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§ 715*l*. Repealed. June 22, 1942, ch. 435, 56 Stat. 351.

Section, acts Feb. 22, 1935, ch. 18, § 13, 49 Stat. 33; June 14, 1937, ch. 335, 50 Stat. 257; June 29, 1939, ch. 250, 53 Stat. 927, provided for expiration of this chapter on June 30, 1942.

§ 715m. Cooperation between Secretary of Interior and Federal and State authorities.

The Secretary of the Interior, in carrying out this chapter, is authorized to cooperate with Federal and State authorities. (June 25, 1946, ch. 472, § 3, 60 Stat. 307.)

CODIFICATION

Section was not enacted as a part of the Connolly Hot Oil Act which comprises this chapter.

DELEGATION OF POWERS

Delegation of President's authority to the Secretary of the Interior, see note set out under section 715*l* of this title.

Chapter 15B.—NATURAL GAS

§ 717. Necessity for regulation of natural gas companies.

(a) As disclosed in reports of the Federal Trade Commission made pursuant to S. Res. 83 (Seventieth Congress, first session) and other reports made pursuant to the authority of Congress, it is declared that the business of transporting and selling natural gas for ultimate distribution to the public is affected with a public interest, and that Federal regulation in matters relating to the transportation of natural gas and the sale thereof in interstate and foreign commerce is necessary in the public interest.

(b) The provisions of this chapter shall apply to the transportation of natural gas in interstate commerce, to the sale in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial, or any other use, and to natural-gas companies engaged in such transportation or sale, but shall not apply to any other transportation or sale of natural gas or to the local distribution of natural gas or to the facilities used for such distribution or to the production or gathering of natural gas.

(c) The provisions of this chapter shall not apply to any person engaged in or legally authorized to engage in the transportation in interstate commerce or the sale in interstate commerce for resale of natural gas received by such person from another person within or at the boundary of a State if all such natural gas so received is ultimately consumed within such State, or to any facilities used by such person for such transportation or sale, provided that the rates and service of such person and facilities be subject to regulation by a State commission. The matters exempted from the provisions of this chapter by this subsection are declared to be matters primarily of local concern and subject to regulation by the several States. A certificate from such State commission to the Federal Power Commission that such State commission has regulatory jurisdiction over rates and service of such person and facilities and is exercising such [illegible] regulatory power or jurisdiction. (June 21, 1938, ch. 556, § 1, 52 Stat. 821; Mar. 27, 1954, ch. 115, 68 Stat. 36.)

AMENDMENTS

1954—Subsec. (c). Act Mar. 27, 1954, added subsec. (c).

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in title 49 section 1476.

§ 717a. Definitions.

When used in this chapter, unless the context otherwise requires—

(1) "Person" includes an individual or a corporation.

(2) "Corporation" includes any corporation, joint-stock company, partnership, association, business trust, organized group of persons, whether incorporated or not, receiver or receivers, trustee or trustees of any of the foregoing, but shall not include municipalities as hereinafter defined.

(3) "Municipality" means a city, county, or other political subdivision or agency of a State.

(4) "State" means a State admitted to the Union, the District of Columbia, and any organized Territory of the United States.

(5) "Natural gas" means either natural gas unmixed, or any mixture of natural and artificial gas.

(6) "Natural-gas company" means a person engaged in the transportation of natural gas in interstate commerce, or the sale in interstate commerce of such gas for resale.

(7) "Interstate commerce" means commerce between any point in a State and any point outside thereof, or between points within the same State but through any place outside thereof, but only insofar as such commerce takes place within the United States.

(8) "State commission" means the regulatory body of the State or municipality having jurisdiction to regulate rates and charges for the sale of natural gas to consumers within the State or municipality.

(9) "Commission" and "Commissioner" means the Federal Power Commission, and a member thereof, respectively.

(June 21, 1938, ch. 556, § 2, 52 Stat. 821.)

CROSS REFERENCES

Federal Power Commission, creation of, see section 792 of Title 16, Conservation.

§ 717b. Exportation or importation of natural gas.

After six months from June 21, 1938, no person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the Commission authorizing it to do so. The Commission shall issue such order upon application, unless, after opportunity for hearing, it finds that the proposed exportation or importation will not be consistent with the public interest. The Commission may by its order grant such application, in whole or in part, with such modification and upon such terms and conditions as the Commission may find necessary or appropriate, and may from time to time, after opportunity for hearing and for good cause shown, make such supplemental order in the premises as it may find necessary or appropriate. (June 21, 1938, ch. 556, § 3, 52 Stat. 822.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F.R. 3175, 64 Stat. 1263, set out in the Appendix to Title 5, Government Organization and Employees.

DELEGATION OF FUNCTIONS

Functions of the President respecting certain facilities constructed and maintained on United States borders delegated to the Secretary of State, see Ex. Ord. No. 11423, Aug. 10, 1968, 33 F.R. 11741, set out as a note under section 301 of Title 3, The President.

EX. ORD. NO. 10485. PERFORMANCE OF FUNCTIONS RESPECTING ELECTRIC POWER AND NATURAL GAS FACILITIES LOCATED ON UNITED STATES BORDERS

Ex. Ord. No. 10485, Sept. 3, 1953, 18 F.R. 5397, provided: SECTION 1. (a) The Federal Power Commission is hereby designated and empowered to perform the following-described functions:

(1) To receive all applications for permits for the construction, operation, maintenance, or connection, at the borders of the United States, of facilities for the transmission of electric energy between the United States and a foreign country.

(2) To receive all applications for permits for the construction, operation, maintenance, or connection, at the borders of the United States, of facilities for the exportation or importation of natural gas to or from a foreign country.

(3) Upon finding the issuance of the permit to be consistent with the public interest, and, after obtaining the favorable recommendations of the Secretary of State and the Secretary of Defense thereon, to issue to the applicant, as appropriate, a permit for such construction, operation, maintenance, or connection. The Commission shall have the power to attach to the issuance of the permit and to the exercise of the rights granted thereunder such conditions as the public interest may in its judgment require.

(b) In any case wherein the Federal Power Commission, the Secretary of State, and the Secretary of Defense cannot agree as to whether or not a permit should be issued, the Commission shall submit to the President for approval or disapproval the application for a permit with the respective views of the Commission, the Secretary of State and the Secretary of Defense.

SEC. 2. The Chairman or Acting Chairman of the Federal Power Commission is hereby designated and empowered to sign any permits issued by the Federal Power Commission pursuant to section 1 (a) (3) hereof.

SEC. 3. The Federal Power Commission is authorized to issue such rules and regulations, and to prescribe such procedures, as it may from time to time deem necessary or desirable for the exercise of the authority delegated to it by this order.

SEC. 4. All Presidential Permits heretofore issued pursuant to Executive Order No. 8202 of July 13, 1939, and in force at the time of the issuance of this order, and all permits issued hereunder, shall remain in full force and effect until modified or revoked by the President or by the Federal Power Commission.

SEC. 5. Executive Order No. 8202 of July 13, 1939, is hereby revoked.

§ 717c. Rates and charges; schedules; suspension of new rates.

(a) All rates and charges made, demanded, or received by any natural-gas company for or in connection with the transportation or sale of natural gas subject to the jurisdiction of the Commission, and all rules and regulations affecting or pertaining to such rates or charges, shall be just and reasonable, and any such rate or charge that is not just and reasonable is declared to be unlawful.

(b) No natural-gas company shall, with respect to any transportation or sale of natural gas subject to the jurisdiction of the Commission, (1) make or grant any undue preference or advantage to any person or subject any person to any undue prejudice or disadvantage, or (2) maintain any unreasonable difference in rates, charges, service, facilities, or in any other respect, either as between localities or as between classes of service.

(c) Under such rules and regulations as the Commission may prescribe, every natural-gas company shall file with the Commission, within such time (not less than sixty days from June 21, 1938) and in such form as the Commission may designate, and shall keep open in convenient form and place for public inspection, schedules showing all rates and charges for any transportation or sale subject to the jurisdiction of the Commission, and the classifications, practices, and regulations affecting such rates and charges, together with all contracts which in any manner affect or relate to such rates, charges, classifications, and services.

(d) Unless the Commission otherwise orders, no change shall be made by any natural-gas company in any such rate, charge, classification, or service, or in any rule, regulation, or contract relating thereto, except after thirty days' notice to the Commission and to the public. Such notice shall be given by filing with the Commission and keeping open for public inspection new schedules stating plainly the change or changes to be made in the schedule or schedules then in force and the time when the change or changes will go into effect. The Commission, for good cause shown, may allow changes to take effect without requiring the thirty days' notice herein provided for by an order specifying the changes so to be made and the time when they shall take effect and the manner in which they shall be filed and published.

(e) Whenever any such new schedule is filed the Commission shall have authority, either upon com-

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§ 717f. Construction, extension, or abandonment of facilities; certificate of convenience and necessity; condemnation proceedings.

(a) Whenever the Commission, after notice and opportunity for hearing, finds such action necessary or desirable in the public interest, it may by order direct a natural-gas company to extend or improve its transportation facilities, to establish physical connection of its transportation facilities with the facilities of, and sell natural gas to, any person or municipality engaged or legally authorized to engage in the local distribution of natural or artificial gas to the public, and for such purpose to extend its transportation facilities to communities immediately adjacent to such facilities or to territory served by such natural-gas company, if the Commission finds that no undue burden will be placed upon such natural-gas company thereby: *Provided*, That the Commission shall have no authority to compel the enlargement of transportation facilities for such purposes, or to compel such natural-gas company to establish physical connection or sell natural gas when to do so would impair its ability to render adequate service to its customers.

(b) No natural-gas company shall abandon all or any portion of its facilities subject to the jurisdiction of the Commission, or any service rendered by means of such facilities, without the permission and approval of the Commission first had and obtained, after due hearing, and a finding by the Commission that the available supply of natural gas is depleted to the extent that the continuance of service is unwarranted, or that the present or future public convenience or necessity permit such abandonment.

(c) No natural-gas company or person which will be a natural-gas company upon completion of any proposed construction or extension shall engage in the transportation or sale of natural gas, subject to the jurisdiction of the Commission, or undertake the construction or extension of any facilities therefor, or acquire or operate any such facilities or extensions thereof, unless there is in force with respect to such natural-gas company a certificate of public convenience and necessity issued by the Commission authorizing such acts or operations: *Provided, however*, That if any such natural-gas company or predecessor in interest was bona fide engaged in transportation or sale of natural gas, subject to the jurisdiction of the Commission, on February 7, 1942, over the route or routes or within the area for which application is made and has so operated since that time, the Commission shall issue such certificate without requiring further proof that public convenience and necessity will be served by such operation, and without further proceedings, if application for such certificate is made to the Commission within ninety days after February 7, 1942. Pending the determination of any such application, the continuance of such operation shall be lawful.

In all other cases the Commission shall set the matter for hearing and shall give such reasonable notice of the hearing thereon to all interested persons as in its judgment may be necessary under rules and regulations to be prescribed by the Commission; and the application shall be decided in accordance with the procedure provided in subsection (e) of this section and such certificate shall be issued or denied accordingly: *Provided, however*, That the Commission may issue a temporary certificate in cases of emergency, to assure maintenance of adequate service or to serve particular customers, without notice or hearing, pending the determination of an application for a certificate, and may by regulation exempt from the requirements of this section temporary acts or operations for which the issuance of a certificate will not be required in the public interest.

(d) Application for certificates shall be made in writing to the Commission, be verified under oath, and shall be in such form, contain such information, and notice thereof shall be served upon such interested parties and in such manner as the Commission shall, by regulation, require.

(e) Except in the cases governed by the provisos contained in subsection (c) of this section, a certificate shall be issued to any qualified applicant therefor, authorizing the whole or any part of the operation, sale, service, construction, extension, or acquisition covered by the application, if it is found that the applicant is able and willing properly to do the acts and to perform the service proposed and to conform to the provisions of this chapter and the requirements, rules, and regulations of the Commission thereunder, and that the proposed service, sale, operation, construction, extension, or acquisition, to the extent authorized by the certificate, is or will be required by the present or future public convenience and necessity; otherwise such application shall be denied. The Commission shall have the power to attach to the issuance of the certificate and to the exercise of the rights granted thereunder such reasonable terms and conditions as the public convenience and necessity may require.

(f) The Commission, after a hearing had upon its own motion or upon application, may determine the service area to which each authorization under this section is to be limited. Within such service area as determined by the Commission a natural-gas company may enlarge or extend its facilities for the purpose of supplying increased market demands in such service area without further authorization.

(g) Nothing contained in this section shall be construed as a limitation upon the power of the Commission to grant certificates of public convenience and necessity for service of an area already being served by another natural-gas company.

(h) When any holder of a certificate of public convenience and necessity cannot acquire by contract, or is unable to agree with the owner of property to the compensation to be paid for, the necessary right-of-way to construct, operate, and maintain a pipe line or pipe lines for the transportation of natural gas, and the necessary land or other property, in addition to right-of-way, for the location of compressor stations, pressure apparatus, or other stations or equipment necessary to the proper operation of such pipe line or pipe lines, it may acquire the same by the exercise of the right of eminent domain in the district court of the United States for the district in which such property may be located, or in the State courts. The practice and procedure in any action or proceeding for that purpose

in the district court of the United States shall conform as nearly as may be with the practice and procedure in similar action or proceeding in the courts of the State where the property is situated: *Provided*, That the United States district courts shall only have jurisdiction of cases when the amount claimed by the owner of the property to be condemned exceeds $3,000. (June 21, 1938, ch. 556, § 7, 52 Stat. 824; Feb. 7, 1942, ch. 49, 56 Stat. 83; July 25, 1947, ch. 33, 61 Stat. 459.)

AMENDMENTS

1947—Subsec. (b). Act July 25, 1947, added subsec. (b).

1942—Subsecs. (c)—(g). Act Feb. 7, 1942, struck out former subsec. (c), and added subsecs. (c)—(g).

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

FEDERAL RULES OF CIVIL PROCEDURE

Condemnation of property, see rule 71A, Title 28, Appendix, Judiciary and Judicial Procedure.

§ 717g. Accounts; records; memoranda.

(a) Every natural-gas company shall make, keep, and preserve for such periods, such accounts, records of cost-accounting procedures, correspondence, memoranda, papers, books, and other records as the Commission may by rules and regulations prescribe as necessary or appropriate for purposes of the administration of this chapter: *Provided, however*, That nothing in this chapter shall relieve any such natural-gas company from keeping any accounts, memoranda, or records which such natural-gas company may be required to keep by or under authority of the laws of any State. The Commission may prescribe a system of accounts to be kept by such natural-gas companies, and may classify such natural-gas companies and prescribe a system of accounts for each class. The Commission, after notice and opportunity for hearing, may determine by order the accounts in which particular outlays or receipts shall be entered, charged, or credited. The burden of proof to justify every accounting entry questioned by the Commission shall be on the person making, authorizing, or requiring such entry, and the Commission may suspend a charge or credit pending submission of satisfactory proof in support thereof.

(b) The Commission shall at all times have access to and the right to inspect and examine all accounts, records, and memoranda of natural-gas companies; and it shall be the duty of such natural-gas companies to furnish to the Commission, within such reasonable time as the Commission may order, any information with respect thereto which the Commission may by order require, including copies of maps, contracts, reports of engineers, and other data, records, and papers, and to grant to all agents of the Commission free access to its property and its accounts, records, and memoranda when requested so to do. No member, officer, or employee of the Commission shall divulge any fact or information which may come to his knowledge during the course of examination of books, records, data, or accounts except insofar as he may be directed by the Commission or by a court.

(c) The books, accounts, memoranda, and records of any person who controls directly or indirectly a natural-gas company subject to the jurisdiction of the Commission and of any other company controlled by such person, insofar as they relate to transactions with or the business of such natural-gas company, shall be subject to examination on the order of the Commission. (June 21, 1938, ch. 556, § 8, 52 Stat. 825.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee or administrative unit under his jurisdiction by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717h. Rates of depreciation.

(a) The Commission may, after hearing, require natural-gas companies to carry proper and adequate depreciation and amortization accounts in accordance with such rules, regulations, and forms of account as the Commission may prescribe. The Commission may from time to time ascertain and determine, and by order fix, the proper and adequate rates of depreciation and amortization of the several classes of property of each natural-gas company used or useful in the production, transportation, or sale of natural gas. Each natural-gas company shall conform its depreciation and amortization accounts to the rates so ascertained, determined, and fixed. No natural-gas company subject to the jurisdiction of the Commission shall charge to its operating expenses any depreciation or amortization charges on classes of property other than those prescribed by the Commission, or charge with respect to any class of property a percentage of depreciation or amortization other than that prescribed therefor by the Commission. No such natural-gas company shall in any case include in any form under its operating or other expenses any depreciation, amortization, or other charge or expenditure included elsewhere as a depreciation or amortization charge or otherwise under its operating or other expenses. Nothing in this section shall limit the power of a State commission to determine in the exercise of its jurisdiction, with respect to any natural-gas company, the percentage rates of depreciation or amortization to be allowed, as to any class of property of such natural-gas company, or the composite depreciation or amortization rate, for the purpose of determining rates or charges.

(b) The Commission, before prescribing any rules or requirements as to accounts, records, or memoranda, or as to depreciation or amortization rates, shall notify each State commission having jurisdiction with respect to any natural-gas company involved and shall give reasonable opportunity to each such commission to present its views and shall receive and consider such views and recommendations. (June 21, 1938, ch. 556, § 9, 52 Stat. 826.)

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plaint of any State, municipality, State commission, or gas distributing company, or upon its own initiative without complaint, at once, and if it so orders, without answer or formal pleading by the natural-gas company, but upon reasonable notice, to enter upon a hearing concerning the lawfulness of such rate, charge, classification, or service; and, pending such hearing and the decision thereon, the Commission, upon filing with such schedules and delivering to the natural-gas company affected thereby a statement in writing of its reasons for such suspension, may suspend the operation of such schedule and defer the use of such rate, charge, classification, or service, but not for a longer period than five months beyond the time when it would otherwise go into effect; and after full hearings, either completed before or after the rate, charge, classification, or service goes into effect, the Commission may make such orders with reference thereto as would be proper in a proceeding initiated after it had become effective. If the proceeding has not been concluded and an order made at the expiration of the suspension period, on motion of the natural-gas company making the filing, the proposed change of rate, charge, classification, or service shall go into effect. Where increased rates or charges are thus made effective, the Commission may, by order, require the natural-gas company to furnish a bond, to be approved by the Commission, to refund any amounts ordered by the Commission, to keep accurate accounts in detail of all amounts received by reason of such increase, specifying by whom and in whose behalf such amounts were paid, and, upon completion of the hearing and decision, to order such natural-gas company to refund, with interest, the portion of such increased rates or charges by its decision found not justified. At any hearing involving a rate or charge sought to be increased, the burden of proof to show that the increased rate or charge is just and reasonable shall be upon the natural-gas company, and the Commission shall give to the hearing and decision of such questions preference over other questions pending before it and decide the same as speedily as possible. (June 21, 1938, ch. 556, § 4, 52 Stat. 822; May 21, 1962, Pub. L. 87-454, 76 Stat. 72.)

AMENDMENTS

1962—Subsec. (e). Pub. L. 87-454 inserted "or gas, distributing company" following "State commission", and deleted a proviso which denied authority to the Commission to suspend the rate, charge, classification, or service for the sale of natural gas for resale for industrial use only.

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3178, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in title 50 section 1671.

§ 717d. Fixing rates and charges; determination of cost of production or transportation.

(a) Whenever the Commission, after a hearing had upon its own motion or upon complaint of any State, municipality, State commission, or gas distributing company, shall find that any rate, charge or classification demanded, observed, charged, or collected by any natural-gas company in connection with any transportation or sale of natural gas, subject to the jurisdiction of the Commission, or that any rule, regulation, practice, or contract affecting such rate, charge, or classification is unjust, unreasonable, unduly discriminatory, or preferential, the Commission shall determine the just and reasonable rate, charge, classification, rule, regulation, practice, or contract to be thereafter observed and in force and shall fix the same by order: *Provided, however*, That the Commission shall have no power to order any increase in any rate contained in the currently effective schedule of such natural gas company on file with the Commission, unless such increase is in accordance with a new schedule filed by such natural gas company; but the Commission may order a decrease where existing rates are unjust, unduly discriminatory, preferential, otherwise unlawful, or are not the lowest reasonable rates.

(b) The Commission upon its own motion, or upon the request of any State commission, whenever it can do so without prejudice to the efficient and proper conduct of its affairs, may investigate and determine the cost of the production or transportation of natural gas by a natural-gas company in cases where the Commission has no authority to establish a rate governing the transportation or sale of such natural gas. (June 21, 1938, ch. 556, § 5, 52 Stat. 822.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, § 1, eff. May 24, 1950, 15 F. R. 3178, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in title 50 section 1671.

§ 717e. Ascertainment of cost of property.

(a) The Commission may investigate and ascertain the actual legitimate cost of the property of every natural-gas company, the depreciation therein, and, when found necessary for rate-making purposes, other facts which bear on the determination of such cost or depreciation and the fair value of such property.

(b) Every natural-gas company upon request shall file with the Commission an inventory of all or any part of its property and a statement of the original cost thereof, and shall keep the Commission informed regarding the cost of all additions, betterments, extensions, and new construction. (June 21, 1938, ch. 556, § 6, 52 Stat. 824.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3178, 64 Stat. 1265, set out in the appendix to Title 5, Government Organization and Employees.

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TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717i. Periodic and special reports.

(a) Every natural-gas company shall file with the Commission such annual and other periodic or special reports as the Commission may by rules and regulations or order prescribe as necessary or appropriate to assist the Commission in the proper administration of this chapter. The Commission may prescribe the manner and form in which such reports shall be made, and require from such natural-gas companies specific answers to all questions upon which the Commission may need information. The Commission may require that such reports shall include, among other things, full information as to assets and liabilities, capitalization, investment and reduction thereof, gross receipts, interest due and paid, depreciation, amortization, and other reserves, cost of facilities, cost of maintenance and operation of facilities for the production, transportation, or sale of natural gas, cost of renewal and replacement of such facilities, transportation, delivery, use, and sale of natural gas. The Commission may require any such natural-gas company to make adequate provision for currently determining such costs and other facts. Such reports shall be made under oath unless the Commission otherwise specifies.

(b) It shall be unlawful for any natural-gas company willfully to hinder, delay, or obstruct the making, filing, or keeping of any information, document, report, memorandum, record, or account required to be made, filed, or kept under this chapter or any rule, regulation, or order thereunder. (June 21, 1938, ch. 556, § 10, 52 Stat. 826.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717j. State compacts; reports on.

(a) In case two or more States propose to the Congress compacts dealing with the conservation, production, transportation, or distribution of natural gas it shall be the duty of the Commission to assemble pertinent information relative to the matters covered in any such proposed compact to make public and to report to the Congress information so obtained, together with such recommendations for further legislation as may appear to be appropriate or necessary to carry out the purposes of such proposed compact and to aid in the conservation of natural-gas resources within the United States and in the orderly, equitable, and economic production, transportation, and distribution of natural gas.

(b) It shall be the duty of the 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.

(c) In carrying out the purposes of this chapter, the Commission shall, so far as practicable, avail itself of the services, records, reports, and information of the executive departments and other agencies of the Government, and the President may, from time to time, direct that such services and facilities be made available to the Commission. (June 21, 1938, ch. 556, § 11, 52 Stat. 827.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717k. Officials dealing in securities.

It shall be unlawful for any officer or director of any natural-gas company to receive for his own benefit, directly or indirectly, any money or thing of value in respect to the negotiation, hypothecation, or sale by such natural-gas company of any security issued, or to be issued, by such natural-gas company, or to share in any of the proceeds thereof, or to participate in the making or payment of any dividends, other than liquidating dividends, of such natural-gas company from any funds properly included in capital account. (June 21, 1938, ch. 556, § 12, 52 Stat. 827.)

§ 717l. Complaints.

Any State, municipality, or State commission complaining of anything done or omitted to be done by any natural-gas company in contravention of the provisions of this chapter may apply to the Commission by petition, which shall briefly state the facts, whereupon a statement of the complaint thus made shall be forwarded by the Commission to such natural-gas company, which shall be called upon to satisfy the complaint or to answer the same in writing within a reasonable time to be specified by the Commission. (June 21, 1938, ch. 556, § 13, 52 Stat. 827.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717m. Investigations by Commission; attendance of witnesses; depositions.

(a) The Commission may investigate any facts, conditions, practices, or matters which it may find

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order made or imposed by the Commission under authority of this chapter, shall, in addition to any other penalties provided by law, be punished upon conviction thereof by a fine of not exceeding $500 for each and every day during which such offense occurs. (June 21, 1938, ch. 556, § 21, 52 Stat. 833.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717u. Jurisdiction of offenses; enforcement of liabilities and duties.

The District Courts of the United States and the United States courts of any Territory or other place subject to the jurisdiction of the United States shall have exclusive jurisdiction of violations of this chapter or the rules, regulations, and orders thereunder, and of all suits in equity and actions at law brought to enforce any liability or duty created by, or to enjoin any violation of, this chapter or any rule, regulation, or order thereunder. Any criminal proceeding shall be brought in the district wherein any act or transaction constituting the violation occurred. Any suit or action to enforce any liability or duty created by, or to enjoin any violation of, this chapter or any rule, regulation, or order thereunder may be brought in any such district or in the district wherein the defendant is an inhabitant, and process in such cases may be served wherever the defendant may be found. Judgments and decrees so rendered shall be subject to review as provided in sections 225 and 347 of Title 28. No costs shall be assessed against the Commission in any judicial proceeding by or against the Commission under this chapter. (June 21, 1938, ch. 556, § 22, 52 Stat. 833; June 25, 1948, ch. 646, § 1, 62 Stat. 875, 895.)

REFERENCES IN TEXT

Sections 225 and 347 of Title 28, referred to in the text, were repealed by act June 25, 1948, ch. 646, § 39, 62 Stat. 992, eff. Sept. 1, 1948.

Former section 225 is now covered by sections 1291—1294 of Title 28, Judiciary and Judicial Procedure; see Title 11, Bankruptcy, sections 21 and 45 of this title, and section 3731 of Title 18, Crimes and Criminal Procedure.

Former section 347 is now covered by section 1254 of Title 28, Judiciary and Judicial Procedure.

CODIFICATION

The words "the District Court of the United States for the District of Columbia" following "The District Courts of the United States" have been deleted as superfluous in view of section 132 (a) of Title 28, Judiciary and Judicial Procedure, which states that "There shall be in each judicial district a district court which shall be a court of record known as the United States District Court for the district" and section 88 of Title 28 which states that "The District of Columbia constitutes one judicial district".

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

CROSS REFERENCES

Venue of district courts, see section 1391 et seq. of Title 28, Judiciary and Judicial Procedure.

FEDERAL RULES OF CIVIL PROCEDURE

Rules as governing the procedure in all suits of a civil nature whether cognizable as cases at law or in equity see rule 1, Title 28, Appendix, Judiciary and Judicial Procedure.

Injunctions, see rule 65.

One form of action, see rule 2.

Process, see rule 4.

FEDERAL RULES OF CRIMINAL PROCEDURE

Continuation of section under rule 18, see note by Advisory Committee under rule 18, Title 18, Appendix, Crimes and Criminal Procedure.

§ 717v. Separability of provisions.

If any provision of this chapter, or the application of such provision to any person or circumstance, shall be held invalid, the remainder of the chapter, and the application of such provision to persons or circumstances other than those as to which it is held invalid shall not be affected thereby. (June 21, 1938, ch. 556, § 23, 52 Stat. 833.)

