8.5 percent of sales; and Mobil Oil Company, 17 percent of sales. 67/ Another indicator is the discussion, some years ago, of an American Petroleum Institute panel dealing with the possibility of establishing a futures market for gasoline. It was then stated that only about one percent of the total gasoline traded in Gulf Coast refinery markets actually carried a price which could be reported by regular price services as a valid open-market price.

C. The Integrated Companies

Level-by-level description of industry structure discloses that at each level a dominant and growing share is performed by a group of large integrated companies. And market operations display the force of these companies in establishing the set of prices in the industry. Beyond this, however, operations by this group are significant to regulatory problems, partly by reason of their size, more importantly by reason of the peculiar character of their integration. As to size, any listing of the largest United States industrial concerns, based on assets, sales or returns, is made up to a surprising degree from this industry. Moreover, while other basic industries include only a small number of large companies, here there are some 18 companies

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67/ FTC Industry Conference on Marketing of Automotive Gasoline, Hearings before Distribution Problems Subcommittee, House Committee on Small Business, 89th Cong., 1st sess., vol. 2, App. II, pp. 1137, 1698, 1761, 1777 (1966). And see, McLean and Haigh, supra, p. 434 et seq.

in that category. All are sufficiently equipped, financially and technically, to offer competition to any other company within the broad but varying regions of their operations.

Of more usual concern to competition, however, is the peculiar character of oil industry integration. For one thing, there are wide variations in integration patterns, with some companies producing more and others less than their requirements of crude oil, some refining more and some less than their product requirements, and with varying emphases in marketing at wholesale or retail. Moreover, even among the larger companies integration is to a surprising degree more financial or managerial, than physical. That is, the idea of integration usually rests on the notion of an internal physical connection within a company handling its production of raw materials, manufacturing finished product therefrom, and marketing the latter. 68/ But to a considerable degree this is not the case in oil. While the integrated company produces the equivalent of a substantial portion of its crude oil needs, up to more than the total required, it rarely uses all or even most of the particular oils it produces. Rather, as this oil moves in the pipeline system it becomes involved in large-scale trading from one integrated company to another, each seeking to

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68/ One accepted definition of integration refers it to including "under a single management a series of operations performed in sequence on a single unit of material." Burns, Decline of Competition 421 (1936). See, also, McLean and Haigh, supra, p. 6 et seq.

maximize its avails of the particular varieties of crude which its refineries can process at the greatest profit, while at the same time disposing of production not located for advantageous shipment to those refineries. 69/ All the integrated companies, whether or not they produce the equivalent of all their refinery requirements, are necessarily heavy buyers and sellers of crude oil. 70/ Consequently, it would seem that the mere fact of integration has not destroyed the potential at this level for real markets operating competitively.

It is similar with products; there are few integrated firms which sell only products from their own or contract refineries. Instead, as pointed out above, a substantial proportion of total refinery products are traded among integrated refiners on national, regional and local levels. Thus, in its practical operation integration, in the form operative within oil, does not itself appear to be responsible for elimination of the effectiveness of intermediate markets. 71/

Conversely, this pattern of trade in crude oil and products suggests that an integrated oil company may not derive significant cost efficiencies from its over-all integration. Certainly, costs of maintaining an organization to buy and sell crude oil and products at intermediate stages are not eliminated by any physical integration.

69/ See supra, pp. 15, 18.

70/ Compare de Chazeau and Kahn, supra, pp. 19-25 and McLean and Haigh, Twenty Integrated Oil Companies (1950).

71/ de Chazeau and Kahn, supra, p. 25.

On the contrary, in the case of crude oil, for example, such costs must be added to the capital and operational expenses of production and transport. True, some minimization of risk of short supply is achieved and a mitigation of the possibility of sharp fluctuations in cost-price relationships; but there has been no serious shortage of supply or sharply significant swings in cost-price balances for over thirty years. 72/

Despite these added costs, however, integration has one possible advantage peculiar to the oil industry. In orthodox economics, an integration firm must ordinarily judge its total performance in terms of its over-all investment and cost of operations as against the total returns received. 73/ Transfer prices at intermediate levels are established only for accounting purposes. Ordinarily these transfer prices parallel the market price at that stage of processing, in order to show the relative value of further processing steps as against the price which could be realized on sale at that level. 74/ Unrealistic transfer pricing would be simply accounting self-deception. But, in any event, these intermediate internal prices are irrelevant in judging the over-all profitability of the corporation.

72/ See Cookenboo, Crude Oil Pipe Lines and Competition Within the Oil Industry 158 (1955).

73/ Burns, supra, pp. 438-444.

74/ See, for example, Kaplan, Dirlam and Lanzillotti, Pricing in Big Business, p. 91 et seq. (The Brookings Institution, 1958).

In oil, however, a producing-refining-marketing firm has a considerable incentive to establish transfer prices so adjusted as to place the bulk of profit at the producing level. In contrast to other levels, the special tax incentives to production, aimed at increasing the resource base, make possible at that level a substantially greater proportion of after-tax yield for each dollar of profit earned. 75/

This incentive to take system profits at the crude oil level is, of course, only one of a host of complex factors in company operations. Nevertheless, it seems to have some significant influence on the "posted price" system of crude oil pricing. 76/ If the higher value after-tax income at production could be inflated by transfer back of income otherwise normally earned at other levels, it would be accomplished, of course, by creating a margin in the crude oil price well above that which would be economically justifiable by operations at that level. This would distort the price response of crude oil to real cost increases or decreases in finding and production and make crude oil prices, the focal point of stabilization operations of the conservation system, a rather unsatisfactory regulator of resource allocation in oil production. Among other things, this could jeopardize

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75/ See McLean and Haigh, supra, pp. 502, 505; Kaplan, Dirlam and Lanzillotti, supra, p. 91.

