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DEEPWATER PORT FACILITIES

GOVERNMENT

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HEARINGS

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BEFORE THE

SUBCOMMITTEE ON THE ENVIRONMENT

OF THE

COMMITTEE ON

INTERIOR AND INSULAR AFFAIRS

HOUSE OF REPRESENTATIVES

NINETY-THIRD CONGRESS

FIRST SESSION

ON

H.R. 7501

TO AMEND THE OUTER CONTINENTAL SHELF LANDS ACT
AND TO AUTHORIZE THE SECRETARY OF INTERIOR TO
REGULATE THE CONSTRUCTION AND OPERATION OF DEEP-
WATER PORT FACILITIES

HEARINGS HELD IN WASHINGTON, D.C. JUNE 6 AND 29;
AUGUST 3; AND OCTOBER 1, 1973

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NOTE.—The chairman of the full committee is an ex officio voting member of this subcommittee. The first listed minority member is counterpart to the subcommittee chairman.

[EDITOR'S NOTE.—At the conclusion of markup sessions that followed these hearings, the Subcommittee on the Environment on November 12, 1973, ordered an amended bill reported to the full committee. At approximately the same time, the Committee on Merchant Marine and Fisheries completed its markup of a somewhat similar bill, H.R. 11951, and since it embodied provisions acceptable to the Committee on Interior and Insular Affairs, no further action was taken with respect to the bill reported by the subcommittee.

[The Committee on Public Works also reported out a deepwater ports bill, H.R. 10701, which passed the House of Representatives on June 6, 1974. However, by floor amendment the text of the Merchant Marine and Fisheries bill, H.R. 11951 was substituted for the original text of the Public Works measure.]

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DEEPWATER PORT FACILITIES

WEDNESDAY, JUNE 6, 1973

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON THE ENVIRONMENT,
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:55 a.m. in room 1324, Longworth House Office Building, Hon. Morris K. Udall, chairman of the subcommittee, presiding.

Mr. UDALL. The Subcommittee on Environment will be in session.

This hearing this morning is scheduled to consider H.R. 7501 by Mr. Saylor and several of his colleagues, to amend the Outer Continental Shelf Lands Act and to authorize the Secretary of Interior to regulate the construction and operation of the deepwater port facilities.

Without objection, a copy of the bill as introduced, together with the Executive communication of April 18, 1973, submitting the bill to the House of Representatives, will be made a portion of the record at this point.

Without objection, so ordered.

[The bill and report referred to follow:]

[H.R. 7501, 93d Cong., 1st sess.]

A BILL To amend the Outer Continental Shelf Lands Act and to authorize the Secretary of the Interior to regulate the construction and operation of deepwater port facilities

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Deepwater Port Facilities Act of 1973".

SEC. 2. (a) Section 5(a)(1) of the Outer Continental Shelf Lands Act is amended by adding the following sentence at the end: "The Secretary of the Interior shall prescribe such rules and regulations as may be necessary to accommodate the exploration and exploitation of the oil and gas and other mineral resources of the Outer Continental Shelf with the construction and operation of deepwater port facilities licensed by him."

(b) Section 5(c) of the Outer Continental Shelf Lands Act is amended by deleting the words "produced from said submerged lands in the vicinity of the pipeline".

TITLE I

SEC. 101. (a) Congress finds and declares that—

(1) Onshore port facilities in the United States are becoming increasingly congested as the United States' trade in fuel and other commodities increases. Such facilities are not able to accommodate some of the large vessels which are being used increasingly in ocean shipping.

(2) The national interest in economic use of resources, environmental protection, transportation safety, competitive advantage in world trade, and security in international relations is best served by the use of larger vessels and development and operation of United States deepwater port facilities that can accommodate them.

(3) The environmental dangers and safety hazards inherent in the increasing traffic in United States harbors, ports, and coastal areas make it desirable that

appropriate offshore deepwater port facilities be constructed to protect the Nation's citizens, coastlines, and marine environment from pollution and other dangers to life, health, and property.

(4) The construction and operation of such deepwater port facilities by United States citizens under Federal license in accordance with this Act would be a reasonable use of the high seas in accordance with international law.