§ 717w. Short title.

This chapter may be cited as the "Natural Gas Act." (June 21, 1938, ch. 556, § 24, 52 Stat. 833.)

Chapter 16.—EMERGENCY RELIEF

§§ 721, 722. Omitted.

CODIFICATION

Sections, acts May 12, 1933, ch. 30, §§ 1, 2, 48 Stat. 55, 56; Feb. 15, 1934, ch. 13, § 1, 48 Stat. 351, were enacted as temporary legislation during the economic emergency in 1933.

§ 723. Repealed. Pub. L. 89-554, § 8(a), Sept. 6, 1966, 80 Stat. 618.

Section, acts May 12, 1933, ch. 30, § 1, 48 Stat. 56; Feb. 15, 1934, ch. 13, § 1, 48 Stat. 351, was enacted as temporary legislation during the economic emergency in 1933.

§§ 724 to 728. Omitted.

CODIFICATION

Sections, acts May 12, 1933, ch. 30, §§ 4–8, 48 Stat. 56–58; Feb. 15, 1934, ch. 13, § 1, 48 Stat. 351, were enacted as temporary legislation during the economic emergency in 1933.

SUPPLEMENTARY LEGISLATION

Legislation supplementary to the Federal Emergency Relief Act of 1933 was contained in the following acts, executive orders, and reorganization plans: Res. Apr. 8, 1935, ch. 48, 49 Stat. 115; Aug. 12, 1935, ch. 508, § 9, 49 Stat. 596; Aug. 24, 1935, ch. 641, § 55, 49 Stat. 781; Feb. 11, 1936, ch. 49, § 7, 49 Stat. 1134; Feb. 11, 1936, ch. 51, 49 Stat. 1135; June 22, 1936, ch. 689, title II, 49 Stat. 1608; Res. Feb. 24, 1937, ch. 17, 50 Stat. 21; June 29, 1937, 11 p. m., ch. 401, 50 Stat. 357; Mar. 2, 1938, ch. 38, 52 Stat. 83; June 21, 1938, ch. 554, 52 Stat. 817; Feb. 4, 1939, ch. 1, 53 Stat. 809; Res. Apr. 1, 1939, ch. 34, 53 Stat. 565; Apr. 13, 1939, ch. 62, 53 Stat. 578; Res. June 30, 1939, ch. 251, 53 Stat. 927; Apr. 6, 1940, ch. 77, 54 Stat. 99; June 26, 1940, ch. 428, title II, 54 Stat. 690; Res. June 26, 1940, ch. 432, 54 Stat. 811; June 27, 1940, ch. 437, title I, 54 Stat. 633; Oct. 9, 1940, ch. 780, title I, 54 Stat. 1035; Mar. 1, 1941, ch. 9, § 1, 55 Stat. 15; Apr. 5, 1941, ch. 40, § 1, 55 Stat. 110; July 1, 1941, ch. 266, 55 Stat. 396; July 1, 1941, ch. 269, title II, 55 Stat. 487; Dec. 17, 1941, ch. 591, 55 Stat. 810; June 27, 1942, ch. 450, § 1, 56 Stat. 410; July 2, 1942, ch. 475, title II, 56 Stat. 571; Res. July 2, 1942, ch. 479, 56 Stat. 634; June 28, 1943, ch. 130, 57 Stat. 161; June 26, 1943, ch. 145, title I,

findings, which if supported by substantial evidence, shall be conclusive, and its recommendation, if any, for the modification or setting aside of the original order. The judgment and decree of the court, affirming, modifying, or setting aside, in whole or in part, any such order of the Commission, shall be final, subject to review by the Supreme Court of the United States upon certiorari or certification as provided in sections 346 and 347 of Title 28.

(c) The filing of an application for rehearing under subsection (a) of this section shall not, unless specifically ordered by the Commission, operate as a stay of the Commission's order. The commencement of proceedings under subsection (b) of this section shall not, unless specifically ordered by the court, operate as a stay of the Commission's order. (June 21, 1938, ch. 556, § 19, 52 Stat. 831; June 25, 1948, ch. 646, § 32 (a), 62 Stat. 991; May 24, 1949, ch. 139, § 127, 63 Stat. 107; Aug. 28, 1958, Pub. L. 85–791, § 19, 72 Stat. 947.)

REFERENCES IN TEXT

Sections 346 and 347 of Title 28 referred to in subsec. (b), were repealed by act June 25, 1948, ch. 646, § 39, 62 Stat. 992, eff. Sept. 1, 1948, and are now covered by section 1254 of Title 28, Judiciary and Judicial Procedure.

AMENDMENTS

1958—Subsec. (a). Pub. L. 85–791, § 19 (a), added sentence providing that upon record in a proceeding has been filed in a court of appeals, Commission may modify or set aside any finding or order issued by it.

Subsec. (b). Pub. L. 85–791, § 19(b), in second sentence, substituted "transmitted by the clerk of the court to" for "served upon" and substituted "file with the court" for "certify and file with the court a transcript of", and inserted "as provided in section 2112 of Title 28", and, in third sentence, substituted "petition" for "transcript", and "jurisdiction, which upon the filing of the record with it shall be exclusive" for "exclusive jurisdiction."

CHANGE OF NAME

Subsec. (b) amended by act June 25, 1948, eff. Sept. 1, 1948, as amended by act May 24, 1949, which substituted "court of appeals" for "circuit court of appeals".

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F.R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717s. Enforcement of chapter; regulations and orders.

(a) Whenever it shall appear to the Commission that any person is engaged or about to engage in any acts or practices which constitute or will constitute a violation of the provisions of this chapter, or of any rule, regulation, or order thereunder, it may in its discretion bring an action in the proper district court of the United States, or the United States courts of any Territory or other place subject to the jurisdiction of the United States, to enjoin such acts or practices and to enforce compliance with this chapter or any rule, regulation, or order thereunder, and upon a proper showing a permanent or temporary injunction or decree or restraining order shall be granted without bond. The Commission may transmit such evidence as may be available concerning such acts or practices or concerning apparent violations of the Federal antitrust laws to the Attorney General, who, in his discretion, may institute the necessary criminal proceedings.

(b) Upon application of the Commission the district courts of the United States and the United States courts of any Territory or other place subject to the jurisdiction of the United States shall have jurisdiction to issue writs of mandamus commanding any person to comply with the provisions of this chapter or any rule, regulation, or order of the Commission thereunder.

(c) The Commission may employ such attorneys as it finds necessary for proper legal aid and service of the Commission or its members in the conduct of their work, or for proper representation of the public interest in investigations made by it, or cases or proceedings pending before it, whether at the Commission's own instance or upon complaint, or to appear for or represent the Commission in any case in court; and the expenses of such employment shall be paid out of the appropriation for the Commission. (June 21, 1938, ch. 556, § 20, 52 Stat. 832; June 25, 1948, ch. 646, § 1, 62 Stat. 875, 895.)

REFERENCES IN TEXT

The Federal antitrust laws, referred to in subsection (a), are classified generally to this title.

CODIFICATION

The words "the District Court of the United States for the District of Columbia" in subsec. (a) following "district court of the United States" and in subsec. (b) following "district courts of the United States" have been deleted as superfluous in view of section 132 (a) of Title 28, Judiciary and Judicial Procedure, which states that "There shall be in each judicial district a district court which shall be a court of record known as the United States District Court for the district", and section 88 of Title 28 which states that "The District of Columbia constitutes one judicial district".

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F.R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

FEDERAL RULES OF CIVIL PROCEDURE

Injunctions, see rule 65, Title 28, Appendix, Judiciary and Judicial Procedure.

Judgments, see rule 54.

Mandamus as abolished but relief yet available by appropriate action or motion under the rules, see rule 81 (b).

§ 717t. General penalties.

(a) Any person who willfully and knowingly does or causes or suffers to be done any act, matter, or thing in this chapter prohibited or declared to be unlawful, or who willfully and knowingly omits or fails to do any act, matter, or thing in this chapter required to be done, or willfully and knowingly causes or suffers such omission or failure, shall, upon conviction thereof, be punished by a fine of not more than $5,000 or by imprisonment for not more than two years, or both.

(b) Any person who willfully and knowingly violates any rule, regulation, restriction, condition, or

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(c) The Commission shall make available to the several State commissions such information and reports as may be of assistance in State regulation of natural-gas companies. Whenever the Commission can do so without prejudice to the efficient and proper conduct of its affairs, it may, upon request from a State commission, make available to such State commission as witnesses any of its trained rate, valuation, or other experts, subject to reimbursement of the compensation and traveling expenses of such witnesses. All sums collected hereunder shall be credited to the appropriation from which the amounts were expended in carrying out the provisions of this subsection. (June 21, 1938, ch. 556, § 17, 52 Stat. 830.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717q. Appointment of officers and employees.

The Commission may, subject to civil-service laws, appoint such officers and employees as are necessary for carrying out its functions under this chapter and fix their salaries in accordance with chapter 51 and subchapter III of chapter 53 of Title 5. (June 21, 1938, ch. 556, § 18, 52 Stat. 831; Oct. 28, 1949, ch. 782, title XI, § 1106(a), 63 Stat. 972.)

REFERENCES IN TEXT

The civil-service laws, referred to in the text, are classified generally to Title 5, Government Organization and Employees.

CODIFICATION

Provisions which authorized the Commission to appoint and fix the compensation of such officers, attorneys, examiners, and experts as may be necessary to carry out its functions without regard to the provisions of other laws applicable to the employment and compensation of officers and employees of the United States were omitted since the positions referred to are now in the classified civil service and subject to the applicable compensation schedules.

The authority for covering excepted positions into the classified civil service was given the President by former section 631a of Title 5, Executive Departments and Government Officers and Employees.

For positions now covered by the Classification Act of 1949, see sections 305 and 5102 of Title 5. For the power of the Civil Service Commission to determine the applicability of those sections to specific positions, see section 5102 of Title 5.

AMENDMENTS

1949—Act Oct. 28, 1949, struck out the "Classification Act of 1923" and inserted in lieu thereof "Classification Act of 1949", which, for purposes of codification, was translated as "chapter 51 and subchapter III of chapter 53 of Title 5".

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717r. Rehearings; court review of orders.

(a) Any person, State, municipality, or State commission aggrieved by an order issued by the Commission in a proceeding under this chapter to which such person, State, municipality, or State commission is a party may apply for a rehearing within thirty days after the issuance of such order. The application for rehearing shall set forth specifically the ground or grounds upon which such application is based. Upon such application the Commission shall have power to grant or deny rehearing or to abrogate or modify its order without further hearing. Unless the Commission acts upon the application for rehearing within thirty days after it is filed, such application may be deemed to have been denied. No proceeding to review any order of the Commission shall be brought by any person unless such person shall have made application to the Commission for a rehearing thereon. Until the record in a proceeding shall have been filed in a court of appeals, as provided in subsection (b) of this section, the Commission may at any time, upon reasonable notice and in such manner as it shall deem proper, modify or set aside, in whole or in part, any finding or order made or issued by it under the provisions of this chapter.

(b) Any party to a proceeding under this chapter aggrieved by an order issued by the Commission in such proceeding may obtain a review of such order in the court of appeals of the United States for any circuit wherein the natural-gas company to which the order relates is located or has its principal place of business, or in the United States Court of Appeals for the District of Columbia, by filing in such court, within sixty days after the order of the Commission upon the application for rehearing, a written petition praying that the order of the Commission be modified or set aside in whole or in part. A copy of such petition shall forthwith be transmitted by the clerk of the court to any member of the Commission and thereupon the Commission shall file with the court the record upon which the order complained of was entered, as provided in section 2112 of Title 28. Upon the filing of the petition such court shall have jurisdiction, which upon the filing of the record with it shall be exclusive, to affirm, modify, or set aside such order in whole or in part. No objection to the order of the Commission shall be considered by the court unless such objection shall have been urged before the Commission in the application for rehearing unless there is reasonable ground for failure so to do. The finding of the Commission as to the facts, if supported by substantial evidence, shall be conclusive. If any party shall apply to the court for leave to adduce additional evidence, and shall show to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for failure to adduce such evidence in the proceedings before the Commission, the court may order such additional evidence to be taken before the Commission and to be adduced upon the hearing in such manner and upon such terms and conditions as to the court may seem proper. The Commission may modify its findings as to the facts by reason of the additional evidence so taken, and it shall file with the court such modified or new

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SAVINGS PROVISION

Amendment by Pub. L. 91-452 not to affect any immunity to which any individual is entitled under this section by reason of any testimony given before the sixtieth day following Oct. 15, 1970, see section 260 of Pub. L. 91-452, set out as a note under section 6001 of Title 18, Crimes and Criminal Procedure.

CROSS REFERENCES

Contempt proceedings, see sections 401, 402, 3285, 3691 and 3771 of Title 18, Crimes and Criminal Procedure.

Fees and mileage of witnesses, see chapter 119 of Title 28, Judiciary and Judicial Procedure.

Immunity of witnesses, see section 6001 et seq. of Title 18, Crimes and Criminal Procedure.

Misdemeanor, offense punishable by imprisonment not exceeding one year as, see section 1 of Title 18, Crimes and Criminal Procedure.

FEDERAL RULES OF CIVIL PROCEDURE

Process, see rule 4, Title 28, Appendix, Judiciary and Judicial Procedure.

FEDERAL RULES OF CRIMINAL PROCEDURE

Criminal contempt, see rule 42 and note by Advisory Committee under the rule, Title 18, Appendix, Crimes and Criminal Procedure.

§ 717n. Hearings; rules of procedure.

(a) Hearings under this chapter may be held before the Commission, any member or members thereof, or any representative of the Commission designated by it, and appropriate records thereof shall be kept. In any proceeding before it, the Commission in accordance with such rules and regulations as it may prescribe, may admit as a party any interested State, State commission, municipality or any representative of interested consumers or security holders, or any competitor of a party to such proceeding, or any other person whose participation in the proceeding may be in the public interest.

(b) All hearings, investigations, and proceedings under this chapter shall be governed by rules of practice and procedure to be adopted by the Commission, and in the conduct thereof the technical rules of evidence need not be applied. No informality in any hearing, investigation, or proceeding or in the manner of taking testimony shall invalidate any order, decision, rule, or regulation issued under the authority of this chapter. (June 21, 1938, ch. 556, § 15, 52 Stat. 829.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717o. Administrative powers of Commission; rules, regulations, and orders.

The Commission shall have power to perform any and all acts, and to prescribe, issue, make, amend, and rescind such orders, rules, and regulations as it may find necessary or appropriate to carry out the provisions of this chapter. Among other things, such rules and regulations may define accounting, technical, and trade terms used in this chapter; and may prescribe the form or forms of all statements, declarations, applications, and reports to be filed with the Commission, the information which they shall contain, and the time within which they shall be filed. Unless a different date is specified therein, rules and regulations of the Commission shall be effective thirty days after publication in the manner which the Commission shall prescribe. Orders of the Commission shall be effective on the date and in the manner which the Commission shall prescribe. For the purposes of its rules and regulations, the Commission may classify persons and matters within its jurisdiction and prescribe different requirements for different classes of persons or matters. All rules and regulations of the Commission shall be filed with its secretary and shall be kept open in convenient form for public inspection and examination during reasonable business hours. (June 21, 1938, ch. 556, § 16, 52 Stat. 830.)

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan No. 9, §§ 1, 2, eff. May 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

§ 717p. Use of joint boards; cooperation with State commissions.

(a) The Commission may refer any matter arising in the administration of this chapter to a board to be composed of a member or members, as determined by the Commission, from the State or each of the States affected or to be affected by such matter. Any such board shall be vested with the same power and be subject to the same duties and liabilities as in the case of a member of the Commission when designated by the Commission to hold any hearings. The action of such board shall have such force and effect and its proceedings shall be conducted in such manner as the Commission shall by regulations prescribe. The Board shall be appointed by the Commission from persons nominated by the State commission of each State affected, or by the Governor of such State if there is no State commission. Each State affected shall be entitled to the same number of representatives on the board unless the nominating power of such State waives such right. The Commission shall have discretion to reject the nominee from any State, but shall thereupon invite a new nomination from that State. The members of a board shall receive such allowances for expenses as the Commission shall provide. The Commission may, when in its discretion sufficient reason exists therefor, revoke any reference to such a board.

(b) The Commission may confer with any State commission regarding rate structures, costs, accounts, charges, practices, classifications, and regulations of natural-gas companies; and the Commission is authorized, under such rules and regulations as it shall prescribe, to hold joint hearings with any State commission in connection with any matter with respect to which the Commission is authorized to act. The Commission is authorized in the administration of this chapter to avail itself of such cooperation, services, records, and facilities as may be afforded by any State commission.

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necessary or proper in order to determine whether any person has violated or is about to violate any provision of this chapter or any rule, regulation, or order thereunder, or to aid in the enforcement of the provisions of this chapter or in prescribing rules or regulations thereunder, or in obtaining information to serve as a basis for recommending further legislation to the Congress. The Commission may permit any person to file with it a statement in writing, under oath or otherwise, as it shall determine, as to any or all facts and circumstances concerning a matter which may be the subject of investigation. The Commission, in its discretion, may publish in the manner authorized by section 825k of Title 16, and make available to State commissions and municipalities, information concerning any such matter.

(b) The Commission may, after hearing, determine the adequacy or inadequacy of the gas reserves held or controlled by any natural-gas company, or by anyone on its behalf, including its owned or leased properties or royalty contracts; and may also, after hearing, determine the propriety and reasonableness of the inclusion in operating expenses, capital, or surplus of all delay rentals or other forms of rental or compensation for unoperated lands and leases. For the purpose of such determinations, the Commission may require any natural-gas company to file with the Commission true copies of all its lease and royalty agreements with respect to such gas reserves.

(c) For the purpose of any investigation or any other proceeding under this chapter, any member of the Commission, or any officer designated by it, is empowered to administer oaths and affirmations, subpena witnesses, compel their attendance, take evidence, and require the production of any books, papers, correspondence, memoranda, contracts, agreements, or other records which the Commission finds relevant or material to the inquiry. Such attendance of witnesses and the production of any such records may be required from any place in the United States or at any designated place of hearing. Witnesses summoned by the Commission to appear before it shall be paid the same fees and mileage that are paid witnesses in the courts of the United States.

(d) In case of contumacy by, or refusal to obey a subpena issued to, any person, the Commission may invoke the aid of any court of the United States within the jurisdiction of which such investigation or proceeding is carried on, or where such person resides or carries on business, in requiring the attendance and testimony of witnesses and the production of books, papers, correspondence, memoranda, contracts, agreements, and other records. Such court may issue an order requiring such person to appear before the Commission or member or officer designated by the Commission, there to produce records, if so ordered, or to give testimony touching the matter under investigation or in question; and any failure to obey such order of the court may be punished by such court as a contempt thereof. All process in any such case may be served in the judicial district whereof such person is an inhabitant or wherever he may be found or may be doing business. Any person who wilfully shall fail or refuse to attend and testify or to answer any lawful inquiry or to produce books, papers, correspondence, memoranda, contracts, agreements, or other records, if in his or its power so to do, in obedience to the subpena of the Commission, shall be guilty of a misdemeanor and upon conviction shall be subject to a fine of not more than $1,000 or to imprisonment for a term of not more than one year, or both.

(e) The testimony of any witness may be taken, at the instance of a party, in any proceeding or investigation pending before the Commission, by deposition at any time after the proceeding is at issue. The Commission may also order testimony to be taken by deposition in any proceeding or investigation pending before it at any stage of such proceeding or investigation. Such depositions may be taken before any person authorized to administer oaths not being of counsel or attorney to either of the parties, nor interested in the proceeding or investigation. Reasonable notice must first be given in writing by the party or his attorney proposing to take such deposition to the opposite party or his attorney of record, as either may be [illegible] which notice shall state the name of the witness and the time and place of the taking of his deposition. Any person may be compelled to appear and depose, and to produce documentary evidence, in the same manner as witnesses may be compelled to appear and testify and produce documentary evidence before the Commission, as hereinbefore provided. Such testimony shall be reduced to writing by the person taking deposition, or under his direction, and shall, after it has been reduced to writing, be subscribed by the deponent.

(f) If a witness whose testimony may be desired to be taken by deposition be in a foreign country, the deposition may be taken before an officer or person designated by the Commission, or agreed upon by the parties by stipulation in writing to be filed with the Commission. All depositions must be promptly filed with the Commission.

(g) Witnesses whose depositions are taken as authorized in this chapter, and the person or officer taking the same, shall be entitled to the same fees as are paid for like services in the courts of the United States. (June 21, 1938, ch. 556, § 14, 52 Stat. 827; Oct. 15, 1970, Pub. L. 91-452, title II, § 218, 84 Stat. 929.)

AMENDMENTS

1970—Subsec. (h). Pub. L. 91-452 struck out subsec. (h) which related to the immunity from prosecution of any individual compelled to testify or produce evidence, documentary or otherwise, after claiming his privilege against self-incrimination.

EFFECTIVE DATE OF 1970 AMENDMENT

Amendment by Pub. L. 91-452 effective on the sixtieth day following Oct. 15, 1970, see section 260 of Pub. L. 91-452, set out as a note under section 3001 of Title 18, Crimes and Criminal Procedure.

TRANSFER OF FUNCTIONS

All executive and administrative functions of the Federal Power Commission were, with certain reservations, transferred to the Chairman of such Commission, with authority vested in him to authorize their performance by any officer, employee, or administrative unit under his jurisdiction, by 1950 Reorg. Plan. No. 9, § 1, eff. Sept. 24, 1950, 15 F. R. 3175, 64 Stat. 1265, set out in the Appendix to Title 5, Government Organization and Employees.

FREE CONFERENCE COMMITTEE REPORT ON SEVERENCE SB 4

SENATE/HOUSE/FREE CONFERENCE SEVERANCE TAX COMPARISON

Oil based upon the average daily production for each well for the calendar month in barrels, the tax is:

	PER CENT OF VALUE	CENTS PER BARREL FLOOR (27 Degree Gravity)
SENATE	3% on the first 300 barrels; 5% on the next 700 barrels; 6% on the next 1,500 barrels; and 8% on all production in excess of 2,500 barrels.	$.10125 on each of the first 300 barrels; $.16875 on each of the next 700 barrels; $.2025 on each of the next 1,500 barrels; $.2700 on each barrel of production in excess of 2,500 barrels.
HOUSE		$.113 on wells producing 100 BPD or less; $.226 on wells producing 101-1000 BPD; $.301 on wells producing 1001-2000 BPD; $.376 on wells producing 2001 BPD or more
FREE CONFERENCE	5% on the first 300 barrels; 6% on the next 700 barrels; 8% on all production in excess of 1,000 barrels.	$.16375 on each of the first 300 barrels; $.2025 on each of the next 700 barrels; $.2700 on each barrel of production in excess of 1,000 barrels.

	SENATE	HOUSE	FREE CONFERENCE	"SPLITS" (Current Law/House)
Effective Cook Inlet Tax Rate (1,000 BPD of 35 degree API Oil)				
Per Cent of Value	4.4%	8.69%*	5.72 %	6.5%
Cents Per Barrel	$.1716	$.339	$.2232	$.2553

* This is the percentage equivalent of $.339 cents per barrel tax on $3.90 wellhead value.

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COOK INLET CRUDE

% of Cook Inlet Production	Gravity	1st 300	Next 700	Balance
-0-	27°	$.16875	$.2025	$.27
7.4	29	.1755	.2106	.2808
3.0	31.7	.18225	.2187	.2916
55.1	34.5	.192375	.23085	.3078
13.7	35.	.19875	.2349	.3132
11.6	36.	.199125	.23895	.3186
6.	38.5	.205875	.24705	.3294
2.9	42.	.219375	.26325	.351

Current Average: $.159 per bbl.

New Average: .2454

Rates go up 1 for 1 with U.S. Wholesale Index on crude oil.

Tom Fink

AGO 534027

NEW LAW

Average	27°	35°
1,000 bbl.	$.195175	$.2232
2,000 bbl.	.2325875	.2676
10,000 bbl.	.2625175	

Cook Inlet Average: $.2454

Escalating Clause: % of crude increase based on Wholesale Crude Index

- -

Current	New Law	
$.159	Cook Inlet Average	$.2454
.18	North Slope Crude	.2625

No escalator

Full 1 for 1 escalator

Tom Fink

Alaska State Legislature

SENATOR
LOWELL THOMAS, Jr.
7054 TANAINA DRIVE
ANCHORAGE, ALASKA 99502

WHILE IN JUNEAU
POUCH V
JUNEAU, ALASKA 99801

MAJORITY LEADER

COMMITTEES
HEALTH, WELFARE AND
EDUCATION - CHAIRMAN

RESOURCES
RULES

Senate

November 10, 1973

The Hon. Terry Miller, Senate President
The Hon. Tom Fink, Speaker of the House
Alaska State Legislature

Mr. President:
Mr. Speaker:

In making this Free Conference Committee Report, the conferees wish to declare no intention whatsoever to set a lasting tax schedule as regards production of oil and gas from either Cook Inlet or the North Slope, and in fact, we wish to state our firm belief that substantial changes will be required in the future.

The compromise that we have reached represents basically no change in the ultimate impact to the North Slope future production, different than that contained in the Governor's bill presented to us during the early stages of this session.

We understand that the changes which we have made insofar as they relate to Cook Inlet production represent a compromise in which the level proposed by this bill will be less than one-half the difference between the existing law and that suggested by the House Finance Committee Substitute proposal.

Respectfully submitted,

Senator Lowell Thomas, Jr.
Chairman

Representative Andrew Warwick
Vice Chairman

Senator C. R. Lewis

Representative Robert Hartig

Senator John Rader

Representative Russ Meekins

AGO 534029

CONFERENCE COMMITTEE
REPORT

Mar. 17 '93
Date

Mr. President
Mr. Speaker

The Conference Committee [with powers of free conference]

which has had CSSB 4 (Fin) am and HCSCSSB 4, Oil and gas properties production tax

under consideration, recommends that It be replaced with FCC for CSSB4(FIN)am and HCSCSSB 4,

Senate members	House members
Senator Thomas, Chairman	Mr. Marshall, Chairman
Senator Lewis	Mr. Hartin
Senator Rader	Mr. Keeling

AGO 534030

FREE
CONFERENCE
REP.
AD VALOREM
HB1

Alaska State Legislature

Senate

JUNEAU, ALASKA

NOVEMBER 11, 1973

Honorable Terry Miller,
President of the Senate
Honorable Tom Fink,
Speaker of the House of Representatives

Gentlemen and Members of the Senate and House:

You have directed the attention of the members of the Free Conference Committee that considered Free Conference Committee Substitute for Senate Committee Substitute for Committee Substitute for House Bill No. 1 (ad valorem tax on oil and gas exploration, production and pipeline transportation property) to Section 5 of the bill.

Section 5 of the bill amends AS 29.53.055 to provide that the limitations on municipal taxation proposed in Section 45 as well as those existing limitations in Section 50 of AS 29.53 do not apply to taxes levied or pledged to pay or secure the payment of the principal and interest on bonded indebtedness.

The language of Sec. 55 originally was adopted to avoid general obligation bonds being denominated as limited tax bonds which would result in higher interest costs. It is the intent of the Committee that Section 5 of the bill is not intended to expand local governments' right to tax facilities covered by this act but only to give local governments the right in case of default or pending default on bonds to exceed the limits in Sec. 45 and 50 of AS 29.53.