76/ McLean and Haigh, supra, p. 155.

the ability of businesses operating only at the production level -- the independent producers -- to project risks versus returns on the basis of real costs and profits in crude oil, since the latter balance would be determined on the basis of extraneous occurrences at other levels of operation.

Of course, when returns are high in the industry as a whole, this influence might mean a bonus price to the independent, assuming that the price he receives is, in real terms, the prevailing price. But under such a pricing system the incentive push is toward complete integration in crude oil: a company producing the equivalent of all its own crude requirements obviously can take more of its profits at the production level than one less fully integrated, for whom the after-tax advantage of an increase in crude oil prices is offset by an increase in the out-of-pocket payment for the independently produced oil it must buy. 77/ And, naturally, the latter consideration places

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77/ See de Chazeau and Kahn, supra, pp. 221-223, 414-422. However, their calculations are directed to the possibility of a crude oil price increase being "passed on" to a corresponding product price increase and the analysis was limited to depletion benefits only, whereas the benefits of expensing may be as great. They calculate that, if as much as half the crude increase can be passed on, a company producing more than 38.5 percent of its own crude could benefit by increase of after-tax income. However, the thrust of the practical logic of the situation would appear to be the reverse, and analysis should therefore be directed to a determination of the degree of integration that would make it always more profitable to take profits from marketing in increased crude oil prices. Moreover, the depletion allowance is only one of the tax benefits accorded production income. See McDonald, Federal Tax Treatment of Income from Oil and Gas (The Brookings Institution, 1963).

a strong pressure on the company only partially integrated in crude to work ingenious devices to escape paying "full posted" for outside purchases, or to post less for such oil than for its own. 78/

To say that such a theoretical incentive to take profits at the production level exists, of course, is not to define the degree to which it has practical consequences. Clearly, the extended analysis necessary to explore this aspect of oil pricing would be beyond the present scope of this memorandum. For what it is worth, it may be observed that there was some evidence of such calculations of the desirability of high crude prices by the companies involved prior to the general crude oil price increase of January 1, 1957. And it well may be that the heavier tax incentives available for foreign production, have had a similar effect on the pricing of foreign crude to the domestic refiner. 79/

Certainly the surface pattern of prices and the structure and function of the markets for crude oil do not demonstrate any such marked inconsistency with this hypothesis to provide a basis for rejection. For its logic depends upon the existence of markets which do not insistently register objectively determined price at variance with the "transfer price" set by the integrated company for its own

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78/ Possibly of related significance is the rash of new arrangements for the use of "independent gatherers" by some less-integrated companies during the period between 1957 and 1964, when product returns were below anticipations.

79/ See Nelson, Prices, Costs and Conservation, American Economic Review, Vol. 48, Part II, p. 502 (1958).

purposes. And this appears to be the exact nature of the domestic markets in which crude oils are bought and sold.

D. Flow of Incentive and Industry Organization

This tentative sketch of the organization of the industry and the functioning of its intermediate markets forcibly suggests the need for far more intensive exploration of the basic question whether the purposes of the incentives for domestic oil development are not frustrated by industry organization. Clearly, crude oil prices are not set either on the basis of explicit governmental decision or on the basis of objective markets. It could well be that peculiarities of oil pricing and trading at all levels, as measured against normal economic response, flow from integrated company use of the restricted nature of crude oil markets to absorb there the usual profits of other levels of operation as a means of enhancing their after-tax returns. Moreover, the inconvenience of barter sales may be suffered simply to protect the field price from the pressure of any objective price set in that market. Indeed, much of the peculiarity of oil industry marketing practice may be merely the exercise at refining and product marketing of the monopoly powers inherent in field market purchase of crude oil, coupled with the powerful incentive of the superior ratio of after-tax profits in crude production.

If this were indeed the fact, it would go far to explain an anomaly in the industry's current posture. Although wellhead returns from crude oil production have produced a consistently larger cash

flow over each of the past ten years, both in absolute amount and in "constant dollars," 80/ the companies involved have apparently not mounted additional exploration effort commensurate with the seeming increase in profitability. Exploratory defining of new fields in the U.S. has apparently accounted for an increasingly smaller proportion of this cash flow from wellhead returns. 81/ These disparities between price and response to price may reflect the aforementioned lack of real relationship of crude price to actual costs and risks. These data also raise the question whether the incentives built into the governmental control system are presently, by virtue of the intricacies of the industry's structure and functioning, being made ineffective to achieve their intended objectives.

80/ See National Petroleum Council, supra, Part III, Table VIII. U.S. Department of Interior, Bureau of Mines, Mineral Industry Surveys: Annual Petroleum Statement, 1965 (December 1966).

81/ See National Petroleum Council, supra, Part III, Table XVI.

IV.

Current Problems

The current context gives new urgency to problems of long standing: of adequacy of energy supply and the relative place oil will occupy as one of several sources; of basic shifts in industry logistics and corresponding changes in the industry's population at various levels; and of the relative costs to oil-using industries and consumers of action taken to insure future domestic supply. These sharpen the need for a careful reconsideration of the adequacy and efficiency of Government and industry efforts. To stimulate that process, this memorandum sketches broadly though perhaps somewhat argumentatively, the working machinery of the existing system of compulsion and incentive utilized by Government to achieve its purposes, and of industry operations adapted to that system to achieve the most profit from the incentive and the least burden from the compulsion.

Final conclusions can not be validly drawn from such a sketch, nor can they be adequately grounded on mere polemic. The essentials are pragmatic study and discussion centered on practical problems which must be faced, enlisting to the extent possible the forces of public and private inquiry in the search for a more useful balance between Government regulation and free enterprise competition than now exists.

In summary, then, it is undeniable that there are serious questions of the general operations of the industry as measured by the usual standards of competitive performance; and there are equally serious

questions whether in large part the industry's noncompetitive performance in certain of its markets do not stem from the governmental interference with the competitive process. This Government action, ostensibly aimed only at achieving a stable supply base, appears to have side-effects which partly frustrate that purpose and impose more burden on consumers than is essential.

A. Competitive Performance

Of special importance to this Department is the competitive performance of the industry as a whole, whether competitive pressures are sufficient to compel the industry to pass on to the consumer full benefit of advances in productivity and cost reduction which it achieves. There is obviously a high degree of competitiveness usually displayed in marketing of petroleum products at retail and the immediately preceding wholesale levels; but that competitiveness does not appear to be reflected in preceding industry markets. It is therefore a matter of serious question whether that competition is effective to insure that the industry as a whole is regulated by its forces. Certainly, the field markets for crude can not be described as competitive in any real sense, and the pervasive influence of the nonprice barter sales so peculiarly characteristic of dealings among the dominant integrated companies, appears to insulate subsequent markets from competitive forces. As argued above, this may well be a manifestation of the incentive to transfer profit to crude production to enchance after-tax returns. And one important aspect of

this is the need to resolve the recurring question of policy to be applied in shaping the pipeline system into a competitive system of common carriers. As previous Attorneys General have noted, much of the industry's peculiar market custom stems from the operation of these important agencies of our basic transport network, as virtually private carrier facilities.

As a part of the general problem, continuing consideration must be given to maintaining an industry population adequate to the full expression of competitive forces. While the industry still has more large competitors than most other basic industries, the viability of nonintegrated competition at all levels has considerably diminished since World War II. The number of independent producers, traditionally regarded as the effective explorers for new oil sources, seems to be diminishing under the burdens of inequality of returns and lack of access to drilling prospects. Independent refiners, long a vital part of product competition, have both shrunk in numbers and competitive effectiveness: surely it is important that there has been no wholly new entrant to refining in many years, other than as captive contractor for the larger companies.

B. The Regulatory System

Coincident with the problems of competition are those raised by the complexity and comparative inflexibility of the governmental system. Clearly that system has shaped and continued to shape the operations of the industry. Perhaps much of the purpose of the controls

imposed might now better be realized through their selective relaxation in favor of greater reliance on open competition. Particularly, inhibitions on supply additions, intended to insure orderly marketing and a stable price as incentives to enhance exploratory efforts and rational development, are subject to serious question in the present context, not only because they may impose on the consumer a larger burden than is reasonably tolerable, but because it seems clear that a rapidly diminishing share of the added return goes to those who are willing to use it for its intended purpose. And as corollary to that, consideration must be given to the possibility of further measures to readjust the pattern of special incentive to relate it more directly to the achievement of a domestic production base adequate to national security.

The shifts in industry logistics to greater domestic reliance on crudes produced in the Outer Continental Shelf or in Canada, as reflected in the planned construction of large-diameter pipelines, seem in large part to be dictated less by real cost advantages, than by a desire of the companies involved to use self-produced rather than purchased crude. Whether so drastic a shift is healthy, with its inevitable reciprocal of less reliance on domestic Mid-Continent and Rocky Mountain sources, therefore raises serious questions of national security interest and the operation of the governmental system of control and incentive.

Similarly, while the control system does not directly set prices, it does confer upon the industry a considerable aid in setting the

crude oil price and Government therefore must carry a considerable responsibility for the resulting level of prices. If the present support system is continued in lieu of greater reliance on competition, then it would seem essential that the governmental system be provided with usefully selective machinery to assure that the price set with its active aid is a price reflecting the national interest balance.

In sum, an adequate supply of oil for the highly-organized and energy-dependent domestic United States economy is an essential for the foreseeable future. As a part of that, maintenance of some proportion of domestic producing capacity in reserve, as a protection against emergency need, appears to be justifiable. But the burden on the consumer for these protections has been considerable, and with oil costs intruding into every level of the economy, the mitigation of that burden to the extent possible must be an equally important aim of public policy. In balancing these counterpoised objectives the present governmental structure might well be more effective if it would insure effective market competition and rely more heavily on the forces of competition, restrained to the least degree compatible with public interest requirements.

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Mr. MACDONALD. Mr. Lawrence Alley, executive secretary of the Interstate Oil Compact Commission, Oklahoma City, Okla.

Mr. OTTINGER (presiding). Mr. Alley, it is nice to have you with us.

STATEMENTS OF RICHARD C. BYRD, GENERAL COUNSEL, AND LAWRENCE R. ALLEY, EXECUTIVE SECRETARY, INTERSTATE OIL COMPACT COMMISSION

Mr. BYRD. My name is Richard C. Byrd. Mr. Alley is the gentleman on my right. Mr. Alley is the executive secretary of the Interstate Oil Compact Commission. I am the general attorney for the Interstate Oil Compact Commission. I am here to read a prepared statement of the chairman of the compact, Governor Paul Johnson of the State of Mississippi.

Before I do so, I would like to express his regrets of not being able to be present. He had planned to make this appearance in person, and only yesterday finally notified us that it would be impossible for him to be here. I have a prepared statement of his which I will read to the committee.

Of course, I can't answer questions as he would answer them, but I will make myself available, as will Mr. Alley, to members of the committee for any questions that you might have of us.

This is Governor Johnson's statement.

STATEMENT OF HON. PAUL B. JOHNSON, GOVERNOR, STATE OF MISSISSIPPI (AS READ BY RICHARD C. BYRD)

My name is Paul Johnson and I am chairman of the Interstate Oil Compact Commission. My residence is in Jackson, Miss. I am appearing in support of H.R. 6737 and H.R. 5757.

With the discovery of enormous fields in the 1920's and early 1930's, the need for an interstate oil compact became obvious. The situation turned into a national problem so acute that the States of Oklahoma and Texas found it necessary to declare martial law in the oil fields. The congressional Cole committee, in 1934, after thorough investigation of the situation, said:

> We strongly urge upon the oil-producing States the adoption of State compacts to deal with the problems of production of petroleum with which individual States are powerless to cope . . . . A State compact . . . is the solution of those problems of petroleum production which cannot be solved with modification of the "law of capture" and other legislation operating within State boundaries.