Sen. Bill Ray, Chairman

Rep. Orah Freeman, Chairman

Sen. John Butrovich

Rep. Bud Saylor

Sen. W. R. Ray Jr.

Rep. Glenn Hackney

AGO 534065

FREE CONFERENCE COMMITTEE REPORT

ON

FREE CONFERENCE CS FOR SENATE CS FOR
CS FOR HOUSE BILL NO. 1

The Free Conference Committee has had Senate CS for CS for HB 1 under consideration and recommends it be replaced with Free Conference Committee Substitute for Senate CS for CS for House Bill No. 1. The principal changes in the Free Conference Committee Substitute from the Governor's bill as introduced are as follows:

1. Sec. 43.56.010 (b) includes language stating "No municipality may exempt from taxation property authorized to be taxed under this chapter." The effect of this is to require Valdez and the North Star Borough to levy a personal property tax on pipeline related property. The same paragraph limits exemptions from municipal taxation to those currently allowed under the municipal code.

2. Sec. 29.53.045 The bill as introduced limited political subdivisions to levying a tax not to exceed 7 mills on the value of taxable property taxable under the Act. The Free Conference Committee Substitute changes this limitation to allow municipal flexibility in levying up to an amount equivalent to $1,000 in total revenue per person residing within its boundaries or a tax on an amount up to 20% of the average per capita assessed valuation in the state multiplied by the number of residents in the taxing municipality. Assessment of the "taxable property" will be done on a state-wide basis by the Board established in the Act.

3. Sec. 43.056.030 (b) A definition of the word "properties" as relating to mineral interests was inserted to make it clear that things such as office buildings and other similar property not related to production could not be "interpreted" as being exempt from this tax.

4. Sec. 43.056.030 (7) and (8) allow municipalities to continue to tax property under existing law subject to the $1,000 per person or 20% per capita assessed valuation limitations through the period preceding the "construction commencement date." Without this change it was the committee's fear that municipalities might be precluded from taxing property during this period. The committee left taxation of construction equipment to municipalities.

5. Sec. 43.056.040 (a) (A) and (C) The committee adopted both the House and Senate concepts of authorizing municipalities to levy a retail sales or use tax on the first $1,000 of each sale.

6. Sec. 43.056.060 Members of the Assessment Review Board were required to be knowledgeable of assessment procedures and are subject to confirmation by the legislature.

7. Throughout the Committee Substitute, certain consistent language changes have been made to clearly divide the taxing authorities contained in this legislation. Thus you will find inserted specific references to "Sec. 10 (a)" of this chapter which means that the committee substitute restricts the particular provision to dealing with state assessment and taxing matters. The other consistent change is to delete the words "political subdivision" and substitute "municipality." "Municipality" is a more precise reference to a taxing entity of local government.

8. Sec. 43.056.060 (d) The Free Conference Committee Substitute would value production equipment on the basis of replacement cost. It was the feeling of the committee that the original proposed "actual cost" reduced by depreciation might preclude assessment on an appreciating value of the equipment. Depreciation of production equipment was changed from "units of production" to "economic life of proven reserves." This change would tie depreciation directly to the estimated useful life of the production equipment.

9. Sec. 43.056.210 (2) The definition of "construction commencement date" has been changed to provide two options. The construction commencement date for state taxing purposes is to be either April 1, 1974, or the date necessary permits or approvals, with no preventive injunctions or decrees, are received should this date occur earlier than April 1. The thinking here was that the state would not tax property taxable under this Act until such time as construction actually began. The fixed date was inserted to insure good faith on the part of the companies (if no permit were applied for, obviously none could be granted). Should it be clear by April 1 that further legal problems prevent the start of construction, the legislature would be in session and could amend the April 1 date to any other date of its choosing.

10. Sec. 43.056.210 (6) The definition of "taxable property" deletes reference to equipment used in the construction of the pipeline thus leaving this equipment taxable by municipalities. The definition was clarified to include drilling rigs and wells, whether producing or not. An additional definition of "taxable property" was added excluding "permanent residences, office buildings requiring substantial local government services, or gas pipeline systems operated as utilities and regulated by the Alaska Public Utilities Commission."

11. Sec. 2 amends AS 29.53.025 (a) to read: "Municipalities may exclude or exempt or partially exempt residential property from taxation by ordinance ratified by the voters at a regular or special election. An exclusion or exemption authorized by this section may not exceed $10,000 for any one residence."

12. Sec. 4. Adds a new subsection (b) to AS 29.53.050 to prevent the doubling up of tax receipts in taxing municipalities where municipal boundaries overlap or municipalities occupy the same territory.

13. Sec. 5. Language was added to AS 29.53.055 to make clear that the limitations on municipal taxing authority with respect to oil and gas properties taxable under this chapter do not apply to taxes levied or pledged to pay or secure the payment of principal and interest on bonds.

14. Sec. 6. The effective date is January 1, 1974, rather than immediately as proposed by the bill as introduced.

Bill Ray
Senator Bill Ray

Ora A. Freeman
Representative Ora Freeman

(3) "department" means the Department of Revenue;

(4) "gas" includes all natural gas and all hydrocarbons produced at the wellhead not defined as oil;

(5) "intangible drilling expenses" means those expenses defined in sec. 263(c) of the United States Internal Revenue Code as defined on the effective date of this paragraph;

(6) "taxable property" means real and tangible personal property used or committed by contract or other agreement for use within this state primarily in the exploration for, production of, or pipeline transportation of gas or unrefined oil (except for property used solely for the retail distribution or liquefication of natural gas), or in the operation or maintenance of facilities used in the exploration for, production of, or pipeline transportation of gas or unrefined oil, including machinery, appliances, supplies, equipment, drilling rigs, wells (whether producing or not), gathering lines and transmission lines, pumping stations, compressor stations, power plants, topping plants, processing units, roads, tank farms, tanker terminals, docks and other port facilities, air strips and communication equipment and facilities, maintenance equipment and facilities, and maintenance camps and other related facilities; "taxable property" does not include permanent residences, office buildings requiring substantial local government services, or gas pipeline systems operated as utilities and regulated by the Alaska Public Utilities Commission;

(7) "unrefined oil" includes crude petroleum oil and other hydrocarbons regardless of gravity which are produced at the wellhead in liquid form and the liquid hydrocarbons known as distillate or condensate recovered or extracted from gas other than gas produced in association with oil and commonly known as casinghead gas.

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* Sec. 2. AS 29.53.025(a) is amended to read:

(a) Municipalities may exclude or exempt or partially exempt residential property from taxation by ordinance ratified by the voters at a regular or special election. An exclusion or exemption authorized by this section may not exceed $10,000 for any one residence.

* Sec. 3. AS 29.53 is amended by adding a new section to read:

Sec. 29.53.045. TAX ON OIL AND GAS PRODUCTION AND PIPELINE PROPERTY. (a) A municipality may levy and collect taxes on taxable property taxable under AS 43.56 only by using one of the methods set out in (b) or (c) of this section.

(b) A municipality may levy and collect a tax on the full and true value of taxable property taxable under AS 43.56 as valued by the Department of Revenue at a rate not to exceed that which produces an amount of revenue from the total municipal property tax equivalent to $1,000 a year for each person residing within its boundaries.

(c) A municipality may levy and collect a tax on the full and true value of that portion of taxable property taxable under AS 43.56 as assessed by the Department of Revenue which, when combined with the value of property otherwise taxable by the municipality, does not exceed the product of 225 per cent of the average per capita assessed full and true value of property in the state multiplied by the number of residents of the taxing municipality.

(d) By February 1 of each assessment year a taxing municipality must inform the Department of Revenue which method of taxation the municipality will use.

(e) For purposes of this section, population shall be determined by the commissioner of community and regional affairs based on the latest statistics of the United States Bureau of the Census or on other reliable population data, and shall advise each municipality of its

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population as so determined by January 15 of each year.

* Sec. 4. AS 29 53.050 is amended by adding a new subsection to read:

(b) No municipality, or combination of municipalities occupying the same geographical area, in whole or in part, may levy taxes which will result in tax revenues from all sources exceeding either (1) $1,000 a year for each person residing within their boundaries or (2) when combined with the value of property otherwise taxable by the municipality, the product of 225 per cent of the average per capita assessed full and true value of property in the state multiplied by the number of residents of the taxing municipality. If two or more municipalities occupying the same geographical area, in whole or in part, attempt to levy a tax the combined levy of which would result in tax revenues from all sources exceeding either (1) $1,000 a year for each person residing within their boundaries or (2) when combined with the value of property otherwise taxable by the municipality, the product of 225 per cent of the average per capita assessed full and true value of property in the state multiplied by the number of residents of the taxing municipality, the commissioner of community and regional affairs shall apportion the lawful levy and equitably divide these revenues on the basis of need, services performed and other considerations in the public interest. For the purpose of this subsection, population shall be determined by the commissioner of community and regional affairs based on the latest statistics of the United States Bureau of the Census or on other reliable population data.

* Sec. 5. AS 29.53.055 is amended to read:

Sec. 29.53.055. NO LIMITATION ON TAXES TO PAY BONDS. The limitations [LIMITATION] provided for in secs. 45 or [SEC.] 50 of this chapter do [DOES] not apply to taxes levied or pledged to pay or secure the payment of the principal and interest on bonds. Taxes

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to pay or secure the payment of principal and interest on bonds may be levied without limitation as to rate or amount.

Sec. 6. This Act takes effect on January 1, 1974.

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(3) "department" means the Department of Revenue;

(4) "gas" includes all natural gas and all hydrocarbons produced at the wellhead not defined as oil;

(5) "intangible drilling expenses" means those expenses defined in sec. 263(c) of the United States Internal Revenue Code as defined on the effective date of this paragraph;

(6) "taxable property" means real and tangible personal property used or committed by contract or other agreement for use within this state primarily in the exploration for, production of, or pipeline transportation of gas or unrefined oil (except for property used solely for the retail distribution or liquefication of natural gas), or in the operation or maintenance of facilities used in the exploration for, production of, or pipeline transportation of gas or unrefined oil, including machinery, appliances, supplies, equipment, drilling rigs, wells (whether producing or not), gathering lines and transmission lines, pumping stations, compressor stations, power plants, topping plants, processing units, roads, tank farms, tanker terminals, docks and other port facilities, air strips and communication equipment and facilities, maintenance equipment and facilities, and maintenance camps and other related facilities; "taxable property" does not include permanent residences, office buildings requiring substantial local government services, or gas pipeline systems operated as utilities and regulated by the Alaska Public Utilities Commission;

(7) "unrefined oil" includes crude petroleum oil and other hydrocarbons regardless of gravity which are produced at the wellhead in liquid form and the liquid hydrocarbons known as distillate or condensate recovered or extracted from gas other than gas produced in association with oil and commonly known as casinghead gas.

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(b) A municipality may levy and collect a tax on the full and true value of taxable property taxable under AS 43.56 as valued by the Department of Revenue at a rate not to exceed that which produces an amount of revenue from the total municipal property tax equivalent to $1,000 a year for each person residing within its boundaries.

(c) A municipality may levy and collect a tax on the full and true value of that portion of taxable property taxable under AS 43.56 as assessed by the Department of Revenue which, when combined with the value of property otherwise taxable by the municipality, does not exceed the product of 225 per cent of the average per capita assessed full and true value of property in the state multiplied by the number of residents of the taxing municipality.

(d) By February 1 of each assessment year a taxing municipality must inform the Department of Revenue which method of taxation the municipality will use.

(e) For purposes of this section, population shall be determined by the commissioner of community and regional affairs based on the latest statistics of the United States Bureau of the Census or on other reliable population data, and shall advise each municipality of its

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population as so determined by January 15 of each year.

* Sec. 4. AS 29.53.050 is amended by adding a new subsection to read:

(b) No municipality, or combination of municipalities occupying the same geographical area, in whole or in part, may levy taxes which will result in tax revenues from all sources exceeding either (1) $1,000 a year for each person residing within their boundaries or (2) when combined with the value of property otherwise taxable by the municipality, the product of 225 per cent of the average per capita assessed full and true value of property in the state multiplied by the number of residents of the taxing municipality. If two or more municipalities occupying the same geographical area, in whole or in part, attempt to levy a tax the combined levy of which would result in tax revenues from all sources exceeding either (1) $1,000 a year for each person residing within their boundaries or (2) when combined with the value of property otherwise taxable by the municipality, the product of 225 per cent of the average per capita assessed full and true value of property in the state multiplied by the number of residents of the taxing municipality, the commissioner of community and regional affairs shall apportion the lawful levy and equitably divide these revenues on the basis of need, services performed and other considerations in the public interest. For the purpose of this subsection, population shall be determined by the commissioner of community and regional affairs based on the latest statistics of the United States Bureau of the Census or on other reliable population data.

* Sec. 5. AS 29.53.055 is amended to read:

Sec. 29.53.055. NO LIMITATION ON TAXES TO PAY BONDS. The limitations [LIMITATION] provided for in secs. 45 or [SEC.] 50 of this chapter do [DOES] not apply to taxes levied or pledged to pay or secure the payment of the principal and interest on bonds. Taxes

to pay or secure the payment of principal and interest on bonds may be levied without limitation as to rate or amount.

Sec. 6. This Act takes effect on January 1, 1974.

FEDERAL TRADE COMMISSION REPORT ON PETROLEUM INDUSTRY

93d Congress
1st Session

COMMITTEE PRINT

PRELIMINARY FEDERAL TRADE COMMISSION STAFF REPORT ON ITS INVESTIGATION OF THE PETROLEUM INDUSTRY

PREPARED AT THE REQUEST OF

HENRY M. JACKSON, *Chairman*

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

UNITED STATES SENATE

PURSUANT TO

S. Res. 45

A NATIONAL FUELS AND ENERGY POLICY STUDY

Serial No. 93–15 (92–50)

Printed for the use of the Committee on Interior and Insular Affairs

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SENATE RESOLUTION 45

National Fuels and Energy Policy Study

This publication is a background document for the National Fuels and Energy Policy Study authorized by Senate Resolution 45, introduced by Senators Jennings Randolph and Henry M. Jackson on February 4, 1971, and considered, amended, and agreed to by the Senate on May 3, 1971.

The resolution authorizes the Senate Interior and Insular Affairs Committee, and ex officio members of the Committees on Commerce and Public Works and the Joint Committee on Atomic Energy, to make a full and complete investigation and study of National Fuels and Energy Policies.

This document is published to assist members of the Committee and other interested parties in their understanding of the issues inherent in the formulation of a long-term National Energy Policy which assures the continued welfare of the Nation, including balance growth, safeguarding and enhancing the quality of the environment, and national security.

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MEMORANDUM OF THE CHAIRMAN

To members and ex officio members of the Senate Committee on Interior and Insular Affairs' National Fuels and Energy Policy Study (S. Res. 45):

On May 31, 1973, I asked the Federal Trade Commission to prepare a report on the role of the petroleum industry in the development of the present fuel shortages. The FTC study, entitled "Preliminary Federal Trade Commission Staff Report on Its Investigation of the Petroleum Industry," was forwarded to me on July 6, 1973.

In his transmittal letter of July 6, 1973, Commission Chairman Lewis A. Engman stated that he would not release this report to the public because of FTC policy not to release studies which relate to matters pending before the FTC. In my letter of July 9 to Chairman Engman, I requested specific reasons why this report should not be made public. His response of July 11, 1973, again restated the Commission's general policy of nondisclosure.

My review of the report and the analysis provided to me by staff does not disclose any specific information about identifiable companies, events, or activities which, in my view, could reasonably be construed to either jeopardize Commission law enforcement activities or to prejudice in any manner the rights or legal defenses of any company or individual against whom legal action might be taken in the future.

Therefore, in the interest of full disclosure of all the facts relevant to current and pending fuel shortages, I have directed that the FTC report be published at this time in the form of a committee print for the use of interested Senators and as background for the committee's consideration of energy policy issues.

HENRY M. JACKSON, *Chairman.*

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U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C., May 31, 1973.

Hon. LEWIS A. ENGMAN,
Chairman, Federal Trade Commission,
Washington, D.C.

DEAR MR. CHAIRMAN: Over the past six months every section of the nation has experienced serious shortages of heating oil, gasoline, diesel fuel and propane. These shortages—especially gasoline and diesel shortages—threaten to become critical within the next few months. Shortages of fuel oil next fall and winter are certain. They may be the most serious ever experienced in this country.

You are undoubtedly aware of the growing and increasingly widespread conviction that the fuel shortage is a *deliberate, conscious contrivance* of the major integrated petroleum companies to destroy the independent refiners and marketers, to capture new markets, to increase gasoline prices, and to obtain the repeal of environmental protection legislation. Allegations and some circumstantial evidence of this sort are coming increasingly from oil independents, consumer organizations, students of the industry, Members of Congress, and from the chief legal officers of local and State governments.

As Chairman of the National Fuels and Energy Policy Study authorized by S. Res. 45, I recognize that the origins of the current fuels shortages are complex. They involve, among other things, stringent environmental regulations, a lack of refining capacity, an incentive system that is not producing desired results, the need for deep-water port facilities, and many other factors.

One major cause of the shortage which should not be overlooked or minimized is the present Administration's incomprehensible and foolish reliance last summer on the clearly incorrect and self-serving recommendations of major oil companies that import controls should be maintained; that refined products should not be imported; and the assurance that refinery capacity would be adequate to meet all demands for petroleum products over the next year.

We know, for example, that Texaco's Chairman of the Board wrote General Lincoln, then the Director of the Office of Emergency Preparedness, last July objecting to the granting of more import quotas for finished products and stating that there is "sufficient refining capacity available in the U.S. to meet anticipated demand for clean products over the balance of this year." We know that the President of Humble Oil (now Exxon, U.S.A.) assured General Lincoln in September that "Humble could not speak for the remainder of the industry but felt in a tight situation the industry would do its best including going beyond its contract commitments if it were capable of doing so . . ."

While I am not yet ready to definitely conclude that the current crisis can be fully explained in terms of "conspiracies" between or "excessive

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market power" exercised by a relatively few oil companies this does pose a major question of public policy which deserves careful review and analysis. The very fact that the so-called "conspiracy theory" is supported by circumstantial evidence and that it does have credibility among knowledgeable observers of the industry makes an in-depth investigation mandatory. If investigation shows that the current shortages have been calculated and engineered for private profit or advantage, legislation will be required to effectuate fundamental changes in the structure and operation of the petroleum industry.

Later in this letter I will be requesting the Federal Trade Commission to undertake an investigation of this matter.

Whatever the ultimate cause or causes of the shortages it is indisputable that they threaten to extinguish the independent refining and marketing sectors as a viable competitive force in the petroleum industry. It is furthermore a fact that retail gasoline and fuel prices—the price consumers pay—have risen drastically and will continue to rise. At the same time, the earnings of the five biggest oil companies jumped by 26 percent between the first quarters of 1972 and 1973.

The earnings of Exxon, the largest oil company in the United States, jumped by an amazing 43 percent. The earnings for 27 smaller oil companies jumped by 32.1 percent during the same period.

The fact that oil company earnings show startling increases during a period of time when the companies are under price controls, when independents are being put out of business, and when the American consumer cannot get gasoline also raises fundamental questions of public policy. This is particularly true in view of the disturbing signs that the present shortages are being accompanied and perhaps caused by major structural changes in petroleum marketing which could seriously limit competition.

The strength, efficiency, and economy of America's oil industry has been based on the high degree of competition at the retail level afforded by numerous companies supplying the same market. It is a classical first step of any small group of companies who wish to restrain trade and raise prices to first centralize their marketing areas so as to reduce competition. Indeed it is the purpose of the Federal Antitrust Laws to assure that there is adequate competition. Some of the disquieting market limiting instances—all within the past few months—are as follows:

Gulf is withdrawing in Michigan, Maryland, Iowa, Wisconsin, Delaware, Minnesota, North Dakota, South Dakota, Kansas, Nebraska, Montana, Wyoming, Washington, Oregon, Idaho, Utah, Nevada and Northern California. They are just getting out of those areas and have a $250,000,000 withdrawal program under way.

Exxon is selling 150 retail service stations in Indiana, Illinois, Wisconsin and Michigan and possibly an additional 250 stations.

Phillips by October 1, 1973, is withdrawing from New England all the way as far south as Maryland and Northern Virginia.

British Petroleum has sold its New York State marketing network to United Refinery. West of Hudson, New York, it is giving no new supplies to its jobbers. BP has notified its jobbers in New Jersey, Rhode Island and part of Massachusetts that their contracts will soon be cancelled.

Atlantic Richfield Company is selling its terminal and bulk plant in Mississippi. ARCO is also divesting itself of a 32,000 barrel a day

refinery in Sinclair, Wyoming. It is dropping 2,400 retail outlets in Colorado, Idaho, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri and parts of Louisiana, Alabama and Oklahoma.

Amoco, according to trade reports, plans to pull out of the Western United States with the exception of Washington and Oregon.

Sunoco is withdrawing from North Dakota, South Dakota, Nebraska, Wisconsin, Minnesota, Kansas, Tennessee and the Metropolitan Chicago area. However, it is excluding certain other metropolitan areas such as Omaha, Eastern Kansas, Memphis and its Interstate Highway outlets.

Fina will purchase the BP marketing properties in Georgia and Florida and part of those in North Carolina and South Carolina.

There are instances of other oil companies which are abandoning certain "uneconomical" areas. Moreover, many of these and other major oil companies are apparently terminating existing dealer franchises and, *at the same time*, establishing new chains of dealerships under new second and third name "fighting brands."

It is highly suggestive to those who have studied the dynamics and structure of the national and international oil corporations which dominate the industry and the patterns of marketing that all of these factors and results are not happenstance. In major respects they may represent conscious, knowing decisions to shift traditional profit centers from "production" in historically, low cost, profitable Mid-east sources to the downstream sources of "refining" and "marketing" both in the United States and Europe. This shift in profit taking sources was compelled by the nationalistic attitude of Mid-East nations to control their own resources and to maximize host government revenues. On the basis of available evidence I do not charge or allege conspiracy; I do, however, charge that corporate self-interest, acting in response to friendly, timid and often incompetent Administration policy, has led to a situation in which oil industry corporate managers—without meeting, without collusion, without conspiracy—are led, invited, and encouraged: (1) to squeeze out the independents; and (2) to force the price of gasoline and other petroleum products up and up.

It is not clear to me or to other Members of Congress what all of these fast moving events and changes mean, nor what relationship they bear to the shortages of crude oil and petroleum products. The sole purpose of this letter is to get a detailed, objective, and judicial judgment on the issues which have been raised in connection with the current fuels crisis. It is in the national interest to have a strong, viable and competitive industry that is privately owned and has the confidence of the public.

I am hereby requesting the Federal Trade Commission to prepare a report within thirty days regarding the relationship between the structure of the petroleum industry and related industries and the current and prospective shortages of petroleum products. This report should be accompanied by such staff reports, investigations and documentary materials as the Commission may have made or obtained which are relevant to comprehension of this issue by the Congress.

Later today, Senator Humphrey and I will be introducing an amendment to S. 1570, the "Emergency Petroleum Allocation Act of 1973,"

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which will authorize and direct a more detailed six-month study by the Federal Trade Commission of this and other important questions concerning the petroleum industry, its changing structure and operation, and the causes of the current shortages. I am enclosing a copy of the amendment and a table from the May 14, 1973 *Oil and Gas Journal*, showing earnings and profit performance of 32 oil companies in the first quarter of 1973.

Sincerely yours,

HENRY M. JACKSON,
Chairman, Senate Study of a National Fuels and Energy Policy.

How 32 companies performed in the 1st quarter

Company	Net profit [1] ($1,000) 1st quarter 1973	Percent change from 1972
Exxon	508, 000	+ 43. 1
Texaco	264, 016	+ 14. 8
Gulf	165, 000	+ 18. 7
Mobil	155, 800	+ 10. 1
California Standard	152, 800	+ 24. 2
Subtotal	1, 245, 616	+ 26. 0
Indiana Standard	121, 100	+ 21. 5
Shell	80, 233	+ 49. 2
Tenneco	53, 413	+ 14. 4
ARCO	50, 303	+ 52. 2
Sun	49, 146	+ 42. 3
Conoco	47, 500	+ 11. 5
Phillips	43, 448	+ 22. 1
Union	38, 300	+ 28. 1
Amerada Hess	36, 706	+ 25. 1
Cities Service	34, 400	+ 17. 4
Getty [2]	27, 006	+ 20. 6
Marathon	24 165	+ 49. 6
Pennzoil	19, 624	+ ———
Sohio	17, 500	+ ———
Signal	16, 202	+ ———
Ashland	15, 900	+ 46. 7
Kerr McGee	11, 876	+ 20.
Skelly	9 961	+ ———
Occidental	8, 934	+ 57. 8
Murphy	6, 452	+ 57. 7
Clark	4, 846	+ ———
American Petrofina	4, 735	+ 105
Tesoro	4, 271	+ 86. 8
Quaker State	3, 604	+ ———
Kewanee	3, 017	+ ———
Coreo	2, 806	+ ———
Apco	889	34. 0
Subtotal	736, 337	+ 32. 1
Total	1, 981, 953	+ 28. 2

[1] Excludes extraordinary items.
[2] Includes Getty's share of Mission Corp., and Skelly Oil Co.

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FEDERAL TRADE COMMISSION,
Washington, D.C., June 5, 1973.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Thank you for your letter of May 31, 1973, concerning the present shortage of petroleum products.

As I am sure you are aware, for more than a year the Commission staff has been conducting an intensive investigation into the structure, conduct and performance of the petroleum industry. This investigation is close to completion. There are a number of important hearings scheduled throughout the month of June, and the staff will continue to utilize every available resource to expedite the completion of the hearings and the assimilation and analysis of the latest evidence.

I have asked the staff to report its findings to me no later than July 1, and the Commission will certainly endeavor to provide you with the information which you seek as soon as possible.

Sincerely yours,

LEWIS A. ENGMAN.

FEDERAL TRADE COMMISSION,
Washington, D.C., July 6, 1973.

Hon. HENRY M. JACKSON,
Chairman, Interior and Insular Affairs Committee, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: As Chairman of the Senate Interior and Insular Affairs Committee and the Senate Permanent Subcommittee on Investigations of the Committee on Government Operations, you have requested a report on the relationship between the structure of the petroleum and related industries and the current shortage of petroleum products.

In response to that request, I am enclosing a copy of a preliminary staff report to the Commission prepared at my direction. This report is based upon the comprehensive investigation of the petroleum industry which the staff began in late 1971. This report has not been evaluated or approved by the Commission, and the findings and conclusions contained in the report do not necessarily reflect the views of the Commission.

While the Commission recognizes its obligation to honor your Committee's request for information, I must emphasize that the Commission would not make this report public and therefore we ask that care be taken to avoid unnecessary publicity which could jeopardize any future law enforcement action by the Commission in this area.

Sincerely yours,

LEWIS A. ENGMAN, *Chairman.*

U.S. SENATE,
COMMITTEE ON GOVERNMENT OPERATIONS,
SENATE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS,
Washington, D.C., July 9, 1973.

Hon. LEWIS A. ENGMAN,
Chairman, Federal Trade Commission,
Washington, D.C.

MY DEAR MR. ENGMAN: I have received and reviewed your staff report on the relationship between the structure of the petroleum and related industries and the current shortage of petroleum products.

Your cover letter of July 6, 1973, accompanying this report, emphasizes "that the Commission would not make this report public and therefore we ask that care be taken to avoid unnecessary publicity which could jeopardize any future law enforcement action by the Commission in this area."

A detailed examination of the report was made not only by me but also by staff attorneys and economists with this caveat in mind. Unfortunately, press accounts on July 7 and 8, 1973, indicate that the report has already been made available by unidentified sources to one of the news services. Consistent with our understanding on this important matter, no release was made of this report by my office or my staff.

However, I must candidly acknowledge that my review of the report and the analysis provided to me by lawyers and economists of the Interior Committee and the Permanent Investigations Subcommittee staffs does not disclose any specific information about identifiable companies, events, or activities which, in my view, could reasonably be construed to either jeopardize Commission law enforcement activities or to prejudice in any manner the rights or legal defenses of any company or individual against whom legal action might be taken in the future. This is especially true when the report is read in the light of recent testimony by staff of the Commission before Congressional Committees on related matters.

Nevertheless, as I have related to you both personally and by letter, we wish to proceed on this matter in a spirit of cooperation which will be most beneficial to the American public. But, we must balance your needs to proceed to a successful conclusion of this long investigation with the needs of the Congress and the public to be fully informed on an issue which affects the well being and the budget of every citizen.

Accordingly, I am requesting that you transmit to me, no later than 10:00 a.m. on Friday, July 13, 1973, specific reasons why the release of this report would jeopardize future legal action by the Commission or prejudice in any manner the rights or legal defenses of any individual or company against whom legal action might be taken in the future. Your reply should identify the specific portions of the report you feel should not be made public. Your response will, of course, remain confidential so as to further protect your future legal actions.

I can assure you that I will carefully consider your suggestions in making my determination as to wether all or only a portion of this report should be released to the public.

I appreciate your continued assistence in this important investigation.

Sincerely,

HENRY M. JACKSON,
Chairman.

FEDERAL TRADE COMMISSION,
Washington, D.C., July 11, 1973.

HON. HENRY M. JACKSON,
Chairman, Senate Permanent Subcommittee on Investigations,
Committee on Government Operations,
U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your letter of July 9, 1973, concerning a Commission staff report on the relationship between the structure of the petroleum and related industries and the current shortage of petroleum products, a copy of which we provided you at your request on July 6.

In my letter accompanying that report, I emphasized that "the Commission would not make this report public and therefore we ask that care be taken to avoid unnecessary publicity which could jeopardize any future law enforcement action by the Commission in this area." You ask the Commission to justify this statement, and to identify the specific portions of the report which we feel should not be made public.

The answer to your question lies in the basic role of the Commission as a law enforcement agency charged by Congress with the responsibility for insuring compliance with the antitrust laws, and the fact that the staff report in question is an internal staff memorandum prepared in the context of a currently pending investigation. The Commission recognizes its obligation to honor the legitimate requests of congressional committees for information. Disclosure of such a document to Congress, however, must be contrasted with its public release, which the Commission views as inconsistent with its duty to proceed judiciously and responsibly in determining what, if any, action should be taken on the basis of the staff investigation.

The Commission has always taken the position, therefore, that, as a matter of policy, every effort should be made to prevent unnecessary public disclosure of staff conclusions and recommendations pertaining to matters involving potential Commission law enforcement action.

Please let me know if I can be of further assistance.

Sincerely,

LEWIS A. ENGMAN.

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PRELIMINARY FEDERAL TRADE COMMISSION STAFF REPORT ON ITS INVESTIGATION OF THE PETROLEUM INDUSTRY

INTRODUCTION

During the last 22 years, the U.S. energy demand has exploded. Total energy consumption more than doubled from 37 trillion BTUs in 1950 to 76 trillion BTUs in 1972. Petroleum and natural gas, which provided 45 percent of all energy needs in 1950, now account for 70 percent of the energy supply. And the consumption of gasoline, which had risen steadily at about 3 to 5 percent a year since World War II, is now increasing at a 7 percent annual rate.

This recent acceleration in refined product consumption can be attributed to a number of factors. For years, coal was the dominant heating fuel. But with the demand for more convenient operation and regulations requiring cleaner fuel to reduce environmental contamination, factories, electric utilities and homes have turned to oil and natural gas. Because natural gas was in limited supply initially, an even greater overall energy demand has been placed on supplies of oil.

Another important factor accounting for increased gasoline consumption is that Americans are driving heavier and more powerful cars and are adding more power-assisted devices, such as air conditioners, that result in greater fuel consumption per mile. Additionally, the changes that auto manufacturers have made and must continue to make in engines to meet air pollution control standards are further reducing gasoline mileage.

Because of these factors, in early 1973 a number of energy experts and oil companies began predicting shortages of gasoline and other petroleum products by midyear. In April of 1973, many major oil companies stopped soliciting business from new customers and began allocating product to existing customers. As of May 30, 1973, 1,200 gas stations had closed due to lack of product, and all but a handful of these were *independents*. Many of the majors' branded stations have been forced to curtail their hours of operation or limit the gallonage to each customer.

Despite an increase in gasoline consumption of approximately 60 percent over the past 15 years, there has not been one new entrant into refining of any significant size since 1950. "There is just not sufficient refining capacity in the U.S. to meet the total needs of the American public for petroleum products," Frank N. Ikard, the president of the American Petroleum Institute, which is the leading association of major oil companies, told a Senate Committee last May. The oil companies claim that they have not been able to construct new refineries because of environmental constraints, preventing them from using certain supplies of crude oil and from locating refineries at the most

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efficient sites. Delay in construction of the Alaska pipeline is also cited as a hindrance to new refinery construction. Evidence gathered by the Commission staff tends to raise questions about the sufficiency of these explanations.

Independent gasoline marketers and other contract buyers, who buy much of their gasoline from all but the largest major companies, claim that the present shortage has been created by the largest major oil companies to drive the independents out of business and to raise the majors' prices. They point to sharp increases in the profits of the major companies this year as an indication that the squeeze has been successful. The major oil companies counter that they were unable to forecast the tremendous increase in the demand for gasoline that has occurred this year and that they plan to expand their refining capacity substantially over the next few years. Since May of this year, Exxon, Mobil, and Standard Oil Company of California have all announced significant new refinery construction. However, it may well be three years before these refineries are in production.

There can be little doubt that the independent sector of the petroleum industry, especially at the marketing level, has suffered most as a result of the present gasoline shortage. In the final analysis, it is gasoline consumers who will eventually pay higher prices and are presently inconvenienced due to evening and weekend closings of gasoline stations.

The petroleum industry is one of the largest and most complex in the world, and there are no simple explanations of industry behavior. The origins and nature of the present gasoline shortage can only be understood with reference to the structure, conduct and performance of the entire industry. Our focus accordingly turns to a discussion of these topics.

In the following sections, we will discuss in turn:

Background and Methodology of the Current Petroleum Investigation.

Structure, Conduct, and Performance of the Petroleum Industry.

Staff Conclusions.

I. HISTORY AND METHODOLOGY OF THE CURRENT PETROLEUM INVESTIGATION

A. Background of Federal Trade Commission Activity in the Petroleum Industry

The current investigation [1] of the structure, conduct, and performance of the petroleum industry is by no means the first time the Federal Trade Commission has investigated the petroleum industry. During the past 50 years, the Commission staff has been involved in a continuing examination of the marketing practices in the gasoline industry, primarily initiated in response to thousands of complaints received from members of Congress, government agencies, state and local officials, independent gasoline refiners, associations of both major and independent gasoline marketers, as well as members of the public. Over 300 formal investigations have been docketed during these years and almost all of the integrated major oil companies have been the subject of one or more of these investigations. Two Trade Practice Conferences have resulted, in addition to 22 formal complaints involving restraint of trade matters and numerous deceptive practices.

In 1939, the Commission presented to the Temporary National Economic Committee a summary [2] of the complaints it had received regarding marketing practices in the retailing of petroleum products, including the following:

Unjustified price difference and discrimination;
Use of tying and exclusive dealing contracts;
Retail price fixing in gasoline;
Contracts with tire and auto accessories manufacturers; and
Exchange or intersale of gasoline by the major marketers.

1. Overview of Prior FTC Antitrust Litigation In Petroleum Industry

Since 1939 the Federal Trade Commission has brought three basic types of cases against companies in the oil industry. First, cases were directed at price discrimination whereby the major oil companies use selective wholesale price cuts to enable certain of their marketers to reduce their retail prices in order to combat an independent retailer

[1] The Commission authorization for the investigation was as follows:
"The Commission approved, adopted and entered of record a resolution as submitted by the Bureau of Competition with memorandum of September 14, 1971, directing the use of compulsory process to investigate the acts and practices of firms engaged in the production of refining of crude oil or the distribution of petroleum products to determine the effect of vertical integration and joint ownership and operating arrangements on the structure, conduct and performance of the petroleum industry and whether such firms are engaged in unfair methods of competition or unfair acts or practices which are in violation of section 5 of the Federal Trade Commission Act."

[2] FTC, "A Survey of Controversial Marketing Practices in the Petroleum Products Retail Industry," presented to the TNEC, Oct. 16, 1939.

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who poses a threat to the major's share of the market.[3] Two parties are injured: the independent retailer and the major's marketers who do not receive a wholesale price cut but, because of geographical proximity, must compete with the marketer who does.

Secondly, cases were prosecuted which were directed at vertical price fixing, which grew out of the same circumstances as the price discrimination cases.[4] To insure that the major marketers would reduce their retail prices when they received a wholesale price cut, the major employed price fixing agreements to enforce the wholesale price reductions in the retail market. Several of these cases,[5] as well as some of those directed at price discrimination were dismissed without final adjudication as a prelude to the Commission's Conference on Marketing of automotive Gasoline.[6]

Thirdly, cases were brought which were directed at commission-overrides on tires, batteries and accessories (TBA) agreements, whereby the major oil companies were forcing their retailers to purchase a certain brand of TBA, and in return the oil companies would receive a commission on all net sales.[7]

The history of the Federal Trade Commission's activity in the petroleum industry has been characterized by a case-by-case attack on specific anti-competitive marketing practices. This approach has, in general, been of limited success in controlling wasteful marketing practices, dealer coercion, and the lack of competition in the petroleum industry. Despite the staff's success in bringing and winning cases before the Commission and in the courts, as well as obtaining compliance orders, the petroleum industry over the last 50 years has managed to circumvent the orders in many cases by subtle changes in policy or practices.

2. The Need for a New Approach to the Petroleum Problem

The reason for the limited success of the early petroleum cases is not to be found in the cases or remedies themselves. The staff did a thorough job in researching, developing and prosecuting the individual cases. The remedies applied in each case were directed at the particular abuse. But the practice-by-practice approach to antitrust attack, which sought to correct specific anti-competitive conduct at the marketing level, did not adequately address the industry's vertically integrated structure or its multi-level behavior. The major oil companies operate on four levels—crude production, refining, transportation, and marketing. To fashion a remedy for one level without considering the performance of a company, or the industry, at the other levels, ignores

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[3] Examples of price discrimination cases: *Standard Oil Co. v. Federal Trade Commission*, (D. 4389), 340 U.S. 231 (1951), again before the Supreme Court at 355 U.S. 397 (1958) *affirming* 233 F.2d 404 (6th Cir. 1956); *Federal Trade Commission v. Sun Oil Co.*, 371 U.S. 505 (1963), *reversing* 294 F.2d 405 (5th Cir. 1961), *reversing* 55 FTC 955 (1959).

[4] Examples of vertical price fixing cases: *Sun Oil v. Federal Trade Commission*, (D. 6934), 350 F.2d 624 (7th Cir. 1965), *cert. denied*, 382 U.S. 982 (1966); *The Atlantic Refining Co. v. Federal Trade Commission*, (D. 7471), 344 F.2d 309 (6th Cir. 1965), *affirming*, 63 FTC 1497 (1963).

[5] *See Pure Oil Co.* (D. 6616); *Texas Co.* (D. 6808); *Standard Oil (Ind.)* (D. 7567); *Shell Oil Co.* (D. 8537). All were dismissed on December 28, 1964.

[6] Record of hearings: "FTC Industry Conference on Marketing of Automotive Gasoline," Hearings Before Subcommittee No. 4 on Distribution Problems of the Select Committee on Small Business, House of Representatives, 88th Cong., May and Jun 1965.

[7] Examples of TBA cases: *The Atlantic Refining Co. v. Federal Trade Commission*, 381 U.S. 358 (1965), *affirming* 331 F.2d 304 (7th Cir. 1964); *The B. F. Goodrich Co. and The Texas Co.* (D. 6485); *The Goodyear Tire and Rubber Co. and The Atlantic Refining Co.* (D. 6480); *The Firestone Tire and Rubber Co. and Shell Oil Co.* (D. 6487).

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the market power associated with vertical integration and limited competition.

B. The Current Investigation of the Petroleum Industry

Pursuant to the Commission's resolution, the staff of the Bureau of Competition issued subpoenas to nine integrated petroleum firms for the purpose of obtaining basic preliminary information about each company. The subpoenas were narrowly drawn, requiring the production of data which should have been readily available to the firms. However, many of the companies indicated that they would resist the subpoenas. From previous experiences, the staff was acquainted with the extended litigation which normally ensued when large firms challenged subpoenas. Rather than delay the investigation at this preliminary stage, the decision was made to withdraw the subpoenas and re-examine alternative investigative strategies. (The staff had already obtained the exchange agreements of the companies by means of a separate set of subpoenas.)

1. Approach to the Investigation

The investigation into possible antitrust activities on the part of the major oil companies was thus conducted using the most expedient approach. To avoid protracted major firm resistance to providing information, an alternative approach was used to gather data relating to industrial practices of the major oil companies.* The approach concentrated on obtaining information from the largest independent crude producers, refiners, and marketers. Extensive investigative work was done by the Commission staff which began with detailed questionnaires to crude producers, refiners, and marketers which were designed to elicit in depth the nature of the independents' relationships with major oil companies for the years 1967–1971, the last years in which complete data were available. In addition, a large number of firms in each category (crude producers, refiners, marketers) were requested to permit searches of their files by Federal Trade Commission economist and attorneys. Because not every company cooperated, data contained in this summary reflects only that which came from the more than 50 cooperating companies. Data were collected on a national basis, but it was later decided that the investigation should focus primarily on Districts 1 and 3 which could be identified as a separate identifiable market. In general, the surveyed firms were larger on the average than other independent entities in the industry.

In addition to these data, the staff obtained substantial information on the petroleum industry from published public and governmental sources. The staff collected further valuable information from the Department of Interior, the Oil Import Appeals Board, the Interstate Commerce Commission, and other federal agencies. Various state taxing authorities and several state agencies such as the Texas Railroad Commission were contacted. These governmental agencies were cooperative in providing the requested information.

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*The use of the term "major" includes those firms which are vertically integrated and employ various methods of non-price competition. We have identified 18 of these firms. They are Exxon, Gulf, Standard (Ind.), Texaco, Shell, ARCO, Mobil, Socal, Sun, Union, Phillips, Continental, Cities Service, Getty, Standard (Ohio), Amerada Hess, Skelly, and Marathon.

To supplement the staff's understanding of the structure and operation of the oil industry, the Federal Trade Commission on April 20, 1973, again issued subpoenas, this time *ad testificandum* subpoenas to corporate officials of the major oil companies. Rather than merely subpoena documents, the strategy was to develop the factual information through testimony of petroleum company executives, identify relevant documents and make on-the-record requests for submission of such documents to the Commission. These investigative hearings began May 21, 1973, and are now almost completed.

2 Survey Data: Tables and Discussion

CRUDE PRODUCERS

Table I–1 provides a summary of the survey results for the independent crude producers for 1967–1971. The data indicate that the eight largest firms purchased an average of 42.5 percent of independently produced crude oil during the survey period (average of Table 1, column 1). In most cases where the eight largest firms purchased crude from independents, they also owned the gathering lines used to transport it (Table 1). Other results of our survey further indicate that once gathering lines are erected, there are few other buyers of crude from that particular field. Control of these gathering lines, in addition to ownership of approximately 52 percent of crude sources, gives the eight largest firms substantial control of domestically produced crude oil.[9]

REFINERS

Table 2 presents a summary of the survey results for independent refiners from 1967–1971. While most of the measures are self-explanatory, a few need some clarification:

(*a*) Self sufficiency ratio—the percentage of crude inputs acquired by a refiner from owned production facilities.

(*b*) Crude oil exchange ratio—the percentage of crude inputs obtained from other firms via exchange agreements.

(*c*) Gasoline exchange ratio—the percentage of gasoline output obtained from other firms via exchange agreements.

Table I–1.—*Independent crude producer summary, 1967–71*

	Crude sales to 8 largest majors as percent of total sales	Crude sales to other majors as percent of total sales	Percent of gathering lines operated by 8 largest majors	Percent of gathering lines operated by other majors
	(1)	(2)	(3)	(4)
1967	40.2	25.3	39.3	5.2
1968	41.5	26.3	40.7	21.7
1969	42.0	24.8	37.6	3.8
1970	44.6	27.1	42.9	24.9
1971	44.4	25.8	36.0	24.8

[9] The section on Industry Structure, *infra*, suggests that the eight largest firms control 64 percent of the crude in Texas.

Table I–2.—Independent refiners summary

	Percent of capacity operations (1)	Percent of crude secured from 8 largest majors (2)	Percent of crude secured from other majors (3)	Percent of gasoline sold to 8 largest majors (4)	Percent of gasoline sold to other majors (5)	Percent of gas sold to independents (6)	Self-sufficiency ratio (7)	Crude oil exchange ratio (8)	Percent of crude exchanged with 8 largest majors (9)	Gasoline exchange ratio (10)	Percent of gas exchanged with 8 largest majors (11)
1967	91. 1	28. 5	26. 3	10. 6	3. 2	86. 2	4. 3	15. 3	8. 2	46. 9	11. 8
1968	93. 2	29. 7	20. 2	14. 2	3. 1	82. 7	2. 0	14. 5	16. 1	53. 6	10. 8
1969	93. 3	28. 2	19. 9	13. 4	2. 1	84. 5	2. 5	15. 2	8. 3	52. 2	11. 8
1970	93. 7	29. 2	19. 0	11. 9	2. 7	85. 4	4. 5	15. 5	12. 1	51. 7	13. 7
1971	95. 0	30. 9	17. 0	6. 8	2. 9	90. 3	4. 3	15. 3	13. 3	50. 7	16. 7

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Independent refiners supplied very little of their own crude oil (an average of 3.5 percent) during the years 1967–1971 (average of Table I–2, column 7). However, they appear to have had little difficulty obtaining crude from other sources; 29 percent of their crude was obtained from the eight largest firms; 21 percent was obtained from other major firms (average of Table 2, columns 2 and 3).

Although largely dependent on all major firms for their crude supply, the independents sold only 14 percent of their gasoline output back to the majors (average of columns 4 and 5, Table 2). The bulk of their refined product was sold to independent retailers many of whom relied exclusively upon independent refiners for their gasoline supplies (Table 2, column 6).

When firms have a surplus of crude oil or refined product, exchanges are often conducted with other refiners. The recipient either provides product or oil where the first company has a shortage, or agrees to provide a like amount of the product or oil in the future. Most of the indepent refiners in our sample exchanged crude oil and gasoline with both major and independent oil companies; 15 percent of their crude inputs were obtained via exchange and 51 percent of their gasoline output was accounted for by exchange agreements (average of Table I–2, columns 8 and 10). Of these totals, the eight largest companies accounted for 12 percent of the crude and 13 percent of the gasoline exchanges (average of Table I–2, columns 9 and 11).

Although independent refiners usually sell final product to independent marketers, the eight largest firms appear willing to supply independent refiners with crude oil. The eight majors, however, are reluctant to engage in crude exchange agreements with the independents, and have used processing arrangements as a means of controlling independent capacity and the availability of gasoline to independent marketers. It is possible that as crude oil becomes less abundant the major integrated firms may begin to exercise even more control.

MARKETERS

Table I–3 summarizes the relationship between surveyed marketers and major firms for the period 1967–1971. An examination of independent marketers' data reveals that surveyed independent marketers purchased an average of only 1.1 percent of their gasoline (average of Table I–3, column 1) from the eight largest majors during the period 1967 to 1971; purchases of independent marketers from other majors averaged 46 percent (average of Table I–3, column 2). This immense disparity would tend to indicate that the eight largest majors have limited gasoline supplies to independent marketers.

Although the eight largest firms are unwilling to sell gasoline to independent marketers, they do appear willing to sell to other majors. In 1971, in Districts 1 and 3, they sold over 10 percent of their refined gasoline to other majors (net 96 as a percent of 750) but less than one percent (four as a percent of 750) to independent marketers (see Figure I–2–flow chart).

The data clearly indicate that the eight largest firms have dealt only nominally with independent marketers. Several have testified in investigative hearings that they will not sell to independents, regardless of price. This behavior may be contrasted with that of the other major companies who, in 1971, provided 42.9 percent (100 as a

percent of 223) of independent gasoline requirements in Districts 1 and 3 (see Figure 2-flow chart).

3. Implications for the Petroleum Industry

To present a general overview of the data, flow diagrams have been prepared. Figure I–1 below indicates that magnitude of crude flows from producers to refiners in Districts 1 and 3. Figure I–2 represents the flows of gasoline and natural gas liquids from refiners to marketers in these districts.

All total figures (imports, crude production, exports, refinery input and output, refinery capacity, and consumption) are derived from two U.S. Department of Interior, Bureau of Mines, Mineral Industry Surveys:

(*a*) "Petroleum Refineries in the United States and Puerto Rico," January 1, 1971.

(*b*) "Crude Petroleum, Petroleum Products and Natural Gas Liquids, 1971" (Final Summary).

The latter source was also used for calculation of transfers to other districts; the former was used for calculation of shares of refinery capacity.

The National Petroleum News Factbook Mid-May 1972 was used to calculate market shares of retailers for 1971. This introduces an upward bias in the independent market shares, and a downward bias in major shares (particularly the smaller majors) since only market shares of firms with market shares greater than one percent were listed. We assumed that those below one percent were independents, but occasionally a major firm will have such a share.

Shares of crude production were calculated by extrapolating from *Oil Directory and Production Survey*, 1973, R. W. Byrams and Company, Austin, Texas.

Shares of Crude Oil Imports were calculated from the 1973 *Oil Import Digest*, Oil Import Appeals Board

In the following sections, these data are analyzed to present a more comprehensive picture of the structure, conduct, and performance of the petroleum industry. Following these analytic sections are the Commission staff's conclusions with respect to the nature of competition in the petroleum industry.

The following assumptions were made in the construction of the flow diagrams:

1. In the refining sector, shares of crude oil input and gasoline output were assumed identical to shares of crude oil input capacity, and gasoline output capacity.

Table I–3.—*Purchases of independent marketers*

	Gasoline purchases from 8 largest majors as a percent of total purchases	Gasoline purchases from other majors as a percent of total purchases
1967	1.5	51.0
1968	.5	48.2
1969	.7	43.6
1970	1.0	44.9
1971	1.6	42.7

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2. The survey sample was assumed to be representative of all independents. As noted above, our initial objective was to survey the largest firms in each sector, rather than to sample randomly all firms in the industry. Therefore, the results are representative of the class, "large independents" rather than the class, "all independents." However, since, for example, the majors supply more gasoline to large independents than to small independents, the estimates in this study tend to *overstate* the importance of majors as sources of gasoline to the independent sector.

3. Since data on concentration of gasoline imports were not available, these market shares were assumed to be identical to shares of crude imports.

4. Relative transfer shares (the eight largest majors vis-a-vis the other majors) were assumed to be identical to relative production shares.

It appears that the eight largest firms have avoided market forces in their policy of limited dealings with independent marketers. However, Figure I–1 suggests that the market is less restrained in other sectors of the industry. For example, our sampled refiners purchase 30 percent of their crude inputs from the eight largest majors (365 as a percent of 1,233).[10]

Figure I–2 indicates that the eight largest majors have dealt hardly at all with independent marketers. Only 4 million of 233 million barrels of gasoline used by independents were supplied by eight majors. However, the eight largest supplied the other majors with approximately half of their requirements. The other majors appear to act as buffers between the eight largest majors and the independent marketers. In 1971, they were net buyers of 96 million barrels of gasoline from the eight largest majors, and net sellers of 91 million barrels to the independents. Therefore, although the eight largest majors do not sell to independent marketers, they can impose shortages upon independent sellers by reducing sales to smaller majors.

[10] Our sampled refiners accounted for almost half of all independent refining capacity in Districts 1 and 3.

Figure I-1 - District 1 and 3 Crude to Refiners, 1971
(millions of barrels)

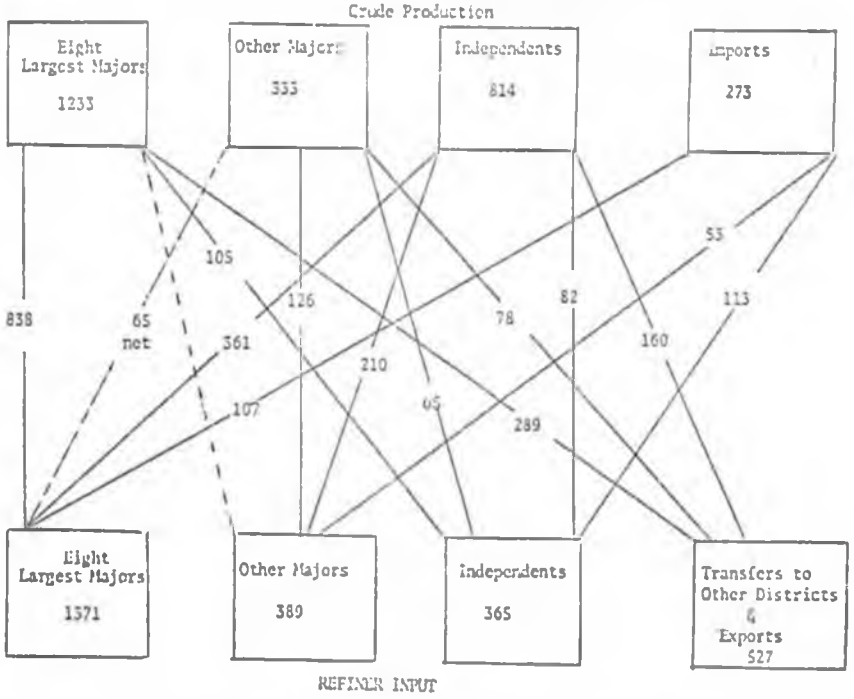
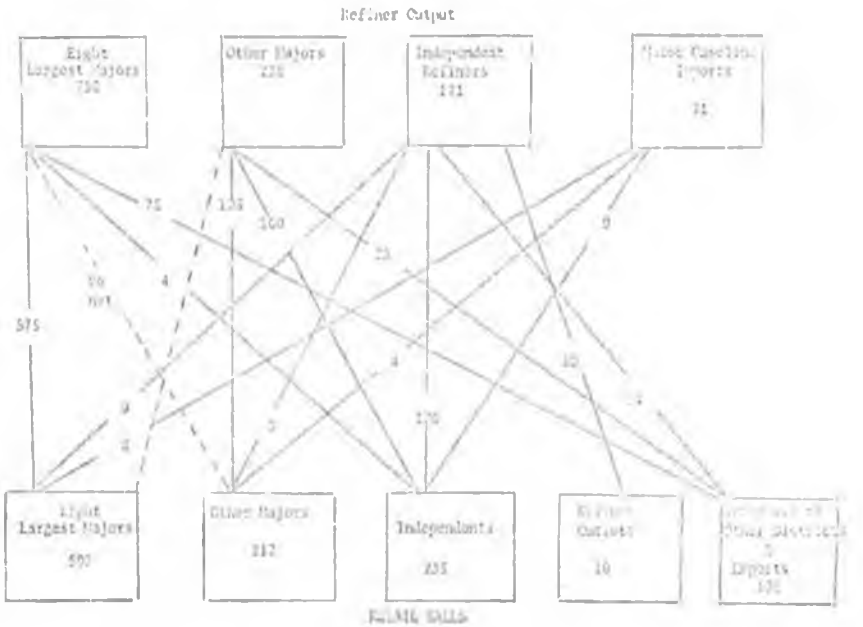


Figure I-1 - District 1 and 3 Crude Flows to Refiners, 1971
(millions of barrels)



NOTE.—Dashed lines indicate net sales of the largest majors to other majors and of other majors to the eight largest. Total sales of the eight largest majors to other majors and sales of other majors to the eight largest were not available.