Almost immediately—in December 1934—Governor-elect E. W. Marland, of Oklahoma, called a conference of representatives of the oil-producing States. As a result of this conference, a meeting was held in Dallas, Tex., in February 1935.

The interstate compact to conserve oil and gas was first signed at this meeting in Dallas on February 16, 1935, and subsequently approved by Congress the same year. Until 1943, successive renewals, with congressional consent, were for 2-year periods. Thereafter, Congress gave its authorization at 4-year intervals, the last being in 1963.

The membership of the Interstate Oil Compact Commission now consists of 29 oil-producing States: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Montana, Nebraska, Nevada, New Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Utah, West Virginia, and Wyoming.

In addition to these States, Georgia, Idaho, Oregon, and Washington are associate members. An associate member is a State not now having oil and gas production, but having prospects for such production.

The purpose of the compact is best expressed by the language of the compact itself. Article II states:

> The purpose of this Compact is to conserve oil and gas by the prevention of physical waste thereof from any cause.

Article VI states that it is the duty of the Commission—

> * * * to make inquiry and ascertain from time to time such methods, practices, circumstances and conditions as may be disclosed for bringing about conservation and the prevention of physical waste of oil and gas.

And to report—

> * * * its findings and recommendations to the several states for adoption or rejection.

In 1955, when Congress agreed to the extension of the compact, an amendment was added requiring the Attorney General to report annually to Congress as to whether or not the compact was living up to article V of the compact, which says:

> It is not the purpose of this Compact to authorize the states joining herein to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof, or create or perpetuate monopoly, or to promote regimentation, but is limited to the purpose of conserving oil and gas and preventing the avoidable waste thereof within reasonable limitations.

The Attorney General has made seven reports, following this directive.

In the report of September 1, 1956, the Attorney General reported:

> The functioning of the Commission and its committees has been undoubtedly of great importance to the conservation efforts of the States and of members of the industry.

In the report of the Attorney General, as of September 1, 1957, he concluded his summary by saying:

> On the whole, the activity of the Commission appears to have been worthwhile. It seems justifiable to ascribe a good deal of the improvement in industry operations over the past quarter century—the elimination of gushing wells and flaring gas, the better use of reservoir energy, the rise in production of oil from about 20–40 per cent to 80 per cent of the potential of the well through utilization of advanced recovery practices—to the promotional activities of the Compact Commission. Above all, the Compact and its Commission are unique examples of effective interstate cooperation on a wholly voluntary basis.

In the report of the Attorney General as of September 1, 1958, he said:

> At most, the Compact and its Commission are unique examples of effective interstate cooperation on a wholly voluntary basis. Observation of the Commission's activities over the current year requires no modification of these conclusions.

In the fourth report of the Attorney General, as of September 1, 1959, a thorough discussion is contained on the conservation programs of the various States, and, again, the Attorney General found no complaint of the operation of the Interstate Oil Compact Commission.

In the report dated May 15, 1963, the Attorney General said:

> * * * the Interstate Oil Compact, as an existing focal point for federal contact with state regulatory agencies, will have to play an important part. Accordingly, this department has urged the extension of the Compact.

In April 1963, Gov. Matthew E. Welsh of Indiana—who was Chairman of the Interstate Oil Compact Commission for 1963—received a letter from Secretary of the Interior Stewart L. Udall. This letter reads as follows:

> The States that make up the membership of the Interstate Oil Compact to Conserve Oil and Gas have a responsibility to assure that the petroleum industry makes its maximum contribution to the national security and to the strength of the national economy.
>
> The total crude supply available for domestic use is made up of domestic production and imports. The major component is domestic production which is subject to a supply control system based upon state statutes. Several factors have worked together to limit the effectiveness of this control system. Among these are the status of state regulatory statutes in light of present day technology, the limited participation of some producing states, and the increased flexibility of interstate purchasing and transportation facilities.
>
> The purpose of the Interstate Compact is "* * * to conserve oil and gas by the prevention of physical waste thereof from any cause." In order fully to achieve this objective the IOCC, we feel sure you agree, must do everything in its power to assure that state regulatory practices enhance the efficiency of the domestic petroleum industry.
>
> It is requested, therefore, that the Interstate Oil Compact Commission appoint a committee composed of representatives to the Commission to prepare an analysis of the regulatory systems of individual states and of the effect of these systems on the petroleum industry. We assume that the Committee will bear in mind throughout the study that state regulatory systems directly affect our national security and economic growth. If it is the wish of the Commission, the Department of the Interior, because of its interest and responsibilities in this area, would make available a representative to serve on the committee.

Following the receipt of this letter, the Chairman of the Interstate Oil Compact Commission called a special meeting of the executive committee for April 8, 1963, in Oklahoma City. At that meeting, he issued the following statement:

> Since its formation in 1935, the Interstate Oil Compact Commission has been dedicated to the promotion of oil and gas conservation, the elimination of waste, obtaining the greatest ultimate recovery and generally promoting the most efficient production practices for the domestic oil industry. Congress has taken note of the contribution to the national welfare made by the Interstate Oil Compact Commission and its member states since its formation by repeatedly extending the Compact with commendation in each instance.
>
> In view of the tremendous strides which have been made by the member states and the industry in each of these areas of conservation practices, it is appropriate that the Interstate Oil Compact Commission make an evaluation of what has been accomplished and what remains to be done, with particular reference to the technological developments and economic changes which are constantly occurring.
>
> This country's adequate supply of oil which powered America's successful efforts in World War II was in very large measure the result of efficient applica-

tion of the conservation practices developed under the leadership of the Interstate Oil Compact Commission. Since in the foreseeable future, oil will be the principal supplier of energy for our economy in both peace and war, the member states are determined that the momentum they have achieved in the conservation of this vital natural resource shall be continued.