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II. INDUSTRY STRUCTURE [1]

The petroleum industry is functionally divided into four basic levels: crude oil production, refining, marketing and transportation. While varying numbers of independent companies operate at each level, the industry is dominated by 18 vertically integrated companies that operate at all levels. These firms are large and generally have leading market positions at each level vis-a-vis independents. All 18, according to the *Fortune* 500 sales ranking, are among the 200 largest industrial corporations. Ten are within the top 40, and seven are within the top 20. Industry concentration has resulted both from the dominant positions of these firms and from institutional constraints peculiar to this industry. In order to examine the industry, each level of activity and each relevant institutional factor on a national basis will be discussed.[2]

A. Crude Oil Production

Concentration in crude oil production by the majors has increased markedly since 1960. While it has been estimated that the number of oil producers in the United States is somewhere between 10,000 to 12,000,[3] the Top 4, 8 and 20 oil producing companies in 1969 accounted respectively for 31, 51 and 70 percent of the average daily barrels of crude produced domestically. (See Table II-1, *infra.*) In 1960, the Top 4, 8 and 20 firms accounted for 26, 43 and 62 percent respectively.[4] A clear trend toward even greater concentration is thus borne out by these comparative statistics.

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[1] The discussion of industry structure which follows will provide an overview of the petroleum industry within a national framework. This, however, is not meant to imply that the relevant economic markets for crude oil and refined products are national in scope. Certainly, the market for refined products is less than national in scope, while the market for crude oil may be national or less than national. Defining regional economic markets precisely is not easy; we have, however, provided some structural data at less than the national level, and, of necessity, have assembled these data according to Petroleum Administration for Defense (PAD) districts utilized by the Bureau of Mines. This information is attached as Appendix A to this report.

[2] Company statistics presented throughout this memorandum may tend to be unsystematically biased downward with regard to their real world representation. This is because it is not completely known to what extent joint ventures, exclusive buying-selling contracts and outright ownership are represented in these statistics. For example, Getty Oil owns 72 percent of Skelly Oil, but most of the present statistical sources represent them as separate companies.

[3] *Report on Crude Oil and Gasoline Price Increases of November, 1970: A Background Study*, Nov. 3, 1971, p. 18 (Government monograph).

[4] See the first footnote at the bottom of Table II-1.

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TABLE II–1.—*Company share of domestic net crude production, 1969 and 1960*

Production rank in 1969	Company	Company share 1969 (percent)	Company 1960 [1]
1	Standard (New Jersey)	9. 76	6. 53
2	Texaco	8. 47	8. 93
3	Gulf	6. 78	5. 13
4	Shell	6. 08	4. 78
5	Standard (California)	5. 31	4. 75
6	ARCO [2]	5. 11	5. 92
7	Standard (Indiana)	5. 09	4. 30
8	Mobil	3. 94	3. 42
9	Getty [2]	3. 38	2. 92
10	Union	2. 88	2. 32
11	Sun [2]	2. 47	2. 65
12	Continental	2. 21	2. 54
13	Marathon	1. 64	1. 38
14	Phillips	1. 55	1. 79
15	Cities Service	1. 28	1. 29
16	Amerada Hess	1. 04	1. 22
17	Tenneco	. 99	NA
18	Skelly	. 88	. 94
19	Superior	. 74	1. 39
20	Louisiana Land & Exploration Co.	. 61	. 45
	Top 4	31. 09	26. 51
	Top 8	50. 54	43. 76
	Top 20	70. 21	63. 02

[1] 1960 combined production of Atlantic Refining, Richfield and Sinclair. Individual company data were not available. Because of the 1960 concentration for the Top 4, 8 and 20 firms may be slightly overstated, accordingly, trend toward greater concentration since 1960 may be even greater.
[2] Company production includes some foreign production, mainly Canada.

NOTE.—Individual company production data obtained from the estimates of Rice, Kerr & Co., Engineers. Universe data obtained from Report on Crude Oil and Gasoline Price Increases, cited supra.

While average daily oil production data may yield short-run insight into the structure of the crude producing industry, it is not particularly relevant for long-run considerations. As oil is pumped from a well, its technically efficient rate of production falls. Eventually it becomes a "stripper well" [3] and is operated until the pumping costs make it uneconomic to do so. A more relevant long-run measure of concentration at the crude level is the amount of domestic proven reserves owned by firms in the industry.

While considerable difficulty has been encountered in obtaining proved reserve data, our best estimates, presented in Table II–2, indicate that in 1970, the Top 4, 8 and 20 firms had approximately 37, 64 and 94 percent respectively of domestic crude proven reserves. On the basis of these data, the industry structure viewed in a long-run sense is even more concentrated than short-run statistics have indicated.

The structure of this industry, and hence its conduct and performance, is strongly influenced by certain institutional factors. Basically, these are the import quota, prorationing and special tax regulations.

[3] Although state definitions may vary and may be related to both production and well depth, a stripper well or marginal well may be generally classified as a well that produces less than 10 barrels a day. Domestic production accounted for by stripper wells has steadily declined since 1965. In 1970, they accounted for 13.3 percent of domestic production. See *Ibid.*, p. 50.

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TABLE II-2.—*Company shares of proved domestic crude reserves, 1970*

Rank	Company	Share of domestic proved reserves (percent), 1970
1	Standard (N.J.)	[1 2] 9.92
2	Texaco	[1 3] 9.21
3	Gulf	8.97
4	Standard (Calif.)	[1 3] 8.97
5	Standard (Ind.)	[4 3] 8.46
6	ARCO	[3 2] 7.48
7	Shell	[1 5] 5.90
8	Mobil	[1 3] 4.87
9	Getty	[5] 3.85
10	Phillips	[1 3 6] 3.55
11	Signal	3.28
12	Union	[3] 3.18
13	Continental	[3 6] 2.77
14	Sun	[1 3] 2.67
15	Amerada Hess	[3 7] 2.49
16	Cities Service	[1 3] 2.49
17	Marathon	[3 5] 2.37
18	Skelly	1.09
19	Superior	[1 8] 1.03
20	Tenneco	.90
	Top 4	37.17
	Top 8	63.88
	Top 20	93.55

[1] Includes natural gas liquids.
[2] Includes Alaska.
[3] Includes Canada.
[4] Official, including natural gas liquids.
[5] Official.
[6] Excludes controlled reserves.
[7] Includes equity in Canadian affiliate.
[8] Excludes "probably additional" reserve.

These explanatory notes accompanied the reserve estimates.

Note: Individual company reserves obtained from estimates of Rice, Kerr & Co., Engineers. Universe data obtained from "Report on Crude Oil and Gasoline Price Increases," cited supra. This figure was taken as approximately 39,000,000,000 barrels, including Alaska. Concentration data would be lower the more this figure understates actual proven reserves. Concentration data should be taken to be, at best, only rough estimates. It is not known to what extent both the universe estimate and the individual company reserve data include crude production from secondary recovery techniques.

The single most important federal intervention into the petroleum industry was through mandatory oil import quotas. In order to exercise monopoly power, a firm or firms must be able to control the supply of the industry's product. In the traditional tight oligopoly case, that control is exercised through a combination of few sellers acting in an interdependent fashion and effectively erecting barriers to entry against new suppliers. In the petroleum industry, however, that control of supply is importantly influenced by public policy. Between 1959 when the import quota system became mandatory and May 1, 1973 when the quotas were removed, the entry of foreign produced crude oil was severely limited in the United States. Thus, one of the chief sources of competitive supply was curtailed, and domestic integrated firms were operating in an environment where their domestic prices were protected against large scale alternative sources of supply, namely, imports.

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It is interesting to observe that the mandatory quotas were enacted at a time when events had conspired to cause some of the previous methods of supply control to break down. Until the 1950's control of supply of crude oil was maintained largely by a system of state prorationing. Under that system the states that had enacted prorationing legislation would limit supply with the goal of maintaining crude prices. Such legislation was particularly effective when imports were unimportant and when states with prorationing (Texas, Louisiana, and Oklahoma) accounted for almost all domestic production. But, in the 1950's foreign supplies from the Middle East and domestic supplies from non-prorationed states became increasingly important. In 1957 voluntary import-controls were initiated, and in 1959 the mandatory controls were imposed. Thus, at a time when supply was becoming increasingly loose, new controls to the advantage of the existing petroleum oligopoly were imposed. It is noteworthy that complaints of financial distress from independent refiners and marketers became more prevalent after the imposition of quotas and that many of those firms trace their difficulties to the international arrangement.

The major oil firms have had the advantage of other federal provisions which have served to buttress their control over the supply of crude oil available in domestic markets. The impact of quotas on the price of domestic crude oil was substantial. The domestic price of crude has in recent years averaged $1.25 to $1.50 per barrel above the world price, and most of the difference is attributable to the import quota. The import quota clearly contributed to profits earned in producing crude oil by elevating prices, but the quota increased profits to the major in another way. The right to import went only to existing refineries. Thus, the major companies through import tickets were able to purchase oil at the world price as an input for their refineries, which produced final products at elevated domestic prices. A further benefit accruing to the majors was that they were able frequently to obtain profits by trading at favorable terms domestic crude for the independents' allotted foreign crude because some independents located inland were not in a position to economically utilize imports.

While the import quota was in effect, it was an important source of control of crude oil supply, but there are others that must be considered. The states, with an assist from the federal government, also placed limits on the production of domestic crude oil through prorationing.

Prorationing was originally instituted as a means of conserving the supply of domestic petroleum reserves and avoiding "wasteful" practices such as those that resulted from the rule of capture.* However, it functions as a means of controlling supply and setting price. Essentially, the technologically maximum efficient rate of recovery (MER) is determined for each well. Then, demand forecasts for crude oil are examined, and each well is permitted to pump as much crude (sub-

* Because crude pools transcend land boundaries, two or more different land owners could be tapped into the same pool. Since one man's loss would be another's gain, it is said that each would pump as fast as possible. Today, a form of joint profit maximization, unitization, is generally recognized to be a more efficient means of crude oil recovery. In fact, it is argued it removes the strongest argument for prorationing.

ject to its MER) as will clear the market in the aggregate at the market price.

In the U.S. today, prorationing is used in the states of Texas, Louisiana, Oklahoma, New Mexico and Kansas.[7] (although these states now claim that they are permitting 100 percent well production during the present shortage). Each state has its own prorationing agency to make state supply determinations. Together, these five states accounted for approximately 74 percent of domestic crude production in 1970.[8] Texas alone accounted for approximately 36 percent.[9] Hence, the supply and price of the vast majority of domestic crude are determined by forces outside the marketplace.

The Federal Government gave teeth to prorationing with the passage of the Connally "Hot Oil" Act in 1935. This act prohibits interstate shipments of crude oil produced in violation of state prorationing laws. However, the Federal Government has the power to "suspend its operation—presumably both enforcement activity as well as basic consent legalizing state action—if state action should unduly burden interstate commerce."[10] The Attorney General is responsible for an annual review, under the Interstate Oil Compact, to determine if such legislation is consistent with its intent, and if not, to suspend it. Its intent is set forth in Article V of the Interstate Oil Compact:

> It is not the purpose of this compact to authorize the states joining herein to limit the production of oil and 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.[11]

Thus far, Article V has not been invoked.

The set of federal laws remaining to be discussed are those pertaining to the effect of certain tax regulations on industry incentives.

Special tax provisions permit oil companies to expense many of their exploration and drilling costs rather than depreciating them over an extended period. These provisions tend to lead to an understatement of gross income and to a reduction in tax liability. In addition, the oil companies are permitted to treat royalties paid to foreign governments for drilling rights as an income tax. These "taxes" may then be used as a dollar for dollar offset against U.S. corporate income tax liability.[12] These measures act as a subsidy to crude oil production and, therefore, stimulate increased allocation of resources to the dis-

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[7] "The Petroleum Industry," Thomas G. Moore, in *The Structure of American Industry*, Walter Adams, Ed. Fourth Edition 1971, Macmillan Company, p. 130.

[8] *Crude Petroleum, Petroleum Products and Natural Gas Liquids 1970 (Final Summary)*, Bureau of Mines, December 23, 1971, p. 8. This figure includes lease condensate. It must be pointed out that all of the crude production in each state is not necessarily regulated by prorationing. In Texas stripper wells are not prorationed, and offshore production, as in Louisiana, is under the administration of the Secretary of the Interior. In Texas in 1969, stripper wells accounted for 12 percent of the state's output (*Petroleum Facts and Figures*, American Petroleum Institute, 1971, p. 30 and p. 70). It is not known to what extent Louisiana data reflects offshore production or to what extent Louisiana prorationing is affected by the Secretary of Interior's jurisdiction over offshore production.

[9] It should also be mentioned that special tax treatments in the petroleum industry make it difficult or impossible to assess such variable in any case.

[10] *Petroleum Facts and Figures*, cited *supra*.

[11] *Report of the Attorney General, Pursuant to Section 4 of the Joint Resolution of September 8, 1941, Consenting to an Interstate Compact to Conserve Oil and Gas*, July 1967, p. 31.

[12] *Ibid.*, p. 1.

covery and recovery of crude oil. Hence, it is not surprising that the oil firms seek to integrate backwards to take advantage of the favorable tax provisions. It is, however, the oil depletion allowance that has had the greatest impact upon resource allocation among production stages and relative price structure in the petroleum industry in past years.

Oil depletion allowances were passed originally as a method of encouraging oil exploration.[13] It was argued that since oil was a scarce and valuable natural resource, it would not be advisable to permit national reserves to be depleted. Therefore an incentive was granted to oil producers through a special tax deduction in the hope that more resources would be devoted to the discovery of additional crude oil sources. A crude oil producing firm is permitted to subtract from its gross income before taxes an amount equal to 22 percent of its total revenues from crude production (i.e., actual production times posted price at the wellhead) up to 50 percent of the firms net pretax income. Under this system, the major integrated firms have an incentive to seek high crude prices. The high crude prices are, however, a cost to the major firms' refineries. Thus, an increase in crude prices implies an increase in crude profits but a decrease in refinery profits. The integrated oil companies gain because the depletion allowance reduces the tax on crude profits, while refinery profits are not subject to the same advantageous depletion deduction. A simple model developed by the FTC suggests that for American integrated firms that typically produce between 40 and 80 percent of their crude needs, it pays to raise crude prices up to a point where refinery profits have been reduced to zero.[14] Beyond that point, net income after taxes for the integrated oil firm begins to fall.

Thus, the major integrated oil companies have been able to capitalize upon the existence of import quotas, state prorationing, and oil depletion allowances to limit effectively the supply of crude oil to a point which reduces their refinery profits to zero. Clearly, such a system creates a hazardous existence for independent refiners, who have little or no crude production. In such an environment, only those independent refiners who have: (1) lower costs through locational or other advantages; (2) some monopoly power in a local market; or (3) sufficient access to inexpensive imported oil, can survive.

It is important to note that no technological imperative renders crude production inherently profitable and refinery and marketing operations inherently unprofitable. Rather, the tax laws have made it highly remunerative for integrated firms to artificially shift profits away from downstream activities toward the crude end of integrated business. This goal is accomplished by raising crude prices through various controls on supply.

B. Refining

The petroleum refining industry is the pivotal point in the petroleum industry. It is virtually the sole buyer of crude[15] and it trans-

[13] See Appendix B for a more detailed explanation of how the oil depletion allowance works.

[14] The model assumes a perfectly inelastic demand for crude oil and refined products and relates refiner profits linearly to crude oil prices.

[15] A small amount of crude oil is on occasion used directly as heating fuel when insufficient fuel oil is available.

forms crude into more efficient particular energy products. In 1969, the domestic refinery yield was as follows: [16]

	Percent
Gasoline	45.5
Distillate fuel oil	21.6
Jet fuel	8.2
Residual fuel oil	6.8
Kerosene	2.6
Lubricants	1.7

As of January 1, 1972, there were 282 domestic refineries and approximately 129 refining companies.[17] The 1970 crude oil refining capacity as shown in Table II–3, accounted for by the leading 4, 8 and 20 firms, was 33, 58 and 86 percent respectively. These same firms accounted for 34, 59 and 87 percent of gasoline refining capacity.[18]

TABLE II–3.—*Company share of domestic crude oil and gasoline refining capacity, 1970*

Rank in crude oil capacity	Company	Share of crude oil capacity (percent)	Share of gasoline capacity (percent)
1	Standard (N.J.)	8.59	9.22
2	Standard (Ind.)	8.22	7.94
3	Texaco	8.13	9.19
4	Shell	7.99	7.69
5	Standard (Calif.)	7.66	6.72
6	Mobil	6.28	6.36
7	Gulf	5.78	6.47
8	ARCO	5.42	6.25
9	Sun	3.60	4.54
10	Union	3.51	3.24
11	Standard (Ohio)	3.47	3.09
12	Phillips	3.14	4.24
13	Ashland	2.51	2.11
14	Continental	2.36	2.03
15	Cities Service	2.22	2.26
16	Getty	1.64	1.76
17	Marathon	1.12	1.92
18	Coastal States	1.06	.73
19	Amerada Hess	.98	.79
20	Champlin	.97	.63
	Top 4	32.93	34.04
	Top 8	58.07	58.78
	Top 20	86.15	[1] 87.38

[1] The top 20 firms in gasoline capacity included Clark Oil (1.21 percent), Tenneco (1.35 percent), and American Petrofina (0.85 percent), in lieu of 18–20 above.

Note: Data obtained from Mineral Industry Surveys, Bureau of Mines, "Crude Oil Capacity," Jan. 1, 1971.

[16] Standard and Poor's *Industry Surveys*, June 3, 1971, p. 068. The remainder consists of asphalt and petrochemicals.

[17] *Report on Crude Oil and Gasoline Price Increases of November 1970*, p. 46, cited *supra*.

[18] As of January 1, 1961, there were approximately 311 domestic petroleum refineries and approximately 175 refining companies. While crude refining capacity increased by 24.0 percent from January 1961 to January 1971, the share accounted for by the leading four and eight firms increased approximately 4.4 and 12.1 percent respectively. For gasoline capacity, the increase was 7.3 and 10.1 percent. Thus an increasing trend in concentration may be observed. For 1960 data, see "Mineral Industry Survey," January 1, 1961 cited *supra*. Moreover, due to the existence of processing arrangements between major oil companies and independent refiners through which major oil companies supply crude oil in return for refined product, this figure may substantially understate effective refinery concentration.

A comparison of firm rankings in refining and production (Table II–4) yields some interesting results. While there are some minor deviations, three of the top four refiners are among the top four crude producers and the top eight refiners are also the top eight crude producers. Further, 16 of the top 20 refiners are among the top 16 crude producers. Hence, independent monopsonistic purchasing power conducive to downward pressure on crude prices is virtually absent.

TABLE II–4.—*A comparison of company ranking in crude production and crude refining capacity* [1]

Company	Rank in crude production	Rank in crude oil refining capacity
Standard (New Jersey)	1	1
Texaco	2	3
Gulf	3	7
Shell	4	4
Standard (California)	5	5
ARCO	6	8
Standard (Indiana)	7	2
Mobil	8	6
Getty	9	16
Union	10	10
Sun	11	9
Continental	12	14
Marathon	13	17
Phillips	14	12
Cities Service	15	15
Amerada Hess	16	19
Tenneco	17	[2]
Skelly	18	[2]
Superior	19	[2]
Louisiana Land and Exploration	20	[2]
Standard (Ohio)	[2]	11
Ashland	[2]	13

[1] Based on rankings of tables 2 and 3. Production share is for 1969. Crude refining share is for 1970.
[2] Not ranked within the top 20 firms in crude refining capacity.

There could, of course, still be some downward pressure on crude prices, despite the integration of the leading firms, if there were a mismatch between a company's crude production and its refining capacity.[19] The extent of this would depend upon the degree of self-sufficiency and the marginal effect of higher crude prices on total revenue due to the interrelationship of self-sufficiency and the marginal effect of higher crude prices on total revenue due to the interrelationship of self-sufficiency and the oil depletion allowance. De Chazeau and Kahn developed a simple model to examine this relationship.[20] They determined that a company with a self sufficiency greater than 77 percent would benefit from a crude price increase even if this increase were not passed on in the price of products at all. If 50 percent of the price increase were passed on, a company with a degree of self-sufficiency in excess of 38.5 percent would benefit from a price increase.

[19] It must be kept in mind that the aggregate supply and demand of crude are equalized at a given price through prorationing.
[20] For the complete model see De Chazeau and Kahn, *Integration and Competition in the Petroleum Industry*, Yale University Press, 1959, pp. 221–222.

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Their estimates were based on the 27½ percent depletion allowance which was in effect at that time.

Using the identical model and substituting the present 22 percent depletion allowance only alters their conclusions slightly. If the price increase is not passed on, a company with a self-sufficiency in excess of 40.4 percent would benefit from a price increase. The greater the percentage of the price increase passed on, the lower the self-sufficiency required to benefit from a crude price increase.

As can be seen from Table 5, all of the Top 8 and 15 of the Top 17 refining companies have self-sufficiency greater than 40 percent. Three of the Top 8 and 5 of the Top 17 have self-sufficiency greater than 81 percent. Thus, vertical integration combined with the depletion allowance places upward pressure on crude prices.

It is vitally important to keep in mind that while the recent removal of the oil import quota may to some extent exert slight downward pressure on crude prices as the U.S. price reaches an equilibrium with world prices, it will not necessarily substantially alter the structure of the refining level of the petroleum industry. This is true for two reasons. First, the major integrated companies have substantial interests in crude oil production world-wide. Second, and most important, it is questionable that new independent refiners would enter the market, even with available supplies of foreign crude. The reason is quite simple—the uncertainty of the continual availability of foreign crude. Just as the federal government first restricted imports and then removed them, they may be restored at a moment's notice. And since refining is the pivotal point in the petroleum industry, the implications are that removal of the import quotas alone may not be sufficient to cure the present ills of the industry or alter its noncompetitive performance significantly.

TABLE II–5.—*Domestic self-sufficiency of the 17 leading refiners 1969*

Company:	*Self sufficiency (Percent of runs to stills)*
Standard (New Jersey)	97.4
Standard (Indiana)	50.5 d
Texaco	81.0 e
Shell	62.1
Standard (California)	68.8 d
Mobil	42.2 a
Gulf	87.6 d, f
ARCO	64.9
Sun	46.7 b
Union	64.3 d
Standard (Ohio)	6.7 d
Phillips	51.8 d
Ashland [1]	12.6
Continental	64.0
Cities Service	40.9
Getty [2]	137.2 f
Marathon	88.1

(a) Other liquids included in refinery runs.
(b) Crude production excludes Canada.
(d) Other liquids included in crude production.
(e) Estimated.
(f) Excludes crude processed for company's account.
[1] 12 months to September 30, 1969.
[2] Includes subsidiaries.

NOTE.—Obtained from estimates of Kerr, Rice and Co., Engineers.

TABLE II–6.—*Worldwide self-sufficiency of the 17 leading U.S. refiners 1969 and 1959*

U.S. rank in crude refining capacity	Company	Self-sufficiency 1969 (percent)	Self-sufficiency 1959 (percent)
1	Standard (New Jersey)	88.3	77.1
2	Standard (Indiana)	66.4	51.5
3	Texaco	106.7	92.4
4	Shell Group	72.5	74.2
5	Standard (California)	138.1	105.4
6	Mobil	75.5	69.5
7	Gulf	193.0	172.7
8	ARCO	96.7	64.6
9	Sun	87.4	55.7
10	Union	85.6	50.0
11	Standard (Ohio) [1]	28.9	28.1
12	Phillips	65.4	71.3
13	Ashland	13.9	8.8
14	Continental	158.4	104.0
15	Cities Service	89.5	44.6
16	Getty	241.1	71.8
17	Marathon	163.2	109.0
	Top 4	84.8	[2] 76.5
	Top 8	96.2	[2] 84.2
	All 17	97.1	[2] 96.8
	5 largest United States international companies.[3]	108.9	[2] 93.5

[1] Does not include British Petroleum which had a self-sufficiency in 1959 and 1969 of 131.1 percent and 157.4 percent respectively.
[2] Data for the same 4, 5, 8, and 17 leading companies in 1969.
[3] These are Standard Oil (New Jersey), Gulf, Texaco, Standard Oil (California), and Mobil.

Note: Ratios obtained from the "Oil and Gas Journal," Jan. 18, 1971, pp. 22–23. Multicompany measures were computed from production and capacity data contained in the same source.

C. Gasoline Marketing

Gasoline marketing is the most competitive areas of the petroleum industry and has the largest number of independent companies.[21] Marketing consists primarily of jobbers purchasing refined gasoline and supplying retail gasoline stations. These jobbers may be completely independent, may own their own retail stations, or may be vertically tied to refinery operations. They also may carry branded or unbranded products.

The 1970 gasoline market shares of the Top 20 companies are presented in Table 7. The Top 4, 8, and 20 companies accounted for approximately 31, 55 and 79 percent, respectfully, of domestic gasoline sales. The Top 4 and 8 gasoline marketers correspond with the Top 4 and 8 refiners, and the Top 8 crude producers are identical with the Top 8 marketers and refiners (See Table 8).

The distinction between the major branded retail gasoline stations and the independent stations is one of the primary reasons for price competition at this level.[22]

[21] Because gasoline constitutes the primary output of the refinery, we have limited our discussion here to gasoline marketing.

[22] It must be pointed out that while this physical distinction exists, the actual effect on competition is becoming increasingly more difficult to assess because of the trend toward joint ownership. Major oil companies may own both major brand and so called "independent brand" gasoline stations in the same market area. Independent stations also may own other independent stations, under a different brand name, in the same market. Thus, competitive pressures in some markets may be significantly less than the independent major brand rivalry would seem to indicate.

TABLE II-7.—*Company gasoline market shares 1970*

Rank	Company	Market share [1] (percent of)
1	Texaco	8.13
2	Shell	7.87
3	Standard (New Jersey)	7.42
4	Standard (Indiana)	7.30
5	Gulf	7.12
6	Mobil	6.60
7	ARCO	5.55
8	Standard (California)	5.02
9	Sun	4.15
10	Phillips	3.97
11	Union	3.29
12	Continental	2.35
13	Cities Service	1.96
14	Marathon	1.73
15	Standard (Ohio)	1.46
16	BP	1.41
17	Ashland	1.27
18	Tenneco	.93
19	Kerr-McGee	.77
20	Murphy	.75
	Top 4	30.72
	Top 8	55.01
	Top 20	79.05

[1] Based on gallonage sales.

NOTE.—Market shares obtained from *National Petroleum News*, "Factbook Issue," mid-May 1971, p. 127.