For some time, the Executive Committee of the Interstate Oil Compact Commission has been discussing the role of the Commission, its achievements, its future objectives and obligations—and the appropriate manner of presenting these matters. The appointment of a committee composed of Governors of some of the member states of the Interstate Oil Compact Commission would serve as an excellent vehicle for this purpose and I am pleased that the Secretary of Interior, by his letter dated April 4, 1963, indicates he is in accord with this approach. I know that his offer of cooperation in this project is appreciated by the Governors of the member states.

It is therefore my intention to name such a committee in the very near future, if this is in accord with the wishes of the Executive Committee.

At this special meeting the Chairman was authorized to appoint a committee of Governors to conduct the study requested by Secretary of the Interior Udall. This committee was appointed immediately, and consisted of the following Governors of member States: Gov. Matthew E. Welsh, Indiana, Chairman; Gov. Otto Kerner, Illinois; Gov. John Anderson, Jr., Kansas; Gov. Jimmie H. Davis, Louisiana; Gov. Jack M. Campbell, New Mexico; Gov. Henry L. Bellmon, Oklahoma; Gov. John Connally, Texas; and Gov. Clifford P. Hansen, Wyoming.

This special study committee met and asked the standing committees of the Commission to pursue this study vigorously. After 2 years of continuous work by the special and standing committees of the Commission, the completed study was approved at the meeting of the Interstate Oil Compact Commission in December 1964. This study is said to be the most comprehensive study on oil and gas conservation that has ever been published.

Our commission has continued to carry on its educational program in oil and gas conservation. We have continued to issue many pamphlets and much technical material to improve oil and gas conservation.

In 1944 we produced our first movie and it was estimated that this film was shown to over 7 million people. In 1963 we produced our second movie, "More Oil and Gas for Today and Tomorrow," which deals with techniques and actions relating to the conservation of oil and gas.

I am sure it will be of interest to you to know that the compact is financed entirely by voluntary State contributions. It does not accept advertising in any of its publications, nor does it accept any money from individuals, corporations, companies, or organizations. It is purely an endeavor and accomplishment of the States.

In Oklahoma City, the commission has its own office building that was contributed by the State of Oklahoma. There are six full-time employees. Our agency is proud to say that it has always stayed within its budget—in fact, it has been able to build up a reserve fund from the State contributions. As is true of the special study report of Governors, previously referred to, we are proud that most of the work of the commission is done by its standing committees. These committees are composed of the outstanding men in their professions. All of this work is done voluntarily and without charge to the commission.

There have been five publications on which the production cost was so high we found it necessary to make a charge. In each instance, however, the charge was less than the actual cost.

I feel sure that, through its work, the Interstate Oil Compact Commission deserves some responsibility for the new laws that have been passed in recent years. It is interesting that the oldest producing State in the Union, where oil was first discovered—namely, Pennsylvania—passed a conservation law in 1962. Also, Kentucky, one of the older producing States, passed a conservation law in 1962. Within the last 3 years, New York, Ohio, Idaho, and Iowa have passed conservation laws that are almost identical with the suggested law prepared by the Legal Committee of the Interstate Oil Compact Commission.

There has been considerable progress by the States in modernizing their laws, rules, and regulations. A recent trend has been developed in the States to encourage wider spacing of wells so as to eliminate unnecessary wells.

I think that the accomplishments of the Interstate Oil Compact Commission could best be enumerated by—

(1) the program that has encouraged all of the States to either strengthen or pass conservation laws;

(2) the educational information distributed throughout the Nation, which has been of inestimable value to the general public in better understanding the benefits of oil and gas conservation and their value to the consumer. Some of the pamphlets that have been published by the commission have had a distribution of over 600,000;

(3) the continued work in the field of secondary recovery and pressure maintenance, showing the benefits of these operations in producing oil that would not otherwise have been produced and made available to the Nation as an energy fuel; and

(4) studies by the Interstate Oil Compact Commission in the field of salt water disposal. Not too many years ago salt water produced concurrently with oil was either stored in earthen pits or turned loose into streams, both of which caused great waste to both the land and fresh water. Now this type of disposal is practically unknown. The compact, through its studies, has shown to the States that the place to dispose of salt water is underground. It is interesting that the Governors' study showed that in the State of Kansas, during 1962, 98 percent of the produced salt water was stored in such a manner, and Kansas is one of the States that produces a high percentage of salt water with its oil. It is also interesting that the study showed that during the same year, Texas disposed of nearly 5 million barrels of salt water per day underground.

Through its educational program in conservation, the Commission through the States has been effective in practically eliminating the waste of large amounts of gas produced with oil that would otherwise have been lost, but which is now being supplied to the Nation.

For the past several years we have been cooperating extensively with the U.S. Department of the Interior, the American Petroleum Institute, and the American Gas Association, attempting to improve our present statistics on oil and gas production. This cooperation has been complete, with all parties anxious to do anything to have better reporting of oil and gas production. In addition, we are represented

upon the Natural Gas Advisory Council established by the Federal Power Commission. It has always been the purpose of the compact to be of assistance to any person or agency possible.

Member States of the Interstate Oil Compact Commission have shown a clear understanding of their responsibilities in the field of oil and gas conservation and have demonstrated the benefits of conservation by today having an excess producible reserve, that can be produced without waste, of some 3 million barrels daily available to this country in case of national emergency. It was fortunate that, due to the reserve created by these conservation programs, this producible reserve was available in World War II, the Korean war, and during the Suez crisis, and has today made available supplies for the present world crisis.

It has always been and will always be the policy of Interstate Oil Compact Commission to cooperate with any governmental agency association, or individual in the betterment of oil and gas conservation.

That concludes Governor Johnson's statement.

Mr. MACDONALD (presiding). Thank you, Mr. Byrd.

I was wondering, and perhaps I should have asked this of the last gentleman, Mr. Simmons. This conservation and the conservation practices that members of the Interstate Oil Compact Commission live up to, does this include quotas set within the States of how many barrels could be taken per day?