TABLE II-8.—*A comparison of company ranking in crude production, crude refining capacity, and gasoline sales* [1]

Company	Rank in crude production	Rank in crude oil refining capacity	Rank in gasoline sales
Standard (New Jersey)	1	1	3
Texaco	2	3	1
Gulf	3	7	5
Shell	4	4	2
Standard (California)	5	5	8
ARCO	6	8	7
Standard (Indiana)	7	2	4
Mobil	8	6	6
Getty	9	16	(2)
Union	10	10	11
Sun	11	9	9
Continental	12	14	12
Marathon	13	17	14
Phillips	14	12	10
Cities Service	15	15	13
Amerada Hess	16	19	(2)
Tenneco	17	(2)	18
Skelly	18	(2)	(2)
Superior	19	(2)	(2)
Louisiana Land & Exploration	20	(2)	(2)
Standard (Ohio)	(2)	11	15
Ashland	(2)	13	17
BP	(2)	(2)	16
Kerr-McGee	(2)	(2)	19
Murphy	(2)	(2)	20

[1] Based on the rankings of tables 4 and 7. Rank in production is for 1969. Rank for capacity and gasoline sales is for 1970.

[2] Not ranked within the top 20 firms.

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The major branded stations differentiate their products and convey a national image. These retail stations generally offer a full line of services, including credit cards, automobile repair, etc. The independents, on the other hand, differentiate their products primarily on a price basis and offer few services other than pumping gasoline. This, of course, gives the consumer a choice between purchasing gasoline and services at a higher price, and purchasing only gasoline at a lower price. If, in a given area consumers show a strong preference for the latter, and/or if independents move into a market, vigorous price competition between the majors and independents may result.

Of course some price competition may result directly from the major companies themselves. This may occur when a major company decides to move into a market area dominated by other majors or possibly independents. As a new entrant, this major company may begin as a vigorous price cutter; but, as his price cuts are matched by other companies, the retail gasoline price will eventually stabilize somewhere near the old level. If he is strong enough, he may achieve his desired market share. But, in doing so, he will have obtained it at the expense of the weakest segment of the market, the independent portion. If independents are diversified geographically, however, they may withstand price competition. If not, they will be the first to be eliminated.[23]

However, today a price war is unnecessary for the elimination of the independent marketer. Because the major oil companies control the lion's share of domestic crude oil and refinery capacity under conditions of excess demand, they have been able to direct the flow of gasoline to their own service stations first, thus denying to the independent marketer access to a substantial portion of the gasoline supply. In fact, independent gasoline marketers receive only about 2 percent of their supply of product from the eight largest oil companies.

D. Transportation

Because crude oil is low in value relative to its weight and the refinery process requires a relatively constant flow of crude and product, pipelines are generally the most economical form of bulk land transportation in this industry. Approximately 75 percent of crude and 27 percent of refinery product are carried by pipeline.[24]

Gathering pipelines collect crude from the well, and transport it to a main trunkline station. From the trunkline station, it flows through a larger diameter pipeline to the refinery. Product pipelines carry gasoline and other products from the refinery to local or regional storage facilities from which jobbers and ultimately retailers purchase their product.

These pipelines form a vast, complex intrastate and interstate transportation network. Because of the high construction costs, most of the pipelines are owned directly by individual major petroleum companies or by several of these companies through joint venture. However,

[23] A reservation should be made at this point. No claim is being made that all price wars are the result of the reasoning provided above or that majors always start price wars. Indeed, economists generally agree that consumers benefit from lower prices associated with price wars. In fact, price wars are often the result of disagreement about the proper price differential between independent and major station prices. They are started by majors, major "mavericks" (i.e., those who reject stated company price policy), and independents. The point is, however, *that sometimes price wars represent a policy adopted by majors to avoid the alternative of selling gasoline to independents.* That result is clearly exclusionary.

[24] According to Moore, p. 124-125, cited *supra*, approximately 75 percent of crude flows to the refinery by pipeline, 17 percent by tanker and 8 percent by truck. For refined petroleum approximately 27 percent is carried by pipeline, 30 percent by water carrier and 43 percent by truck.

the nature of the interstate lines causes them to come under the "common carrier" regulatory jurisdiction of the Interstate Commerce Commission.

Our investigation disclosed charges leveled against these pipeline owners by non-owners who claim that they have been excluded from using the common-carrier lines. The inherent technological nature of the pipeline system and the petroleum industry provides the basis for such exclusionary practices.

Through the pipeline system, crude oil is transported more or less on a constant flow-pressure basis. Trunkline stations can pump-in a batch of crude only when there is a slot in the flow for it and then line pressure must be increased or decreased to adjust for the desired flow speed. The scheduling of pipeline input is very complex and must be worked out in advance of the shipment Because of this process, an independent crude producer may have great difficulty in securing a place in the flow, especially if he does not have storage tanks at the trunkline station and/or ships a relatively small amount of crude. The result of this pipeline system is to place the major firms who own the pipelines in an excellent position to discriminate against the independent producers. The opportunity to require the independent to enter into an agreement to sell his product at the well head in order to obtain regular sale and transportation of crude clearly exists for the majors.

III. BARRIERS TO ENTRY

In addition to being a highly integrated industry, the petroleum industry, and refining in particular, is also characterized by high barriers to entry. Without such barriers, excess profits would attract new firms into the market, increasing the supply, and eliminating the excess profits.

Because of the lack of substantial entry by new independent refiners over the last 20 years, we turn our attention to factors in the petroleum industry which tend to act as barriers to entry. In most instances, the factors leading to further concentration, e.g. import quotas, prorationing, depletion allowances, also serve to inhibit new entrants into the industry or component segments of the industry.

The most obvious barrier is the high capital cost of entering the refining industry. A refinery large enough to achieve maximum scale economies in the production of gasoline costs approximately $250 million.[1] The operation of the capital market is such that the number of firms which can borrow that amount of money is relatively small. Even for those firms which have access to the required capital, the risks which they face vis-a-vis the major petroleum companies are such as to discourage entry.

Several of those risks are associated with the ability of the refiner to obtain a dependable source of supply of its major input, crude oil. In the past, refiners have had to depend on their major oil company competitors for access to this crucial input. This has occurred because the major oil companies directly own substantial amounts of the crude oil, and because they control the vast majority of the remainder of the crude (primarily through control of pipeline transportation). Thus, in any short supply situation, the independent refiner would be the first firm to lose access to crude oil and the last to regain access. Having refinery output subject to great variation because of variation in crude inputs imposes substantial costs upon non integrated refiners. The alternative of entering the petroleum industry as a vertically integrated firm raises capital costs to even greater proportions.

The plight of the would be entrant at the refining stage has to some extent been alleviated through the recent Presidential removal of the oil import quotas. However, this does not eliminate the problems faced by the independent refiners in this context. All students of the petroleum industry (surely anyone planning to expend $250 million as a capital investment would become a serious student of the industry) are well aware that the major firms have always turned to governmental entities to help them rationalize excess supply situations. They would have to assume that if the inflow of foreign crude became sufficient to cause a reduction in the current price of domestic crude,

[1] *Wall Street Journal*, April 17, 1973, p. 15. These data are supported by E. K. Grigsby, et. al., "What Will Future Refineries Cost?" *Hydrocarbon Processing*, May, 1973, pp. 133-135.

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the major companies would again turn to the government to request limitations on imports. Their past success in obtaining such actions is such that one might infer a high probability of future success. Thus, a firm which had built a $250 million refinery might suddenly find that its access to crude oil was greatly reduced. The nature of refinery cost functions, i.e. sharply declining average costs as a refinery nears capacity operation, would make any reduction in the availability of crude oil a traumatic and possibly bankrupting experience for the new entrant.

Since pipelines transporting crude oil across state lines are common carriers subject to Interstate Commerce Commission regulation, it might seem strange to classify pipeline control as a barrier to entry to new refinery capacity. However, there are two reasons to suppose that pipeline control does, in fact, constitute a legitimate barrier. First, the owners of pipelines seek approval from the ICC of rates that provide sufficient returns from their pipeline investment. However, the rate approved may be well above the competitive cost of transporting crude oil. For the vertically integrated owners the excessive rate is no burden. Those firms simply transfer funds from the Refinery Department to the Pipeline Department; a bookkeeping transaction of no moment is made. Non-integrated independent refiners, though, must pay the excessive pipeline charge. For these firms a real cost is incurred. To the extent that major-firm owners of pipelines earn greater than competitive returns on investments, the independent refiners are put at a cost disadvantage relative to their major competitors, and a barrier to entry is imposed. To a lesser extent control of product pipelines can be used to erect a barrier to entry.

Second, pipelines can be employed as a barrier to entry if the owners can exclude or limit flows of crude oil to independents. In fact, this can be done by (1) requiring shipments of minimum size, (2) granting independents irregular shipping dates, (3) limiting available storage at the pipeline terminal, (4) imposing unreasonable product standards upon independent customers of pipelines, and (5) employing other harassing or delaying tactics.

A barrier of substantial importance in the past existed because of the vertical integration in the industry and the federal tax laws. The depletion allowance worked to encourage vertically integrated firms to report all profits at the crude oil stage rather than at later stages such as refining or marketing. The effect was to raise the price of crude oil for refining operations, whether vertically integrated or not. For the vertically integrated concern the price was simply a bookkeeping one and raising it resulted in decreasing refining profits, increasing profits on crude, reducing tax payments, and increasing total profit. For the independent refiner the result was to decrease refining profits which were total profits.

The system contained all the elements essential to a squeeze on refining profits and could be overcome only if the potential refining entrant could enter on a vertically integrated basis. However, entry on this basis substantially increases the already high capital cost of entry. Even with the freeing of imports the system will still work to the disadvantage of independent refiners unless the world price of petroleum settles to a competitive level.

A final barrier to entry results from the recent emphasis on environmental impact. Even firms who can overcome the high barriers may find either that they cannot obtain government permission to build at the optimal location or that additional capital is required to eliminate possible adverse environmental impacts. In any case they may be at a disadvantage relative to existing plants which were located without respect to such contraints.

Summary

Recapitulation, the major oil firms ha[illegible] considerable market power. The industry operates much like a cartel with 15 to 20 integrated firms being the beneficiaries of much federal and state policy. Thus, the federal and state governments with the force of law do for the major companies that which would be illegal for the companies to do themselves. Further, the tax laws induce the major companies to seek high crude prices, which tend to increase crude profits and squeeze refiners' profits to the detriment of and exclusion of independent refiners. While the recent removal of the oil import quota may lessen the ability to obtain higher crude oil prices, it will do so only to the extent that the leading U.S. oil companies are not able to exert significant influence over the world oil market. At any rate, the uncertainty of prorationing reducing domestic crude output in response to imports, together with the uncertainty of the oil import quota being reinstituted at some point in time, both of which occurred in the 1950's, are quite likely to retard the entry and expansion of significant independent refining capacity, and hence may have a similar effect on independent gasoline marketing.

The major firms seek to consolidate market power by various exclusionary tactics. These firms basically attempt to sharply limit the supply of crude available to independent refiners and refined product available to independent wholesalers and retailers. This is accomplished by minimizing use of formal market sales and thus avoiding flows of product from within the majors' vertically integrated structure to the market. It is also accomplished through control of pipe lines, exchange agreements, processing agreements, and price protection coupled with price wars. An elaborate network of devices to deny independents access to product has been erected. The resulting system endangers existing independents, makes new entry difficult or impossible, and yields serious economic losses to American consumers.

IV. CONDUCT: COOPERATIVE RATHER THAN COMPETITIVE

Conduct in the large, complex, multifaceted petroleum industry is difficult to evaluate. Basically, we must frame hypotheses about the structure and performance of the industry under the assumption of reasonably competitive conduct. Since a competitive model of structure and performance differs significantly from actual structure and performance in the industry, we shall attempt to isolate those aspects of conduct which have contributed to this disparity. Some types of conduct which may not be anticompetitive in competitive industries, or when practiced by small firms, become anticompetitive in concentrated industries or when practiced by firms that possess market power.

We find anticompetitive conduct on all levels in which the large integrated firms interrelate. In fact, their behavior should properly be characterized as cooperative, rather than competitive, with respect to:

Influencing legislation
Bidding for crude leases
Establishing the purchase price of crude oil
Transporting crude oil
Refining crude oil
Marketing gasoline

There is no way to determine the degree of influence exercised by industry lobbies in affecting petroleum legislation. However, we do know that major firms have been strong advocates of the Oil Import Control program, and also state prorationing legislation. The Import Control program, according to industry sources, has been largely responsible for the present shortage of refinery capacity. In addition, it has effectively created barriers to entry in the industry. The program has been exploited by the major integrated firms to protect the industry's oligopoly position with respect to refined products. Prorationing has been exploited by the majors to raise crude prices above their competitive level and results in a major misallocation of the economy's resources. Morris Adelman, one of the world's leading authorities on the industry, claims that "the great bulk of oil wells are superfluous—a political curiosity, not an economic asset."[1] They are strictly a result of prorationing legislation and import controls, which artificially raise the price of domestic crude, and encourage the development of otherwise uneconomic wells.[2]

Among the choicest of domestic oil fields are those contained in offshore government owned land. The oil leases for these fields are sold through "competitive" bidding. It has been common practice, however, for oil firms to submit joint bids on these leases. The result is a

[1] M. A. Adelman, *The World Petroleum Market*, John Hopkins Press, Baltimore, 1971, p. 46.
[2] M. A. Adelman, "Efficiency of Resource Use in Crude Petroleum," *Southern Economic Journal*, Vol. 31, pp. 101-120.

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small number of bidders for each lease. Joint bidding, and joint ventures in general, may promote competition in certain kinds of situations,[3] but such conduct by large petroleum firms, given the concentration already existing in the industry, is decidedly anticompetitive. Walter Mead has shown that, with respect to Alaskan Oil and gas leases, firms who were partners in joint bidding for one tract tended not to compete with their former partners in bidding for other tracts.[4]

The lack of competition among major oil firms is particularly apparent in the prices paid for crude oil. In a competitive market, prices are set by the interaction of supply and demand. However, in crude transactions the price is established entirely by the buyers. A price is "posted" in a particular field for a particular gravity of crude by the buyer. Within a few days this price is followed and similarly "posted" by other buyers in similar fields.[5] The seller of crude does not dispute or offer alternative prices to the buyer.[6]

Since the posted price is the prevailing price for crude in a particular area, it is in the interest of the integrated firms to post a price higher than marginal costs consistent with each firm's self sufficiency ratio (the ratio of crude production to refining capacity), and the elasticity of demand for gasoline.[7] This is so for two reasons. Remembering, that for the integrated firm, the posted price is the price it both pays itself and uses for tax purposes, the existence of the depletion allowance for crude production means that profits based on high prices at the crude level are "worth" more to the integrated firm than profits at other levels. Second, the integrated firms can "squeeze" those firms which do not have their own crude. An integrated firm, when using its own crude, in effect, pays not the posted price to itself, but rather the real cost of producing the crude. When the non-integrated refiner purchases crude, however, the posted price is, in fact, the "real" price—he is always put at a cost disadvantage if the posted price deviates from marginal cost.[8]

Lack of competition among the major firms is also evidenced by the absence of bidding for crude produced by independents. Once a major integrated firm erects gathering lines leading from the crude field, it purchases most of the crude from that field and becomes the field's price leader. Furthermore, our survey of independents has shown that

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[3] Walter J. Mead, "The Competitive Significance of Joint Ventures," *Antitrust Bulletin*, Vol. XII, Fall 1967, pp. 823–825.

[4] *Ibid.*, pp. 841–846.

[5] See, for instance, "8 Texas Crude Given Higher Postings," *Oil and Gas Journal*, June 4, 1973, p. 22.

[6] Adelman suggests that "there is very little room for independent bargaining over crude oil prices with independent refiners desirous, and capable, of carefully examining the range of offers, choosing the best, and trying to play one seller against another. In a market where price is so far above cost, the absence of independent bargaining centers at the various levels of production slows down the attraction of price toward cost. Perhaps even more important, the companies, who to some extent coordinate their production plans, meet again as rivals in refining and marketing." Adelman specifically refers to the world market for oil, but his remarks clearly apply to the domestic market. See Adelman, *op. cit.*, p. 145.

[7] See M. G. DeChazeau and A. E. Kahn, *Integration and Competition in the Petroleum Industry* (New Haven: Yale University Press, 1959, pp. 221–2).

[8] There is evidence to suggest that the posted price deviates substantially from long run marginal cost, even when incremental development cost is included in marginal costs. Adelman estimates that total development and operating costs for U.S. crude was $1.22 per barrel while the average price per barrel was $2.80 in 1960–63. In addition, many of our survey crude companies appeared to be earning supernormal profits. See Adelman, *op. cit.*, p. 76 for data on marginal costs, and U.S. Dept. of Interior, Bureau of Mines, *Mineral Industry Surveys, Crude Petroleum, Petroleum Products, and Natural Gas Liquids* 1960–63, Table 3 data on the total value per barrel of crude.

there appears to be no competition for the right to erect gathering lines: although a crude field may be geographically convenient to several refiners, only one refiner asks to install gathering lines. Only in the smaller fields is there some semblance of competition—there, major firms appear to compete with smaller trucking firms in order to secure the crude.

From the gathering lines, crude proceeds to large pipelines. These pipelines are generally owned jointly by a number of major integrated petroleum companies. Although the pipelines are, by law, common carriers and are regulated by the Interstate Commerce Commission, the major firms who own them nevertheless engage in many discriminatory and exclusionary practices with respect to smaller firms who wish to use the pipelines.[9] In addition, cooperative ownership of pipelines provides one more plane on which major integrated firms avoid the rigors of competition.

It is normally the case that in the neighborhood of their refineries, petroleum firms produce less than enough crude oil to meet throughput requirements, but more than enough gasoline to meet the demands of their branded marketers. Therefore, they engage in two kinds of practices designed to keep refineries running at near capacity, while at the same time avoiding excess costs for transporting crude oil and refined products:

(1) *Exchange agreements.*—Company A with refinery in area X will supply crude oil to company B with refinery in area Y. Meanwhile, company B will supply his crude oil in area X to company A. Similarly, A will supply gasoline to B's marketers in area X, while B supplies gasoline to A's marketers in area Y.

(2) *Processing agreements.*—A will refine B's crude oil in area X under contract. In other words, B owns both the crude oil and the final product. He simply pays A for refining it.

Not all exchange and processing agreements are anticompetitive. However, the eight largest firms prefer to keep exchange agreements in the family. This reliance on barter, rather than direct market sales, limits the availability of crude oil to independent refiners and gasoline to independent marketers. As a result, in 1971 less than two percent of the eight largest firms' output was sold to independent marketers. We shall see that these exclusionary practices, in addition to increasing refinery margins, have enabled the major integrated firms to exploit the present shortage of domestic crude oil and refinery capacity, thus threatening the continued viability of the independent marketing sector.

Even prior to the current shortage, anticompetitive conduct, as practiced by the largest firms, effectively limited the independent share of the market. For example, in 1971 independents controlled 34 percent of the market in District 1. However, in Maine, where there are no nearby independent refiners, independent marketers accounted for only 4.7 percent of sales.[10]

Independent marketers have been exceptionally innovative in their marketing styles. Therefore, in restricting their access to gasoline the majors have created major misallocations of resources. This is par-

[9] For a detailed discussion of these practices, see section on Barriers to Entry.
[10] 1972, *National Petroleum News Factbook*.

ticularly true in view of the majors' failure to innovate and meaningfully compete among themselves at the retail level. In fact, it appears that the majors have tacitly agreed not to compete with respect to retail prices. They appear willing to compete in secondary respects (appearance of stations, location of stations, giveaways, etc.) but the result is a remarkable homogeneity in the final product and prices offered to consumers.

In the many levels in which they interrelate, the majors demonstrate a clear preference for avoiding competition through mutual cooperation and the use of exclusionary practices. Together they dictate a common price for raw material and seek to stabilize price for refined product. Their common conduct with respect to pipelines and their tendency to bypass the market mechanism through the use of exchange and processing arrangements, has been clearly exclusionary. These exclusionary practices are directed at a common target—the independent sector of the industry. In sum, the majors continually engage in common courses of action for their common benefit.

V. INDUSTRY PERFORMANCE

A thorough analysis of industry performance for specific levels of operation is not possible at this time as the industry is dominated by integrated international companies who do not report profits in any consistent form for less than the company operations as a whole. However, some indications of industry performance may be derived from the data presently available.

As shown in Table 1, the weighted average rate of return on stockholder's equity for these firms for the period 1951–1971 was above the average rate of return for all manufacturers for all years but five. It declined from a high of 15.3 percent in 1951 to 9.6 percent in 1958, and rose to 12.4 percent in 1967. In the period 1969–1971, it remained relatively stable, with a 1971 average rate of 11.1 percent.

For this 21 year period, the median difference between the weighted average rate of return for these companies and for all manufacturing was a positive 1.1 percentage points. That is, for approximately one-half of this period, the weighted average rate of return for these companies was more than 1.1 percentage points above that of all manufacturing.

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TABLE V–1.—*Net income after taxes as a percent of stockholders equity for the eight largest integrated petroleum firms 1951–71* [1]

	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962
Exxon	12.6	12.0	10.4	13.0	13.0	12.1	11.9	12.6	12.8	11.1
Mobil	11.2	10.6	10.1	10.5	10.0	9.7	9.2	8.8	8.6	8.2
Texaco	13.4	13.1	13.1	15.4	15.3	15.9	15.5	15.2	15.5	14.8
Gulf	10.2	10.4	12.1	13.2	13.1	12.3	11.2	11.0	10.9	10.6
Shell	8.7	8.7	10.9	12.3	13.8	13.4	13.4	12.3	12.0	11.2
Standard (Indiana)	9.6	9.3	10.0	10.1	9.5	9.1	8.1	7.5	7.3	6.6
ARCO	6.9	7.4	8.4	11.0	10.2	9.4	8.1	7.3	7.0	7.7
SOCAL	10.4	9.8	10.2	10.7	10.8	12.1	11.9	11.3	11.2	11.6
Weighted average	11.1	10.8	10.8	12.4	12.4	12.1	11.6	11.5	11.5	10.7
Return on equity in all manufacturing [2]	9.7	9.3	11.5	12.1	11.7	13.4	13.0	11.6	10.3	9.8
Net difference [3]	1.4	1.5	−.7	.3	.7	−1.3	−1.4	−.1	1.2	.9

	1961	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951
Exxon	10.4	10.1	9.4	8.7	14.0	15.8	15.2	13.6	16.2	16.6	18.4
Mobil	7.8	7.0	6.5	6.4	9.3	12.0	11.2	10.7	11.6	11.3	12.4
Texaco	14.4	14.3	14.1	13.6	16.2	16.3	15.7	14.8	13.7	13.6	14.6
Gulf	10.9	11.6	11.0	13.5	16.2	14.8	14.3	13.4	14.4	13.0	14.1
Shell	9.5	10.3	11.1	8.8	13.8	15.0	15.4	16.3	17.2	15.2	17.8
Standard (Indiana)	6.5	6.4	6.5	5.7	7.5	7.9	9.2	7.4	8.7	8.8	11.7
ARCO	8.1	8.6	5.8	6.8	7.4	10.1	9.0	9.6	12.2	10.7	12.6
SOCAL	11.7	11.8	12.0	13.0	15.5	15.8	15.1	15.3	15.0	15.0	16.2
Weighted average	10.4	10.2	9.8	9.6	13.1	14.1	13.7	12.8	13.9	13.6	15.3
Return on equity in all manufacturing [2]	8.9	9.2	10.4	8.6	10.9	12.3	12.6	9.9	10.5	10.3	12.1
Net difference [3]	1.5	1.0	−.6	1.0	2.2	1.8	1.1	2.9	3.4	3.3	3.2

[1] Based on "Moody's Industrial Manual."
[2] "Economic Report of the President," January 1973, p. 250. The Federal Trade Commission is cited as the source.
[3] Weighted average return for the 8 companies less that of all manufacturing.

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Ordinarily such a rate of return pattern would not be much cause for concern; however, the petroleum industry has been given a plethora of special tax advantages not equally available to all other manufacturing firms. For example, the oil depletion allowance enables petroleum companies to deduct 22 percent of the value of crude production from gross income. To the extent that this procedure leads to "writing-off" assets more than once, it provides crude producers with substantial "unreported profits." A preliminary attempt to adjust company rates of return for the impact of the depletion allowance showed that it raised rates of return by about .4 percent. In addition, these companies may expense, on a current basis, investments made in drilling operations rather than treating such investments as long-term capital which would be depreciated over time. Further, they receive a foreign investment tax credit and foreign royalty credit which may be used to offset their domestic tax liability. No quantitative adjustment to rates of return to allow for these factors has been possible. However, again these tax provisions tend to cause an important understatement of profitability. Thus, there is considerable reason to believe that the after tax profit shown understates the true profit of the companies.

Evidence accummulated thus far—including materials obtained through surveys of independent crude producers, refiners, and marketers—indicates that (1) crude oil production is highly profitable although profits are undoubtedly overstated because the oil depletion allowance leads companies to try to "report" refinery profits at the crude level since crude profits are effectively taxed at a lower rate; (2) refinery profits have been during the past decade below the competitive level at least for independents so that entry has been deterred; and (3) marketing profits appear to be highly variable with the major firms doing less well than large independents although the present gasoline shortage is imperiling the existence of some independent marketers.

Two additional observations about industry performance need to be made. First, the pattern of refinery margins over the past two decades is analyzed with the relationship between refinery margins and entry especially scrutinized. Second, the cost to consumers in terms of inefficient marketing operations is examined.

Refinery margins were generally lower in the sixties than they had been in the fifties. In the early fifties refinery margins were well over $1 per barrel. While we cannot compute completely accurately the margin required to earn a competitive rate of return in this period, the range must have been on the order of 40 to 70 cents a barrel. Thus, there is little doubt that in a normal industry entry would have been profitable and would have taken place. Toward the late fifties and throughout the sixties rising crude prices were not fully offset by rising product prices and margins were "squeezed." Margins in the sixties were generally below $1, while capital costs had probably doubled. Estimated refinery investment costs per daily barrel were $888 in 1960.[1] By 1970 the figure had risen to $1,500. Annual capital costs rose sharply from 1960 to 1970. It is also likely that operating costs have risen with rising fuel prices and wage rates. Thus, while we cannot say with complete certainty whether refinery margins in the sixties

[1] Adelman, *op. cit.*, p. 377.

were sufficient to yield a competitive rate of return on refinery operations, we can say that entry into refining was *less* attractive in the sixties than the fifties for non-integrated firms.

Thus, during the term of the import quota which gave the majors greater control over crude oil prices, refinery margins diminished even though demand for refined product was growing rapidly and the economy was enjoying rapid, recession-free growth. Average margins for refined products from 1952 through 1972 are given in Table 10. It has been widely reported that independent refiners were not earning competitive profits during the 1960's. Therefore, the absence of independent entry during the 1960's is not at all surprising. In fact, the changes in margins suggest that the majors were capable of exercising a "product squeeze" on independent refiners to create a barrier to entry.