Mr. BYRD. In some States, sir. Each State has enacted its own conservation statute. There are seven States that have adopted what we call market demand statutes. They do pro rate or can—they don't all do it—pro rate to the market demand for purposes of preventing physical waste in oil and gas.

Mr. MACDONALD. I was aware of that, but that wasn't really my question. My question is strictly for my own information and it was: Does the Interstate Oil Compact Commission have anything to do with setting the quotas within the various States?

Mr. BYRD. Nothing whatsoever.

Mr. MACDONALD. Because, even if the words "market demand" are used, I have had mail from time to time saying that individual producers don't always agree with what is the market demand, and I was wondering.

Mr. BYRD. This is a function of the States and the compact has no part in that at all.

Mr. MACDONALD. I hope you don't think it's a flip question, but on page 9 you say:

> A recent trend has been developed in the states to encourage wider spacing of wells so as to eliminate unnecessary wells.

Is there any causal connection between this and the slant drilling business that became quite prominent in the news a couple of years ago?

Mr. BYRD. I don't believe so, Mr. Chairman. The trend toward wider spacing I think has resulted as technology has improved, completion practices have improved and we have gained more knowledge.

Mr. MACDONALD. You say depletion practices?

Mr. BYRD. Well completion, and we have gained greater knowledge of the reservoirs and function of the reservoirs, and we have learned we can get as much oil out of some formations without the number of wells that we used to drill.

Mr. MACDONALD. Then slant drilling has nothing to do with it?

Mr. BYRD. No.

Mr. MACDONALD. I understand that the Commission did a study at the suggestion of the Department of the Interior that some of the laws governing oil and gas regulation were out of date. Was this study completed?

Mr. BYRD. Yes. This is a copy of the study in bound form, and it was my understanding that the members of this committee 4 years ago asked me when I appeared if I would furnish them a copy. That was done. The new members probably don't have it. We will make available copies of the study to any members.

Mr. MACDONALD. Can you sum up any recommendations outside of taking off Federal regulation?

Mr. BYRD. There are a number of recommendations. That wasn't a specific recommendation. The recommendations that were written by the eight Governors and adopted, the chairman please, by 29 of the then 30 Governors covered practically all aspects of conservation including closer cooperation between the States, the recommendations as to well spacing and pooling for well spacing, unitization, recommendations as to proration of gas and gas liquids. There were recommendations made by the subcommittee of the eight Governors on practically every facet of oil and gas conservation.

As a result of those recommendations, there have been several amendments to State conservation statutes. Kansas just last week adopted a compulsory unitization provision.

Texas adopted a drilling pooling unit statute a year ago.

Two or three other States have adopted compulsory unitization statutes so that I think that the effect of the study was to point out to the States where they are deficient, and we have been very pleased with the response to our recommendations.

Mr. MACDONALD. Did you make any recommendations, say, to the FPC about their regulation of the industry?

Mr. BYRD. Yes, there was a recommendation regarding Federal regulation by the Federal Power Commission, the recommendation was that each State should actively participate in the conferences and hearings conducted by the FPC that directly or indirectly affect conservation of gas so that the interest of consumers and producers and the overall economy of the State will be served.

Mr. MACDONALD. Is your group in favor of the change in the FPC that instead of doing it by a case-by-case basis they go to a regional basis on the establishment of prices? Was that your original suggestion or did the FPC come up with it?

Mr. BYRD. I think the FPC came up with it, but the Compact Commission at various meetings has passed resolutions approving the area rate approach as opposed to individual well-pool approach.

Mr. MACDONALD. Thank you.

Mr. Ottinger?

Mr. OTTINGER. The activities of the Commission and its pamphlets are restricted to conservation of oil and gas? They don't get into questions of depletion allowances?

Mr. BYRD. Well, anything that has an effect, a possible effect upon waste of the natural resource would be a subject for consideration of the Commission, yes.

Mr. OTTINGER. Has the Commission done any work at all in the field of safety of transmission lines? That undoubtedly is pertinent to wastage of the resource. If lines are becoming outdated and there is anticipated that there will be a good deal of loss, isn't that a subject that the Commission should consider?

Mr. BYRD. I think it might well be. To my knowledge, to answer your question, this has never been a subject of a study of the Compact or of resolution or discussion when I have been in attendance, and I have been atenditng since 1957. The States frequently, in some instances the conservation agency of the States, and in other instances the utility commissions and in some States these are the same, have adopted rules and regulations pertaining to safety of gas distribution and gas transmission lines, but to my knowledge the Compact as such has never studies the problem or made any recommendations pertaining to it.

Mr. MACDONALD. Would the gentleman yield at that point?

Mr. OTTINGER. Surely.

Mr. MACDONALD. It has been called to my attention, and when I asked you the question concerning recommendations to the FPC, I wasn't aware of article V in the compact which is a re-doing of bills that were passed earlier in which you specifically state that—

> It is not the purpose of this Compact to authorize the States joining herein to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof.

Et cetera—

> but is limited to the purpose of conserving oil and gas and preventing the avoidable waste thereof within reasonable limitations.

So that wouldn't you say that maybe we ought to take this out if a bill is to come out or that you should discontinue giving your recommendations to the FPC about price which, as I say, specifically it is stated that you shall not do in article V on page 5?

Mr. BYRD. I think, if the chairman please, if you will study the history of not only the study that we are referring to but of the resolutions that have been passed by the compact pertaining to the area price concept that this goes more to the effort to expedite the certification of the producer's sales and expedite the handling of certificate applications before the Federal Power Commission, eliminating the backlog.

The inability of a gas well to have a market promptly after discovery, particularly in a common source of supply where other wells do have a market, creates a problem for State conservation agencies in their effort to protect the correlative rights of the owners of the minerals. I think that most of the efforts of the Compact Commission, and I am a member of the Federal Power Commission Natural Gas Advisory Council, and I know my discussions with the group have been toward eliminating problems administratively that impair the ability of the States to perform their statutory obligations.

It is not a question of whether the gas is going to be 15 cents. The Commission has never filed or appeared in area price proceedings in an argument about the price of the gas. It is an administrative effort to eliminate delay which causes some problems at the State level that we are concerned with.

Mr. MACDONALD. I am not sure I quite follow you, but I yield back to Mr. Ottinger.

Mr. OTTINGER. Does the Commission intend to take any position on legislation that has been recommended by the administration and is now under consideration with respect to providing gasline safety standards?

Mr. BYRD. As I said before, to my knowledge that has not been presented to the Compact Commission. I have not heard it discussed at Commission meetings. The Commission is a pretty democratic organization, though, and any Governor that has a resolution or topic to be discussed can present it. The meetings are open meetings and anything can be presented.

Mr. OTTINGER. Does the Commission take any position with respect to importation of oil from other countries?

Mr. BYRD. On imports? We have had resolutions in the past on imports that could affect the ability of the States to perform their obligations.

Mr. OTTINGER. Does the Commission have any current activities in that particular field?

Mr. BYRD. There was a resolution passed at the last annual meeting. There was a resolution I believe passed at the executive committee meeting in Biloxi last month.

Mr. OTTINGER. What was the nature of that?

Mr. BYRD. I thought, sir, I had a copy of the resolution with me. I do not.

Mr. OTTINGER. Will you furnish that to the committee?

Mr. BYRD. Yes, sir. I will be glad to. The nature of it was I believe that they were to supplement domestic production and not to replace it.

(The resolution referred to follows:)

RESOLUTION

The Interstate Oil Compact Commission Executive Committee, meeting in Biloxi, Mississippi, on the 6th day of March, 1967, by resolution reaffirms its previous position that the Mandatory Oil Imports Program provides the long-range assurance of stability that will result in adequate incentives for the discovery and development of United States petroleum resources needed for the expansion of the Nation's peacetime economy and the security of the Free World. Therefore be it

Resolved, That these same objectives also require:

(1) That no actions be taken that would weaken, undermine or circumvent the Mandatory Oil Import Program.

(2) That national policy as to the importation of natural gas be made consistent with the policy of limiting imports of crude oil and its products.

(3) That appropriate legislation be enacted by Congress so that the production and gathering of natural gas be only under the jurisdiction of State regulatory agencies, and that the price of this mineral resource reflect its market value in open competition with other fuels.

Be it further resolved, That the Executive Secretary of the Interstate Oil Compact Commission be hereby instructed to furnish a duly certified copy of this Resolution to the Governors of the Compacting States for such action as they deem necessary.

I, Lawrence R. Alley, Executive Secretary of the Interstate Oil Compact Commission, do hereby certify that the above and foregoing is a true and correct copy of a resolution adopted by the Interstate Oil Compact Commission, in meeting duly assembled at Biloxi, Mississippi, on the 6th day of March, 1967.

[SEAL]

LAWRENCE R. ALLEY,
Executive Secretary.

Mr. OTTINGER. Do you get into the problems of air pollution at all in the sulfuric content of oil?

Mr. BYRD. The compact as such has not studied the pollution-of-air problem. We have worked diligently over the years on soil and water pollution problems and have studied that very thoroughly. The Compact Commission as such has not delved into the problem. of air pollution. Other aspects of the industry, I understand, have. The compact has not.

Mr. OTTINGER. Thank you, Mr. Chairman.

Mr. MACDONALD. Mr. Broyhill.

Mr. BROYHILL. No questions at this time, Mr. Chairman.

Mr. MACDONALD. Mr. Harvey?

Mr. HARVEY. No questions, Mr. Chairman.

Mr. MACDONALD. Mr. Brotzman.

Mr. BROTZMAN. Thank you, Mr. Chairman.

Have you given any attention to oil shale, the production of petroleum from oil shale?

Mr. BYRD. We have had a number of technical papers presented to the Compact Commission by experts as to the potential availability of oil from oil shale. We have also, I think, had presented to the general sessions of the compact some of the problems relating to the shale production.

Mr. BROTZMAN. Of which there are many.

Mr. BYRD. Yes. I would say that the compact, the members of the Compact Commission are aware of the fact that that is a potentially great source of supply.

Mr. BROTZMAN. One other question relative to accomplishments in the Governor's statement here on page 9. I am referring to the salt water disposal.

Mr. BYRD. Yes, sir.

Mr. BROTZMAN. Tell me a little bit about what you recommended, what you do in this regard. You put it in the ground. I understand that. Does this then go into an aquifer. Is it distributed or dispersed or what happens to it?

Mr. BYRD. Well, most of the States provide that before an oil operator can dispose of salt water, they have to get approval of either the water resources department or the board of health or a conservation commission agency, and it can be injected back into formations that already contain salt water. It cannot be injected back into a formation that is in communication with either an oil zone, unless it is being used for production purposes, or a zone that contains fresh water. The regulatory agencies have prescribed certain formations in the State that you can reinject into.

Mr. BROTZMAN. The State regulatory agencies?

Mr. BYRD. Yes, where you can inject salt water brines into these formations, and they supervise them to see that the injections are not under excessive pressure so that they can cause fracturing into the fresh water zone. It is an expensive process, but it is the only safe method of disposing of salt water brine.

Mr. BROTZMAN. Have there been any problems that you know of with, say, a person who has an artesian well or a source of pure water, so to speak, where they have had salt water getting into that source?

Mr. BYRD. Yes, occasionally. In western Kansas we had an artesian well that was affected by injections and our study indicated in the

last couple of years that these effects resulted from improper practices of the industry years ago, the improper plugging of old abandoned wells permitting communication between zones. Our study indicated that 99 percent of the pollution problems from salt water that occur now in conjunction with oil operations are resulting from improper practices that occurred 20 or 30 years ago.