TABLE 10.—*Refinery gross margins, 1952–72* [1]

Year	Average product price per barrel (3)	Average crude petroleum price per barrel (2)	Margin (1–2) (4)
1952	$3.62	$2.526	$1.094
1953	3.76	2.684	1.076
1954	3.73	2.775	.955
1955	3.81	2.765	1.045
1956	3.96	2.788	1.172
1957 [2]	4.24	3.087	1.153
1958	3.89	3.013	.877
1959 [3]	3.87	2.903	.967
1960	3.84	2.882	.958
1961	3.87	2.886	.984
1962	3.84	2.905	.935
1963	3.79	2.894	.896
1964	3.71	2.877	.833
1965	3.83	2.864	.960
1966	3.84	2.882	.958
1967	3.92	2.915	1.005
1968	3.84	2.941	.899
1969	3.89	3.092	.789
1970	4.16	3.177	.983
1971	4.43	3.385	1.045
1972	4.40	3.400	1.000

[1] Source: "U.S. Wholesale Prices of Crude Petroleum and Principal Products," Independent Petroleum Association of America, 1973. Because invested capital grew rapidly over the period, margins as a percent of capital fell much more dramatically.
[2] A voluntary import quota program was initiated in 1957.
[3] A mandatory import quota program was initiated in 1959.

Perhaps the most serious deficiency in performance, however, occurs at the marketing level. The largest major companies (1) tend not to sell gasoline to independent marketers, and (2) seek to gain brand identification by operating or leasing many stations so that motorists will always be within close proximity of the major company's stations. The result is that the number of independent stations is limited by the availability of refined product from sources other than the leading major firms, particularly independent refiners. If no independent refiner exists in a particular area, there will invariably be fewer inde-

pendent retail outlets than in areas where considerable independent refining capacity is present. On the other hand, major integrated companies apparently seek to expand sales through their branded outlets partly by locating stations densely through their natural marketing areas. This strategy means that motorists will on average encounter more of a company's branded stations than a given independents' outlets for any given distance along a street or highway. Presumably the proliferation of branded stations encourages motorists to obtain major company credit cards since the probability of encountering a particular type of branded station of any given type is increased. By inducing consumers to obtain credit cards and by locating stations densely, the majors are able to increase total sales.[2]

This strategy, however, leads to the erection of many branded stations with low volumes. It is clear that some of these stations have such small volumes of gasoline sales that they are neither efficient nor profitable. This supposition is supported by the very high turnover rate among major station dealers (approximately 25 percent per year), by the fact that the majors are closing small stations and building large-volume "fighting brand" outlets now that there are strong incentives to earn profits at the refining and marketing levels rather than at the crude oil level.[3] At the same time that low-volume branded stations proliferated, efficient independent operations were limited by the lack of availability of refined gasoline. In 1970, over 35 percent of major stations had volumes less than 17,000 gallons per month while independents averaged a much higher volume sometimes rising to the 150,000 gallons per month.[4]

At any given time consumers will demand a certain mix of branded and unbranded stations. Some will seek a combination of low-priced gasoline and little service by going to independent outlets. Others will wish a different consumption package including high-priced gasoline and more service and amenities. These consumers will grant their custom to branded stations. In recent years, consumers have increasingly demanded the package provided by independents as evidenced by the rapid growth of these types of outlets. However, that growth has been limited especially in areas where little independent refining capacity exists. Therefore, consumers are provided less of the independent product mix than they want in certain geographic areas (e.g. Maine and other New England states) and more of the branded product than they desire. Thus, real cost is imposed upon consumers by denying them the product mix they seek.

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[2] It is important to point out, however, the profitability of integrated oil companies in gasoline marketing is not necessarily as high as independent marketers. This is so because there are indications that the integrated oil companies are less efficient than the independent gasoline marketers. To some extent, the lack of equal efficiency may be due to an historical lack of effective price competition among the major integrated firms. As independent gasoline marketers became more of a competitive threat to the major oil companies, these major companies, in addition to restrictive devices previously discussed, began to close inefficient stations, retreat in marketing territory, and even market some gasoline through "independent" type high volume, minimum service gasoline stations. However, it is not clear that even under competitive circumstances, the major oil companies could operate as efficiently as independent gasoline marketers because of the large number of retail stations which they operate. That is, it is possible that beyond a certain number of retail outlets, diseconomies of management and rising transactions costs cause the per outlet cost of operation to rise substantially. Thus, the ability of the major oil companies to earn rates of return in gasoline marketing equal to independents exists only to the extent that they can be forced to operate as efficiently.

[3] See discussion of changing incentives in the oil industry, *infra* at VI. 2 *et seq.*

[4] Fred C. Allvine and James M. Patterson, *Competition Ltd: The Marketing of Gasoline* (Bloomington, Ind. 1972), pp. 40, 78, and 80.

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Ordinarily when consumers wish more of a particular product, they bid its price up and thereby induce suppliers to produce more of the product. In gasoline marketing, though, independents cannot fully respond to consumer demand unless they can obtain access to additional gasoline. In an open market the independents would get more gasoline by bidding up its price. In the petroleum industry, however, transactions are typically not "arm's length" open market transactions. Rather, gasoline and crude oil are transferred largely by exchange agreements or processing agreements or are simply retained within the confines of vertically integrated firms. Thus, the misallocation of resources associated with having too few independents and too many branded stations is a result of (1) the eight major integrated companies' refusal to deal with independent marketers and (2) the absence of a genuine market.

In the next section, attention will be given to recent developments in the industry which have changed the profit incentives of major integrated firms and have seriously imperiled the existence of independent marketers.

VI. THE CAUSES OF THE PRESENT SHORTAGE

In previous sections we provided a general analysis of the petroleum industry. We now relate the structure, and performance of the oil industry to the causes of the shortage of gasoline.

The current petroleum shortage can be traced to six separate, but interrelated factors:

1. The Oil Import Control Program;
2. Interdependent and cooperative behavior by the largest oil firms;
3. The failure of these firms to construct refinery capacity sufficient to meet current needs;
4. Government induced barriers to entry which have inhibited non-integrated firms from entering into refining;
5. An insufficient supply of domestic crude for independe ' re-, finers; and
6. The fact that major station gasoline prices have not been allowed to reach their natural level during the period of shortage in certain areas of the country.

The Oil Import Control Program was abolished by the President on May 1, 1973. However, it created, and leaves in its wake, a shortage of domestic refinery capacity which will last for at least three or four years. The program restricted crude oil imports and limited imports of refined gasoline practically to zero. In conjunction with other barriers which prevented entry into refining, it created a near monopoly over refining for the huge integrated firms who control the industry.

These major firms, which consistently appear to cooperate rather than compete in all phases of their operation, have behaved in a similar fashion as would a classical monopolist: they have attempted to increase profits by restricting output. With their advanced econometric models and computer simulations, the major oil companies should have been able to predict the current increase in demand for petroleum products. Whatever their forecasts showed, however, they failed to expand refinery capacity sufficiently to meet this demand. Spokesmen for several majors argue that the lack of expansion can be attributed directly to environmental problems. However, now that import controls have been removed, and governmental intervention into the industry has become a strong threat these companies have suddenly overcome their environmental problems. Exxon has announced plans to build additional refining capacity of 600,000 barrels per day. Other large firms also plan new refineries in the near future.

Normally, we would expect this situation of limited refinery capacity to encourage new entry into refining. However, this has not happened. In fact, there has been no new entry of a non-integrated gasoline producing refinery in the Eastern and Gulf Coast states since 1950. This is due to the exceptionally high barriers discussed earlier.

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On the one hand, import controls and major firm ownership of pipelines has made sources of crude supply for potential new entrants uncertain. On the other hand, state prorationing legislation and the federal oil depletion allowance have created a "refinery squeeze," making refinery operations unprofitable and thereby discouraging entry at that level.[1]

Another element which has contributed to the present shortage, has been the decrease (approximately 2 percent a year) in domestic crude production. Most foreign crude oil is exceptionally rich in sulfur content. Many refineries, particularly those situated inland, are not equipped to process this "sour" crude. The major firms, which control most of the domestic crude supply, appear to be preventing many independent refineries, particularly those in the Midwest, from obtaining sufficient supplies of "sweet" crude. Therefore these refineries are running far below capacity,[2] and the gasoline shortage thus has become further aggravated.

A final cause of the shortage is the fact that efforts by the majors to squeeze the independents' market share have kept retail gasoline prices from responding to excessive demand. In a normal competitive market the "cure" for a shortage would be for prices to increase. The higher prices would cause producers to increase supply and at the same time it would discourage some amount of consumption. Thus supply and demand would be brought into equilibrium. But what has happened here is that the majors have used the shortage as an occasion to attempt to debilitate, if not eradicate, the independent marketing sector. They are doing this not by lowering prices in those areas where they compete with independents but simply by not permitting their prices to rise. The independents, of course, simply do not have available supplies of gasoline to deal with such a tactic. As the shortage forces them to curtail sales they must raise prices. The sole basis on which they can compete with the majors is destroyed. The effect is the same as if the majors had all dropped their prices in those markets where they compete with independents. The consumer may be realizing some temporary advantage (in the midst of great inconvenience) in the form of somewhat lower prices from the majors' stations. However, if this pricing tactic is at all successful in diminishing the market shares of independents the consumer will pay dearly for this advantage. The results of the major companies discouraging their dealer from raising prices have had some serious consequences:

(*a*) Independent marketers have borne the brunt of the shortage because the largest majors will not supply them, and because many of their normal suppliers (independent refiners) are operating under capacity. As a result, over 1,200 independent stations had been forced to close by May 30.

(*b*) Because what gasoline that is available to independent marketers has become very expensive, the traditional 2 to 6 cent price differential between the majors and the independents has been eroding and in some areas of the country the majors are actually

[1] For a detailed discussion about how this squeeze operates, see Appendix B.

[2] Crown Central Petroleum Corp. indicates in its "Interim Report" to stockholders, dated March 31, 1973, that its refinery "operated at approximately 65 percent of desired levels" in the first quarter of 1973, due to an inability to obtain crude oil.

pricing below the independents.[3] In Northern Virginia, Alert regular gasoline (Exxon's "fighting brand") is 1 to 2 cents below Scot and some Mobil and ordinary Exxon stations are priced at the same level as Scot.

Due to all these developments, the prospects for the next three or four years (the period needed for construction of new refineries) appears bleak. As demand increases more rapidly than refinery capacity, shortages of petroleum products will become more acute. The degree of severity will depend upon prices: the lower the retail prices, the more critical will be the shortage of products.

Assuming that crude import quotas are not reinstituted, we are likely to see some new entry into refining during the next few years. Pittston and Pennzoil have already announced plans to build large coastal refineries. We can also expect to see a continued disappearance of independent marketers. On the other hand, it is likely that the major firms will increasingly emulate the independents' style of marketing. In order to capitalize on excess demand for gasoline, and assuming that prices are frozen or otherwise maintained below market clearing levels, they will turn to more efficient (less costly) styles of marketing.

This change in the majors' style of marketing has already begun. Many majors are withdrawing from their least lucrative markets [a partial list is provided in Table 11]. These developments at the marketing level have been caused in part by significant changes in other sectors of the industry.

Table 11.—Marketing changes

Gulf Oil	On October 1972, announced a $250 million write-off of "marginal and unprofitable" operations. Included in the announcement was its plans to sell or close 3,500 service stations in the upper Mid-west and Northwest.
Phillips Petroleum Co	In June 1972 announced plans to withdraw its service station and home heating oil operations in the Northeast. 1,400 service stations are involved.
Arco	Announced plans to withdraw from retail marketing operations in the South, Southwest, Rocky Mountain and Plains states.
Sohio/BP	Sold some 1,150 service stations to American Petrofina, which included all of its marketing operations in Florida and Georgia as well as selected marketing operations in North and South Carolina and parts of Louisiana, Alabama, and Oklahoma.
Sun Oil Co	In February 1973 announced that it was withdrawing from marketing operations in eight Midwestern States. Over 300 service stations were involved. The States are Illinois, Nebraska, Kansas, the Dakotas, Wisconsin, Minnesota and Tennessee.
Mobil Oil Co	Intends to close 575 service stations in 1973.
Exxon	Pulled out of Indiana, Illinois, Wisconsin, and Michigan.
Standard (Ind.)	Pulled out of Western states with the exception of Washington and Oregon.

[3] According to Ernest McClelland, Associate Editor of Platt's Oilgram Price Service, "a 1 to 2 cent difference" between majors and independents is common now "compared with 3 to 6 cents nine months ago."

At the crude level, oil companies are making record high bids on off-shore Louisiana and North Slope Alaskan tracts. On the international front, the press frequently reports accounts of successful demands on the part of the OPEC nations for increased royalty takes and ownership interests in crude production. The Shah of Iran demanded that crude production be increased by 60 percent or the Western oil companies would have to leave when their current contracts expire. The Iraqi government demanded (successfully) a "sharp" (but undisclosed) increase in crude production. Saudi Arabia and Algeria also plan substantial increases in crude production.

The gist of all these press reports is that (1) there appears to be a fundamental change in marketing strategy on the part of the majors; (2) the majors are being forced to accept much lower profits on OPEC crude oil and on domestic off-shore and Alaskan crude oil and (3) they are losing control over the production rates of OPEC oil. These events are not unrelated. The trends in crude oil production are at least part of the reason for the change in marketing strategy. There is now no doubt that a large and increasing fraction of U.S. crude oil consumption will come from crude oil produced abroad.

The removal of the mandatory import quota on May 1 of this year not only allows for a large absolute and percentage increase in imports, it also means the end of state prorationing as a device to successfully restrict domestic crude oil production. Restriction of domestic production will not be an effective way of maintaining crude oil prices, so long as imports are available. Thus, the major U.S. oil companies face the prospect of filling their crude oil needs with an increasing fraction of decreasingly profitable foreign oil. Profits on U.S. crude production will (for the first time) depend heavily on world crude prices. If world crude prices decline, as at least one expert predicts,[4] then profits on domestic on-shore crude production will erode as well. Thus, the majors' profits on foreign crude will continue to fall and profits on domestic crude will be subject to new uncertainty. Heretofore, target (and realized) rates of return have been higher on crude production than on refining and marketing. The depletion allowance gives integrated oil companies an incentive to concentrate their profits at the crude level since (within limits) their Federal income tax liability falls with increasing crude prices. The wish is not necessarily the fact. To succeed, the companies must be able to keep crude prices artificially high. In the past, crude prices have been maintained at high levels by a combination of the devices discussed earlier. In the future, the size of the tax subsidy from the depletion allowance will be more uncertain since domestic crude prices will no longer be insulated from the world market.

Thus, the successful demands for a larger and larger share of the profits from foreign crude oil production by the OPEC nations, the increasing share of domestic crude oil consumption that will be met from foreign production, and the new uncertainty regarding domestic crude prices lead to the conclusion that rates of return at the crude level will be lower in the future than in the past and that these lower profits will be subject to greater uncertainty.

[4] See Morris Adelman, *The World Petroleum Market* (John Hopkins Press, Baltimore, 1972), especially pp. 262–63.

The oil industry, in order to maintain or moderate the fall in rates of return at the crude level, must increase rates of return at the transportation, refining and marketing levels. To do so, refined product prices must rise relative to crude prices. Since gasoline comprises about 40 to 50 percent of the volume of refined product and 65 to 70 percent of the revenue, increased gasoline prices at the retail level are likely and are an important factor in the situation. But the majors cannot raise gasoline price margins in markets where there is increasing entry and expansion by price competing independents and in this sense the independents serve to prevent out of control price increases.

The recent regional marketing withdrawals announced by the majors will increase regional gasoline market concentration if the existing major can transfer its market share to another major. ARCO has sold most of its Florida marketing operations to Mobil Oil Co., for example. All the majors can increase their regional market concentration simultaneously by pulling out of markets where their share is lower than their national average and selling their operations to those majors who remain. This strategy will only work, however, if the majors can retain or expand their regional market shares. To do so, they must prevent the further entry and expansion of independent marketers. Ultimately, the only way to contain or reduce the independents' market shares is through monopoly power at the refining or crude pipeline stages. Eliminating the price differential between majors and independents, while at the same time raising the tank wagon price, can force the independents out, in the short run. Similarly, whatever the root causes of the current product "shortage" (mismanagement, poor forecasts, price controls, import quota or contrivance), the independents will be hurt more than the majors. The eight largest firms can keep their own stations supplied, while at the same time, indirectly reducing the independents' supplies by reducing their sales to the next largest 10 integrated companies. They also effectively reduce the independents' supply by buying gasoline for their secondary branding operations from independent refiners who have traditionally sold to independents.

In the longer run, however, strategies such as those explored above cannot work for more than four or five years unless independents are prevented from entering at the refining level. In addition to capital barriers, transportation barriers, etc. (see above), there is the major question of crude availability. It has been estimated that eight firms produced over 80 percent of world crude oil (excluding U.S. and Canadian production) in the first half of 1969. Seven of the eight (Exxon, BP, Shell, Gulf, Texaco, Standard [California] and Mobil) were either U.S. companies or affiliated with U.S. companies. Even if in the future, these companies make little profit on crude production, they still have a strong interest in preventing their crude from flowing into independent refineries. An important part of the majors' strategy will be to attempt to exclude independent refiners and new entrants from an adequate crude supply even though crude profits are no more than competitive.

It is therefore difficult to accurately forecast the complexion of the industry five years from now. Much will depend upon the demand for and supply of petroleum substitutes, technological advances, and the

progress of the Alaskan pipeline. The most important factor, however, will be the shape of governmental policy towards the oil industry.

Much has been said in this report about the role played by the giant integrated petroleum firms in creating the current shortage. There also has been a significant contribution made by the United States government. The government has established a climate which encourages cooperative and exclusionary behavior by these firms. The Oil Import Program, the Depletion Allowance, the foreign tax credit, price controls, and prorationing legislation are all creations of the government. Some forms of joint ventures ar sanctioned by government agencies. These policies have all contributed to the current gasoline shortage. The major integrated oil companies are, however, taking advantage of the present shortage to drive the only viable long-term source of price competition, the independent marketer, out of market after market.

Conclusions

The survey data lead to certain tentative conclusions about the operation of the various markets of the petroleum industry:

1. The eight largest majors have effectively controlled the output of many of the independent crude producers.

2. A high degree of control over crude is matched by relatively few crude exchanges with independents, an exclusionary practice which denies a high degree of flexibility to the independent sector while reserving it to the majors.

3. Independent refiners are largely dependent on the majors for their crude supply, but independents sell very little of their gasoline output back to major oil companies. Independent refiners sell the largest amount of their output to independent gasoline marketers and to their own stations. Thus, the welfare of the independent marketing sector is largely dependent on the well being of independent refiners.

4. The continued existence and viability of the independent refiner is necessary for the survival of the independent marketer. This is especially true since the eight largest majors rarely sell gasoline to the independent marketers.

5. The major oil companies in general and the eight largest majors in particular have engaged in conduct which exemplifies their market power and has served to squeeze independents at both the refining and marketing levels. Such conduct and associated market power has its origin in the structural peculiarities of the petroleum industry and has limited the independents' share of the market to approximately one quarter of the total, especially in Districts 1 and 3, resulting in a threat to the continued viability of the independent sector in this market.

APPENDIX A

STRUCTURAL CHARACTERISTICS OF REGIONAL PAD DISTRICTS

The petroleum industry on a national basis has been discussed in the body of this report. The purpose of this appendix is to provide additional structural data presently available in a regional framework. Because much of the data in this industry are published according to PAD (Petroleum Administration for Defense) districts by the Department of Interior, Bureau of Mines, it is according to this geographical definition that these statistics are presented. However, as will become evident upon examining the following data, to a large extent, these geographical designations may be reasonable approximations for regional economic markets.

The Department of Interior, Bureau of Mines, identifies five Petroleum Administration for Defense (PAD) Districts in the United States. District 1 includes the East Coast and the Appalachian area; District 2 includes the midwestern states as well as Oklahoma, Kentucky, Tennessee, and Missouri; District 3 had the largest crude oil production of any of the Districts. Similiarly, the Rocky Mountain states; and District 5 includes the West Coast states including Alaska and Hawaii.[1]

Relative Importance of Five Districts

The five Districts will be compared in the following three relevant areas of production and consumption: (1) production of domestic crude oil; (2) number and capacity of refineries; and (3) motor gasoline consumption.

Production of crude oil

Total U.S. production of crude oil was 9.6 million barrels per day in 1970. Because of the large amount of crude oil produced in Texas and Louisiana, District 3 had the largest crude oil production of any of the Districts. Similarly, the large production of California raised District 5 to second place among the Districts. The total for all Districts is shown below in Table 1. In Table 2, the interdistrict and imported shipments of crude oil are set forth.

TABLE 1.—*Production of crude oil by district, 1970*

[In thousands of barrels daily]

District	Production	Percent share of total	Rank of district
1	31	.32	5
2	1,169	12.13	3
3	6,508	67.53	1
Total 1, 2, and 3	7,708	79.98	
4	675	7.00	4
5	1,254	13.01	2
Total	9,637		

NOTE.—Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*, "Crude Petroleum, Petroleum Products, and Natural Gas Liquids 1970," table 20, p. 36.

[1] See *Mineral Industry Surveys*, "Petroleum Refineries in the United States and Puerto Rico," January 1, 1971, and similar report, Bureau of Mines, U.S. Department of the Interior.

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TABLE 2.—*Supply of crude oil by district, 1970*

[In thousands of barrels daily]

District	Production	Imports	Supply—Domestic receipts from district—				
			1	2	3	4	5
1	31	579	.....	19	651	10	1
2	1,169	317	.....	.....	1,454	274	.....
3	6,508	.....	.....	3	.....	3	.....
4	675	48	.....	.....	.....	.....	.....
5	1,254	380	.....	.....	8	30	.....
Total	9,637	1,324	.....	.....	.....	.....	.....

Source: U.S. Department of the Interior, Bureau of Mines, Mineral Industry Surveys, "Crude Petroleum . . ." table 30, p. 36.

NUMBER OF CAPACITY OF REFINERIES

Total crude oil throughout capacity for operating refineries in the United States was 12.7 million barrels per day in 1970. Alternatively, gasoline output capacity for operating refineries was six million barrels per day in 1970.[3] The total number of operating refineries in the United States was 253. District 3 has the greatest number of refineries and amount of crude oil and gasoline capacity. District 2 and District 5 follow in order. The total for all Districts is shown in Table 3.

MOTOR GASOLINE CONSUMPTION

Total U.S. consumption of gasoline was 5.8 million barrels per day in 1970. The large population centers of District 1 and District 2 had the largest consumption. District 5 was in third place with 860,000 barrels a day consumed. The total for all Districts is shown below in Table 4. Interdistrict gasoline shipments and shipments of imported gasoline are provided in Table 5.

TABLE 3.—*Number and capacity of petroleum refineries by district, 1970*

[In thousands of barrels daily]

District	Number of petroleum refineries	Crude oil capacity	Percent share of total	Gasoline capacity	Percent share of total	Rank of district
1	30	1,501	11.9	635	10.5	4
2	70	3,493	27.6	1,686	28.0	2
3	82	5,227	41.3	2,453	40.7	1
Total 1 and 3	112	6,728	53.2	3,088	51.2	.....
4	26	425	3.4	193	3.2	5
5	45	2,012	15.9	1,062	17.6	3
Total	253	12,658	.....	6,029	.....	.....

NOTE.—Figures may not add to totals because of rounding.

Source: U.S. Department of the Interior, Bureau of Mines, Mineral Industry Surveys, "Petroleum Refineries in the United States and Puerto Rico," table 1, p. 3.

[3] For 1968, average United States percentage yield of gasoline per barrel of crude oil was approximately 44.7 percent. American Petroleum Institute, *Petroleum Facts and Figures*, 1971 edition, Port City Press, Incorporated, Baltimore, Maryland, p. 204.

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TABLE 4.—*Motor gasoline consumption by district, 1970*

[In thousands of barrels daily]

District	Gasoline consumption	Percent share of total	Rank of district
1	2,001	34.6	2
2	2,007	34.7	1
3	741	12.8	4
Total 1, 2, and 3	4,749	82.1	
4	175	3.0	5
5	860	14.9	3
Total	5,784		

Source: U.S. Department of the Interior, Bureau of Mines, Mineral Industry Surveys, "Crude Petroleum . . ." table 30, p. 33.

TABLE 5.—*Supply of gasoline by district, 1970*

[Thousand barrels daily]

District	Refinery output	Imports	Domestic receipts by districts				
			From 1	From 2	From 3	From 4	From 5
1	645	66		38	1,333		1
2	1,614		93		243	11	
3	1,737			53			
4	187				10		12
5	736	1			29	43	
Total, United States	4,919	67					

Source: U.S. Department of Interior, Bureau of Mines, Mineral Industry Surveys, "Crude Petroleum . . ." table 30, p. 33.

OVERVIEW OF DISTRICTS 1 THROUGH 5

It is apparent from Tables 1 through 5 that no District emerges as most important in all three of the categories. District 3 is most important in the production and refining of crude oil; however it is fourth in motor gasoline consumption. In contrast, District 1 is fifth and fourth in production and refining of crude oil but second in gasoline consumption. It is also apparent that District 1 must heavily import crude and gasoline from District 3 or from foreign sources. Further, District 2 must also import crude from District 3 or from foreign sources. Indeed, if the analysis of the industry is to include a complete examination of vertical integration, (i. e., production, refining, transportation, and distribution), a proper definition of the geographic market should include Districts 1, 2, and 3 in the crude market, and Districts 1 and 3 in the gasoline market. Districts 4 and 5 seem to be unique in that gasoline consumption requirements can be approximately met by internally produced crude oil and refined gasoline.[8] In Table 6, the crude oil and product pipeline mileage by district provides further district distinction in that the largest crude oil pipeline mileage occurs in Districts 3, 2, and 4 respectively, while the largest product pipeline mileage occurs in Districts 2, 3, and 1 respectively.

[8] District 5 does import about 30 percent of its crude oil, however. This percentage may drop considerably upon the use of Alaskan oil in District 5.

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TABLE 6.—*Pipeline mileage by district, 1969*

District	Crude oil	Percent of total	Product	Percent of total
1	2, 512	4. 1	10, 176	18. 1
2	23, 060	37. 3	26, 712	47. 7
3	29, 656	47. 9	13, 252	23. 6
4	5, 873	9. 5	2, 775	4. 9
5	786	1. 2	3, 181	5. 7

Note: Total U.S. mileage operated: Crude oil, 61,887; product, 56,096. Percentages may not add to 100.0 because of rounding.

Source: Interstate Commerce Commission, Bureau of Accounts, "Transport Statistics in the United States," Dec. 31, 1969, U.S. Government Printing Office, Washington, D.C. (1970), p. 6.

DISTRICTS 1 AND 3, AND DISTRICT 2

CRUDE OIL

Crude oil production statistics by company are not presently available for District 2; however, such statistics are available for the state of Texas, in District 3, which in 1971 accounted for 51.4 percent of crude oil production in the combined 1 and 3 districts. As can be seen in Table 7, the Top 4 and Top 8 firms accounted for an estimated 35.1 and 51.3 percent of crude oil production in Texas in 1971.

TABLE 7.—*Market shares of leading firms in crude production, State of Texas (in barrels), 1971*

Firm	Crude production	Percent share of total
Exxon	166, 124, 784	13. 6
Standard (Indiana)	110, 538, 780	9. 0
Gulf	82, 397, 148	6. 7
Texaco	77, 226, 948	5. 8
SOCAL	59, 574, 648	4. 9
Mobil	53, 536, 068	4. 4
ARCO	46, 780, 728	3. 8
Shell	37, 451, 586	3. 1

Note: Top 4, 35.1 percent, top 8, 51.3 percent.

Source: Firm data from "Oil Directory and Production Survey, 1973," R. W. Byrams & Co., Austin, Tex. (Actual data given are September 1971 data multiplied by 12.) Total Texas crude production data from "Mineral Industry Surveys, Crude Petroleum, Petroleum Products, and Natural Gas Liquids," December 1972, table 3, p. 7.

REFINING

As shown in Table 8, Top 4 concentration for 1970 in crude refining capacity in Districts 1 and 3 is 30.5 percent while Top 8 concentration is 44.5 percent. In gasoline sales, the top 4 firms control 41.2 percent of the market and the top 8 control 65.4 percent of the market. Independent refineries possess only 8.7 percent of crude oil capacity in District 1 and 18.7 percent of capacity in District 3. Market shares of independent gasoline retailers are also small: 15.5 percent in District 1 and 32.4 percent in District 3. Moreover, the market shares of the major oil companies have increased in both refining and gasoline sales during the past 20 years; and new entry into refining has been virtually non-existent.

In District 2, on the other hand, the Top 4 firms in 1970 accounted for 37.1 and 38.8 percent of crude and gasoline refinery capacity respectively, while the Top 8 firms accounted for 58.9 and 60.6 percent respectively (Table 9). Thus, concentration at the refinery level appears to be significantly lower in District 2

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than in the combined 1 and 3 District. Moreover, in District 2, two companies, Ashland Oil and Marathon, both considered "independent", rank within the Top 8 firms and hence, are significant factors in the market.

TABLE 8.—*Crude and gasoline refining capacity, districts 1 and 3, 1970*

[Barrels per day]

Company	Share of market (percent)	Crude capacity	Share of market (percent)	Gasoline capacity
Standard (N.J.)	14. 37	967, 000	15. 11	466, 500
Texaco	9. 61	646, 500	8. 60	265, 700
Gulf	8. 18	550, 500	9. 47	292, 550
Shell	7. 32	492, 500	7. 97	246, 250
Mobil	7. 06	475, 300	6. 69	206, 550
Standard (Ind.)	6. 51	437, 900	8. 03	248, 000
SOCAL	6. 29	423, 000	4. 30	132, 750
ARCO	5. 16	347, 500	5. 25	162, 000
Total crude capacity		6, 728, 678		
Total gasoline capacity				3, 087, 920
Top 4	39. 48			
Top 8	64. 50			
Top 4			41. 22	
Top 8			65. 43	

NOTE: Percentages may not add to 100.0 because of rounding.

Source: U.S. Department of Interior, Bureau of Mines, Mineral Industry Surveys, "Petroleum Refineries . . .," table 2, pp. 4-12, Jan. 11, 1971.

TABLE 9.—*Crude and gasoline refining capacity, district 2, 1970*

[Barrels per day]

Company	Share of market (percent)	Crude capacity	Share of market (percent)	Gasoline capacity
Standard (Ind.)	15. 19	530, 500	12. 06	203, 300
Leland	7. 52	262, 500	6. 36	107, 250
Standard (Ohio)	7. 27	254, 000	7. 77	130, 900
Sun	7. 07	247, 000	9. 27	156, 300
Shell	7. 01	245, 000	9. 72	163, 900
Texaco	6. 27	219, 000	5. 75	96, 900
Marathon	4. 58	160, 000	5. 68	95, 770
Mobil	4. 03	140, 600	4. 04	68, 030
Total crude capacity		3, 492, 670		
Total gasoline capacity				1, 685, 527
Top 4	37. 05			
Top 8	58. 94			
Top 4			38. 82	
Top 8			60. 65	

Note: Percentages may not add to 100.0 because of rounding.

Source: U.S. Department of Interior, Bureau of Mines, Mineral Industry Surveys, "Petroleum Refineries . . .," table 2, pp. 4-12, Jan. 11, 1971.

GASOLINE RETAILING

As indicated in Table 10, the Top 4 and 8 firms accounted for approximately 36.7 and 58.0 percent of gasoline barrel sales in 1971 and the combined 1 and 3 districts. In District 2, for 1970, the Top 4 and 8 firms accounted for 37.0 and 60.3 percent respectively (Table 11).

TABLE 10.—*Market share of leading firms in retailing: 1971*

Firm: DISTRICTS 1 AND 3	Market share (percent)
Exxon	11.7
Texaco	9.6
Gulf	8.5
Mobil	6.9
Shell	6.4
Standard (Ind.)	5.3
ARCO	4.9
Sun	4.7
SOCAL	3.8
Top 4	36.7
Top 8	58.0

Source: *National Petroleum News Factbook Issue*, 1972, pp. 118–131.

TABLE 11.—*Market share of leading firms in gasoline retailing: 1970*

Firm: DISTRICT 2	Market share (percent)
American	15.1
Shell	8.4
Gulf	6.8
Mobil	6.7
Texaco	6.6
Sun	6.1
Phillips	5.3
ARCO	5.3
Top 4	37.0
Top 8	60.3

Source: *National Petroleum News Factbook Issue*, 1971, pp. 128–133.

PIPELINES

Estimated concentration in crude oil pipelines for the combined 1 and 3 district for 1969 is provided in Table *12*. The Top 4 and 8 firms accounted for an estimated 57.2 and 59.7 percent of barrel miles respectively. In terms of product pipelines in the combined 1 and 3 district (Table *13*), the Top 4 and 8 firms accounted for an estimated 40.6 and 72.4 percent respectively.

TABLE 12.—*Estimated concentration in crude oil pipelines in the combined 1 and 3 district 1969 (after percent of ownership)*

Company	Crude: Rank	Crude: Number of barrels	Company share
Texaco, Inc	1	245, 915, 716	21.5
Mobile Oil Co	2	166, 188, 600	14.5
Shell Oil Co	3	155, 334, 487	13.6
Gulf Oil Co	4	86, 475, 196	7.6
Total, 4 largest		693, 913, 999	57.2
Exxon	5	14, 770, 888	1.3
SOCAL	6	8, 347, 735	.7
ARCO	7	5, 999, 279	.5
Standard Oil (Indiana)	8		
Total, 8 largest		683, 031, 901	59.7

Source: *Oil and Gas Journal Crude Oil Pipeline Atlas, 1971* and Interstate Commerce Commission, *Transport Statistics in the United States*, pt 6, "Oil Pipe Lines," 1970.

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TABLE 13.— *Estimated concentration in product pipelines in the combined 1 and 3 district, 1969 (after percent of ownership)*

Company	Products		
	Rank	Number of barrels	Company share
Arco	1	60, 806, 388	10. 6
Gulf Oil Co	2	60, 170, 615	10. 5
Mobil Oil Co	3	55, 755, 939	9. 7
Exxon	4	55, 462, 881	9. 7
Total, 4 largest		232, 195, 823	40. 6
Shell Oil Co	5	52, 085, 853	9. 1
Texaco, Inc	6	51, 632, 141	9. 0
Standard Oil Co (Indiana)	7	47, 564, 275	8. 3
SOCAL	8	30, 524, 651	5. 3
Total, 8 largest		414, 002, 743	72. 4

Source: *Oil and Gas Journal Products Pipeline Atlas, 1970* and Interstate Commerce Commission, *Transport Statistics in the United States*, pt. 6, "Oil Pipe Lines," 1970.

DISTRICT 4 AND DISTRICT 5

CRUDE OIL

Crude oil statistics are not currently available on a company basis for District 4. However, such statistics are available for California, which, in 1970 accounted for over 80 percent of crude oil production in District 5. Together with other information available for District 5, it is possible to construct some rough estimates of concentration at the crude level.

As shown in Table 14, the Top 4 and Top 7 crude oil producers in 1970 accounted for 39.3 and 53.7 percent of California crude oil production. By including District 5 imports and receipts from other districts (Table 15), estimated Top 4 and Top 7 concentration increases to 41.9 and 59.1 percent respectively, (Table 16).

TABLE 14.—*California crude oil production, 1970*

Company	Barrels per day	Percent market share
SOCAL	151, 528	14. 9
Getty	104, 615	10. 3
Union	77, 286	7. 6
Shell	66, 312	6. 5
Mobil	60, 493	5. 9
Texaco	44, 825	4. 4
ARCO	42, 032	4. 1
Total for State	1, 018, 986	
Top 4 (percent)		39. 3
Top 7 [1] (percent)		53. 7

[1] No information is available for companies ranked below the seven largest.

Source: "*Annual Review of California Oil and Gas Production*," table 8, p. 8.

TABLE 15.—*District 5 imports and receipts from other districts, 1970*

[In barrels per day]

Company	Canadian imports	Other foreign imports	Receipts from other districts
SOCAL		22, 432	[1] 9, 425
Getty			
Union		10, 544	
Shell	84, 353	13, 021	[1] 9, 425
Mobil	64, 111	7, 311	
Texaco	62, 640	12, 997	
ARCO		12, 009	[1] 3, 770
Total	401, 467		37, 700

[1] Estimated figures from pipeline shipments.

Source: *Annual Review of California Oil and Gas Production* . . . table 15, p. 7 and table 16, p. 9.

TABLE 16.—*District 5 crude oil production, 1970* [1]

[In barrels per day]

Company	Barrels per day	Percent market share [2]
SOCAL	183, 385	12. 6
Getty	104, 615	7. 2
Union	87, 830	6. 0
Shell	173, 111	11. 9
Mobil	131, 915	9. 1
Texaco	120, 465	8. 3
ARCO	57, 811	4. 0

[1] Estimated by summing data contained in tables 14 and 15.

[2] Approximately 232,000 barrels of crude per day are produced in the other district 5 States. These barrels are not included in the market share figures. Thus, to the extent that these companies have approximated the same share of the other 232,000 barrels per day, these concentration figures would be reasonably accurate for the district as a whole.

REFINING

Gasoline and crude oil capacity data have been available for both District 4 and District 5 for 1960, 1964, 1967, and 1970. Total gasoline output for each District consists of the gasoline capacity of the refineries, foreign inputs, and receipts from other Districts.

Gasoline and crude oil capacity data are shown in Tables 17–21.

As shown in Tables 20–24, District 5 crude and gasoline capacity has consistently been higher than District 4 from 1960 through 1970. Although the capacity of refineries has steadily increased in both Districts, Top 4 and Top 8 concentration ratios have remained relatively stable.

District 5 has been dominated by the same seven majors since 1960. Their stable market share during the rapid expansion of the industry demonstrates their substantial degree of market power. Within this group of seven majors, Standard Oil of California has consistently owned a market share of 20 percent or more of industry output. District 4 has also been dominated by a few companies. Standard Oil (Ind.), Standard Oil (N.J.) and Continental Oil Company have had at least 30 percent of the market.

TABLE 17.—*Crude refinery capacity, District 4 selected years, largest 8 companies*

Company	1960		1964		1967		1970	
	Crude capacity	Share of market (percent)	Crude capacity	Share of market (percent)	Crude capacity	Share of market (percent)	Crude capacity	Share of market (percent)
Standard (Indiana)	52,000	15.7	65,000	16.9	34,000	8.5	72,000	16.9
Standard (New Jersey)	34,000	10.2	34,000	8.8	39,000	9.7	40,000	9.4
Conoco	27,000	8.4	57,000	14.8	66,500	16.5	67,500	15.9
Salt Lake	43,000	12.9						
Farmer's Union	22,000	6.6	26,000	6.8				
Frontier (Husky)	20,000	6.2	20,500	5.3	20,500	5.0	41,100	9.7
Tidewater (Phillips)	19,300	5.8	20,000	5.2	24,500	6.1	28,000	6.6
Texaco	17,000	5.1			20,000	5.0	22,000	5.2
Sinclair			24,000	6.2	26,000	6.5		
SOCAL (Chevron)			43,000	11.2	43,000	10.7	43,000	10.1
ARCO							28,700	6.8
Shell								
Total district 4 capacity	332,367		385,050		402,580		425,300	
Top 4		47.2		51.6		45.4		51.9
Top 8		70.9		75.1		68.0		80.6

Source: U.S. Department of the Interior, Bureau of Mines, "Petroleum Refineries . . ." January 1961, 1965, 1968, and 1971; table 2.

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TABLE 18.—*Gasoline refinery capacity, district 4 selected years, largest 8 companies*

Company	1960		1964		1967		1970	
	Gasoline capacity	Share of market (percent)	Gasoline capacity	Share of market (percent)	Gasoline capacity	Share of market (percent)	Gasoline capacity	Share of market (percent)
Standard (Indiana)	21,050	18.2	17,000	13.1	9,630	5.8	27,300	14.2
Conoco	13,600	11.8	20,050	15.5	27,570	16.7	29,970	15.5
Texaco	10,400	9.0			9,000	5.5	9,000	4.7
Standard (New Jersey)	9,670	8.4	23,780	18.3	19,450	11.8	20,150	10.5
Farmer's Union	9,400	8.1	6,000	4.6				
Sinclair	8,700	7.5	10,300	8.0	12,900	7.8		
Frontier (Husky)	6,500	5.6	6,000	4.6	6,000	3.6	18,245	9.5
Salt Lake	6,400	5.5						
Phillips			8,050	6.2	9,650	5.9	11,350	5.9
Chevron, SOCAL					15,200	9.2	15,900	8.3
California Oil Co			11,100	8.6				
Shell								
ARCO							16,450	8.5
Total district 4 capacity	115,850		129,650		164,905		192,835	
Top 4		47.4		55.5		45.5		49.7
Top 8		74.1		78.9		66.3		77.1

Source: U.S. Department of the Interior, Bureau of Mines, "Petroleum Refineries . . .", January 1961, 1965, 1968, and 1971; table 2.

TABLE 19.—*Crude refinery capacity, district 5 selected years, largest 8 companies*

Company	1960		1964		1967		1970	
	Crude capacity	Share of market (percent)	Crude capacity	Share of market (percent)	Crude capacity	Share of market (percent)	Crude capacity	Share of market (percent)
SOCAL	418, 000	27. 6	421, 000	26. 5	421, 000	24. 4	503, 000	25. 0
Shell	178, 000	11. 7	197, 600	12. 4	253, 000	14. 7	274, 000	13. 6
Union	177, 200	11. 7	182, 500	11. 5	190, 000	11. 0	199, 000	9. 9
Mobil	165, 000	10. 9	147, 000	9. 2	155, 000	9. 0	179, 000	8. 9
ARCO (Richfield)	165, 000	10. 9	165, 000	10. 4	165, 000	9. 6	165, 000	8. 2
Tidewater (Phillips)	108, 000	7. 1	120, 000	7. 6	120, 000	7. 0	110, 000	5. 5
Texaco	105, 000	6. 9	110, 000	6. 9	120, 000	7. 0	142, 000	7. 1
Wilshire (Gulf)	33, 000	2. 2	45, 000	2. 8				
Conoco					46, 900	2. 7		
Standard of New Jersey							80, 000	4. 0
Total district 5 capacity	1, 515, 800		1, 590, 561		1, 724, 750		2, 011, 600	
Top 4		61. 9		60. 8		59. 7		57. 4
Top 8		89. 0		87. 2		85. 4		82. 2

Source: U. S. Department of the Interior, Bureau of Mines, "Petroleum Refineries . . ." January 1961, 1965, 1968, and 1971; table 2.

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TABLE 20.—*Gasoline refinery capacity, district 5, selected years, largest 8 companies*

Company	1960		1964		1967		1970	
	Gas capacity	Share of market (percent)	Gas capacity	Share of market (percent)	Gas capacity	Share of market (percent)	Gas capacity	Share of market (percent)
SOCAL	147, 000	26. 2	150, 000	25. 1	192, 380	22. 9	256, 580	24. 2
Shell	63 200	11. 3	61, 600	10. 3	134, 500	16. 0	144, 000	13. 6
Union	73. 300	13. 1	81, 000	13. 6	87, 450	10. 4	90. 700	8. 6
Mobil	50. 000	8. 9	49, 080	8. 2	101, 430	12. 1	105, 000	9. 9
ARCO (Richfield)	62. 500	11. 1	65, 500	11. 0	94, 055	11. 2	89, 430	8. 4
Tidewater (Phillips)	57, 000	10. 2	74, 900	12. 5	85, 500	10. 2	85, 000	8. 0
Texaco	49, 300	8. 8	39, 300	6. 6	58, 700	7. 0	95, 700	9. 0
Wilshire (Gulf)	16. 200	2. 9	22, 800	3. 8	25, 900	3. 1	35, 890	3. 4
Total district 5 capacity	561, 295		597, 775		839, 635		1, 062 425	
Top 4		61. 7		62. 2		62. 2		56. 3
Top 8		92. 5		91. 1		92. 8		85. 1

Source: U.S. Department of the Interior, Bureau of Mines, "Petroleum Refineries ... January 1961, 1965, 1968, and 1971; table 2.

TABLE 21.—*Crude and gasoline capacity, 1960–70, districts 4 and 5*

[In percent]

	Top 4	Top 8
District 4:		
Crude capacity (share of market):		
1960	47.2	70.9
1964	51.6	75.1
1967	45.4	68 0
1960	51.9	80.6
Gasoline capacity (share of market):		
1960	47.4	74.1
1964	55.5	78.9
1967	45.5	66.3
1970	49.7	77.1
District 5:		
Crude capacity (share of market):		
1960	61.9	89.0
1964	60.8	87.2
1967	59.7	85.4
1970	57.4	82.2
Gasoline capacity (share of market):		
1960	61.7	92.5
1964	62.2	91.1
1967	62.2	92.8
1970	56.3	85.1

Source: Tables 20–23.

Concentration has been higher in District 5 than in District 4 through the ten-year period. Indeed, the share of the market held by the six largest firms in District 5 has been approximately equal to the share of the market held by the largest eight in District 4.

Inputs of gasoline into District 5 amounted to 1,000 barrels per day in 1970.[4] Receipts from other Districts amounted to 10,000 barrels daily in District 4 in 1970. Receipts from other Districts amounted to 72,000 barrels daily in District 5.[5] Without access to confidential data, it is not possible to ascertain which companies are shipping interstate to Districts 4 and 5 or which companies are importing gasoline.

GASOLINE RETAILING

As shown in Table 22, the top 4 and 8 firms in District 5 accounted for 50.0 and 75.2 percent of that District's gasoline barrel sales in 1970 respectively. In District 4, the top 4 and 8 firms accounted for 40.6 and 64.8 percent respectively of that District's gasoline sales.

[4] U.S. Dept. of Interior, Bureau of Mines, *Mineral Industry Survey*, "Crude Petroleum . . ." Table 30, p. 33.
[5] *Ibid.*

TABLE 22.—*Retail gasoline sales, districts 4 and 5, 1970*

(Thousand barrels per year)

Company	District 5 [1]		District 4 [2]	
	Sales	Share of market (percent)	Sales	Share of market (percent)
SOCAL	2,379,156	17.1	206,249	7.8
Shell	2,025,508	14.6		
Union	1,285,357	9.2		
ARCO	1,268,414	9.1	141,160	5.3
Texaco	1,103,768	7.9	293,637	11.0
Mobil	1,114,925	8.0		
Phillips	674,000	4.8	220,368	8.3
Standard (New Jersey)	627,225	4.5	110,521	4.2
Husky			185,209	6.9
Conoco			292,680	10.9
Standard (Indiana)			276,015	10.4
Total	13,924,923		2,663,700	

[1] Top 4=50.0 percent, top 8=75.2 percent.
[2] Top 4=40.6 percent, top 8=64.8 percent.

Source: "Share of the Market, 1970," National Petroleum News Factbook, mid-May 1971, pp. 128-133.

PIPELINES

Concentration statistics in crude oil and product pipelines for Districts 4 and 5 are not available at this time. However, existing pipelines and pipeline ownership information, to the extent that such ownership could be determined, are set forth in Tables 23 through 26.

TABLE 23.—*Product pipelines in district 4* [1]

Pipeline	Originating refineries in districts 1-3	Type of pipeline
1. Yellowstone	Phillips	Interstate.
2. Continental	Texaco	Do.
3. Shoshone	Continental	Do.
4. Cenex	Unknown	Do.
5. Chevron	Phillips, SOCAL	Do.
6. Pioneer	ARCO, Sinclair	Do.
7. Cheyenne	Unknown	Do.
8. Wyco	do	Do.
9. Medicine Bow	Continental	Do.
10. Phillips	Phillips	Do.
11. Sheridan	Unknown	Do.

[1] Products Pipeline Atlas of United States and Canada, "Oil and Gas Journal," Oct. 12, 1970, unpaged.

TABLE 24.—*Crude oil pipelines in district 4* [1]

Pipeline:	*Type of pipeline*
1. Continental	Interstate.
2. Amoco	Do.
3. Butte	Do.
4. Chevron	Do.
5. Phillips	Do.
6. Shell	Do.
7. Western	Intrastate.
8. Permian	Do.
9. Marathon	Do.
10. Platte	Do.
11. ARCO	Do.
12. Belle Fouche	Do.

[1] "1971 Crude-Oil Pipeline Atlas of U.S. and Canada," *Oil and Gas Journal*, October 11, 1971, unpaged.

TABLE 25.—*Product pipeline in district 5* [1]

Pipeline	Owner	Type of pipeline
1. Southern Pacific	Southern Pacific RR [2]	Interstate.
2. Calnev	Union Pacific RR. and Williams	Do.
3. Yellowstone	40 percent Humble; 40 percent Continental; 14 percent Union; 6 percent Husky.	Do.
4. Chevron	SOCAL	Do.
5. Shell	Shell	Intrastate.
6. SOCAL	SOCAL	Do.
7. San Diego	Southern Pacific RR.; Santa Fe RR.	Do.
8. Olympic	Mobil, Shell, Texaco, ARCO	Do.

[1] "Product Pipeline Atlas . . ."
[2] Originating refineries are SOCAL and Texaco.

TABLE 26.—*Crude oil pipelines in district 5* [1]

Pipeline	Owner	Type of pipeline
1. Four Corners	Shell 25 percent; SOCAL 25 percent; Gulf 20 percent; Continental, ARCO, Superior 10 percent each.	Interstate.
2. Trans Mountain	ARCO, Mobil, Phillips	Do.
3. Shell	Shell	Intrastate
4. Getty	Getty	Do.
5. ARCO	ARCO	Do.
6. Texaco	Texaco	Do.
7. Union	Union	Do.
8. Mobil	Mobil	Do.
9. SOCAL	SOCAL	Do.

[1] "1971 Crude Oil Pipelines . . ."

APPENDIX B

EFFECT OF THE OIL DEPLETION ALLOWANCE ON THE PROFIT STRUCTURE OF INTEGRATED OIL COMPANIES

The oil depletion allowance may directly encourage the exploration for and exploitation of domestic crude oil sources, but it may also indirectly bring about results which limit the supply of refined petroleum products by restraining entry into the refining segment of the industry by nonintegrated firms. This result may occur because the oil depletion allowance creates an incentive to higher crude oil prices. Higher crude prices, however, mean higher costs and lower profit margins for non-integrated refiners. But, lower profit rates imply less entry into the industry. Further, with fewer refiners, other things equal, the demand for crude oil will be reduced so that any incentive the oil depletion allowance created for the expansion of crude supply will be offset, at least in part.

To demonstrate these conclusions, let us posit a simplified world in which a few integrated firms control all domestic crude production and all refinery capacity. Suppose further that imports are eliminated by a quota or prohibitive tariff. Assume that the price and quantity exchanged of refined products is determined by supply and demand and that the price per barrel of refined product is $1.00 and the total demanded is 100 barrels. Assume the cost of recovering a barrel of crude oil is 30¢ and that the cost of refining a barrel of crude oil into a barrel of refined product is 10¢. Assume that the corporate income tax rate is 50 percent and that the oil depletion allowance is 20 percent of gross crude oil receipts. Finally, let us abstract from any quantitative limitation on the application of the depletion allowance and from the special depreciation provisions which apply to the oil industry. These abstractions do not invalidate the following arguments.

Assume that the oil companies in the first instance do not report income at each level for tax purposes. Suppose that the firms transfer crude oil from the well to the refinery at the true cost (30¢) of recovering that product. The combined profit and loss statement for the oil firms would look like Table B-1

TABLE B-1

Total revenue ($1 × 100 barrels)	$100
Crude recovery costs (30 cents × 100 barrels)	30
Refining costs (40 cents × 100 barrels)	40
Total costs	70
Gross income before taxes	30
Depletion allowance (20 percent of crude receipts)	6
Gross profits before income tax	24
Income tax (50 percent of profits before taxes)	12
Net profits after taxes	12
Real net Profits (Net profits + depletion allowance)	18

Rate of return on revenues: $18 divided by 100 equals 18 percent.

Under this accounting treatment the oil firms earn $18 of real profits, and after tax profit as a percent of total revenue is 18 percent.

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Now, however, assume that the oil firms choose a price of crude oil such that refinery profits taken separately are reduced to zero. In this model, the firms are clearly free to do this since the crude oil price is simply a transfer or accounting price since no crude oil is sold in any market; it is simply transferred from one division to another by an integrated firm. Table B-2 shows the profit and loss statements for the oil firms under these new assumptions.

TABLE B-2

Crude oil division:	
Total revenues	$60
Cost of crude recovery	30
Gross income before taxes	30
Depletion allowance (20 percent of crude receipts)	12
Gross profits before taxes	18
Corporate income tax	9
Net profits after taxes	9
Refinery division:	
Total revenues	100
Crude oil costs	60
Refining costs	40
Total costs	100
Gross income before taxes	0
Net profits after taxes	0
Real net profits (net profits plus depletion allowance)	21

Rate of return on revenues: $21 divided by $100 equals 21 percent.

Under this accounting alternative the oil firms earn $21 of real after-tax profits, and after-tax profits as a percent of total revenue is 21 percent. Thus, it is clear that the oil depletion allowance creates an incentive to higher crude oil prices and smaller refinery margins. In the example provided, an increased crude price leads to a 16⅔ percent increase in net profits.

Let us now in stages make our market more like the real world. First, assume that the integrated firms continue to own all domestic crude oil but only own one-half of the refineries. The remaining refineries can be termed "independents." The independents must buy crude oil from the majors. Surely the majors continue to have a tax incentive to obtain high crude prices. However, the majors must not choose a crude price so high that the independents go out of business as a result of earning zero profits, for if independents shut down, the majors will lose customers for one-half of their crude production. Rather, the majors will select a crude oil price which permits refinery profit margins to be large enough to induce the present independents to stay in the market but will not be large enough to induce new independents to enter the industry, increase the supply of refined product, and cause prices and profits in the oil industry to decline. Thus, the oil depletion allowance induces a refinery margin "squeeze" which retards entry.

Finally, suppose that the majors no longer control the entire supply of crude oil; and that independent crude producers would react to higher crude prices by exploring for new crude and by expanding output of previously discovered crude. The oil depletion allowance still provides an incentive to higher crude prices for the majors (and other crude producers for that matter), but will the majors be able to obtain a higher market price for crude oil? At first glance, the answer appears to be, "no." Higher crude prices will elicit greater supplies, which will, in turn, cause prices to fall to previous levels. However, the majors may be able to control crude supply and thereby bring about the desired higher prices. They may restrict crude supply by (1) restricting access to crude gathering lines and pipelines, (2) convincing state governments to impose prorationing programs, (3) persuading the U.S. Government to adopt strict import quotas, and/or (4) squeezing refinery margins so much that crude producers have only a limited market for their product. All of these strategies have been followed at one time or another by the majors in the real world. Therefore, apparently the majors *can* control crude supply and can realize higher crude prices.

It appears, then, that the depletion allowance has two impacts upon crude supply. First, it tends to encourage greater crude production at any given price since it constitutes a subsidy to crude oil production. Second, however, it creates an incentive to higher crude prices for tax reasons. But, in order to realize higher crude prices, the supply of crude oil must be restrained. Thus, the stimulus to greater crude oil exploration and production provide by the oil depletion allowance may be very small or virtually non-existent.

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