Mr. BROTZMAN. I see. That is all.

Thank you, Mr. Chairman.

Mr. MACDONALD. I notice that on page 5 you say that each State is bound to follow good practices in the production, and I guess distribution, of oil and gas in the interests of conservation and you provide for stringent penalties for the waste of either oil or gas. This is on page 5, lines 4 and 5, of the bill, 6737.

In any event you can just take my word for it that the language is there in the bill.

Mr. BYRD. Yes, I am sure it is there.

Mr. MACDONALD. Would you consider waste of gas where a pipeline is not deeply embedded enough or is faultily installed in such a manner as to lend itself to explosion or to have gas seepage on the basis that it just isn't deep enough? As I understand it, even FPC has no regulation as to how deep or what are safety measures surrounding these pipeline carriers of natural gas.

Mr. BYRD. Yes. If the danger of rupture is present which would permit the escape, venting of gas, yes, that would be waste. I am not sure that I agree that the depth has anything to do with it. Frequently in our section of the country the safest place to put a gas transmission line is on top of the ground.

Mr. MACDONALD. You must not have much traffic out there.

Mr. BYRD. I am talking about the rural areas, but some of the ground corrodes the pipe quickly, and it is better to leave it on top.

Mr. MACDONALD. My question really to you is wouldn't you consider this a waste of gas if the pipeline was not safely embedded?

Mr. BYRD. Centainly. I would put this in the same class as——

Mr. MACDONALD. After you agreed to that, I was going to ask you this. The bill says that stringent penalties for the waste of either oil or gas shall be imposed. I am wondering what these stringent penalties that bind the interstate compact would be.

Mr. BYRD. Of course the compact as such has no authority to impose penalties at all. It makes recommendations and suggestions to the States.

Mr. MACDONALD. On the contrary, it says, now on page 4 of the bill, that "each State bound hereby agrees that it will, within a reasonable time, enact statutes," et cetera.

Mr. BYRD. Yes, the States impose the penalties themselves.

Mr. MACDONALD. Where does it say that? It says on line 3, page 5, "* * * shall be denied access to commerce; and providing for stringent penalities for the waste of either oil or gas."

Mr. BYRD. As I read that, if the chairman please, it says each State bound hereby agrees that it will within a reasonable time, enact statutes providing in effect that oil produced in violation of its valid oil and gas conservation statutes or any valid rule, always referring to the State statutes, and providing for stringent penalties for the waste of either oil or gas.

Mr. MACDONALD. You think this article IV shouldn't be in the compact then?

Mr. BYRD. No, I think that it is one that the compact urges the States to enact statutes which make these provisions.

Mr. MACDONALD. In other words, this is just sort of pious language urging the States to do this. It has no binding effect. It is just language?

Mr. BYRD. Well, it's a recommendation to the States.

Mr. MACDONALD. What is the recommendation for stringent penalties for the waste of either oil or gas? I don't want to go round and round with you. I don't think it is that important.

Mr. BYRD. In Kansas I am familiar with the statutes there, and if you violate the rules of the Commission in Kansas, you can be subject to prosecution and fine.

Mr. MACDONALD. How many companies do you have there?

Mr. BYRD. Several.

Mr. MACDONALD. Over a period of what time?

Mr. BYRD. Oh, we have been regulating oil and gas production in Kansas since 1935.

Mr. MACDONALD. Does any of this go to the unsafeness of the transmission lines?

Mr. BYRD. No. I know of no instance where a transmission or distribution company has been prosecuted for unsafety or lack of safety in the transmission lines. Kansas has had for years safety rules and regulations regarding the transmission of gas through the State and the distribution of gas.

In the 8 years I was on the Commission we never prosecuted anyone for violating those rules. We did make inspections to see if they conformed with them. There were very few explosions on distribution systems in Kansas during the 8 years I was there.

Mr. MACDONALD. So, going to my last question on this subject, you feel that article IV and article V are not going in opposite directions because it seems to me that article V clearly outlines what the purpose of the compact is and yet in other parts of your testimony and in other parts of the bill it seems to me that you don't stick to what article V says that the compact was started and entered into for.

Mr. BYRD. Well, I can only answer you this way: In the discussions that have transpired at these meetings, always the language of article V, as well as article II, is referred to and we try to analyze our actions in view of those two paragraphs in the compact to make sure that what we are doing does relate to conservation, prevention of waste.

Then we determine if this activity violates the first section of article V. I would assume that there might be instances where the prevention of waste could infringe on this first section of article V and would not be a proper action of the compact. So that I think that historically, and I believe the Attorney General has so found in his studies and reports, that the activities of the compact have been related to the prevention of waste.

I might state one thing in regard to the blowouts. Through the years the compact has concerned itself about blowout prevention in the drilling of wells and we have had a lot of papers by technical experts, and I think the effort of the industry and the reports disseminated, passed out and made available by the compact have been very beneficial in preventing blowouts of high pressure wells during drilling

which prevents the waste of the gas, and I think that a blowout of a pipeline would be a similar type of waste.

Mr. MACDONALD. The last question, which has no relation to the questions just asked, is, "Is the State of Washington a signatory?" We had two figures. The gentleman from the Department indicates that 30 belong to the compact States.

Mr. BYRD. It is now 29. The State of Washington is no longer a member because they plugged the production and have no production at the present time, so that they have reverted to an associate member. There are actually 29.

Mr. MACDONALD. Not 30?

Mr. BYRD. Yes, sir.

Mr. MACDONALD. Are there any further questions?

Do you have anything to contribute, Mr. Alley?

Mr. ALLEY. No, sir.

Mr. MACDONALD. Thank you.

Mr. BYRD. Thank you very much.

Mr. MACDONALD. With that, the testimony is concluded and the hearing is adjourned.

(Whereupon, at 11:15 a.m., the subcommittee recessed, subject to call.)

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