(5) The construction and operation of deepwater port facilities off the coast of the United States by United States citizens should be subject to Federal license and regulation, and closely coordinated with the regulation of the exploration and exploitation of natural resources under the Outer Continental Shelf Lands Act in order to assure an adequate accommodation of such uses.

(b) The purpose of this Act is to authorize and regulate the construction and operation of deepwater port facilities in accordance with the policy of this Act.

(c) Nothing in this Act shall be deemed to affect the legal status of the high seas, the superjacent airspace, or the seabed and subsoil, including the Continental Shelf.

SEC. 102. DEFINITIONS.—As used in this Act the term—

(a) "Secretary" means Secretary of the Interior unless otherwise designated.

(b) "Deepwater port facility" means a facility constructed off; the coast of the United States, and beyond three nautical miles from such coast, for the principal purpose of providing for the transshipment of commodities between vessels and the United States. It includes all associated equipment and structures beyond three nautical miles from such coast, such as storage facilities, pumping stations, and connections to pipelines, but does not include pipelines.

(c) "United States" or "State" includes the several States, the District of Columbia, any territory or possession of the United States, and the Commonwealth of Puerto Rico.

(d) "Citizen of the United States" means any citizen of the United States; any State or political subdivision of a State, or any private, public, or municipal corporation created by or under the laws of the United States or any State.

(e) "Application" means any application filed under this Act for a license to construct, operate, or make significant alterations to a deepwater port facility, or for a renewal or modification of such license.

SEC. 103. (a) No citizen of the United States may construct or operate or make any significant addition to a deepwater port facility without first receiving a license from the Secretary. No commodities or other materials may be transported between the United States and a deepwater port facility unless such deepwater port facility is licensed under this Act.

(b) The Secretary is authorized to issue to any citizen of the United States a license to construct or operate a deepwater port facility if he first determines that—

(1) the applicant is finally responsible and has demonstrated his ability and willingness to comply with applicable laws, regulations, and license conditions;

(2) the construction and operation of the proposed deepwater port facility will not unreasonably interfere with international navigation or other reasonable uses of the high seas, and is consistent with the international obligations of the United States; and

(3) the facility will be located, constructed, or operated in a manner which will minimize or prevent any adverse significant environmental effects. In making the determination required by this paragraph, the Secretary shall consider all significant aspects of the facility including any connecting pipelines in relation to—

(A) effects on marine organisms;

(B) effects on water quality;

(C) effects on ocean currents and wave patterns and on nearby shorelines and beaches;

(D) effects on alternative uses of the oceans such as fishing, aquaculture, and scientific research;

(E) susceptibility to damage from storms and other natural phenomena; and

(F) effects on esthetic and recreational values.

(c) The Secretary shall not limit the number of licenses or deny licenses on grounds of alleged economic effects of deepwater port facilities on the commodity and transportation markets served by them or by other port facilities.

(d) Licenses issued under this section shall be for a term of no longer than thirty years, with preferential right in the licensee to renew under such terms

and for such period not to exceed thirty years as the Secretary determines is reasonable.

(e) The Secretary shall consult with the Governor of any State off whose coasts the facility is proposed to be located to insure that the operation of the facility and directly related land based activities would be consistent with the State land use program.

(f) The grant of a license under this section shall not operate as a defense to any civil or criminal action for violation of the antitrust laws of the United States.

(g) Licenses issued hereunder may be transferred after the Secretary determines that the transferee meets the requirements of this Act.

(h) The Secretary shall not issue a license hereunder in any case where the President determines that it would be contrary to the national security of the United States.

SEC. 104. (a) The Secretary is authorized to issue reasonable rules and regulations governing application for and issuance of licenses and the construction and operation of deepwater port facilities under this Act. Such rules and regulations shall be issued in accordance with section 553 of title 5 of the United States Code without regard to the exceptions contained in subsection (a) thereof.

(b) In carrying out all of his functions under this Act, the Secretary shall consult with all interest or affected Federal agencies. The Secretary is authorized to utilize on a reimbursable basis the full resources of the Federal Government in ocean engineering and undersea technology for the purpose of determining standards and criteria for construction of all facilities licensed under this Act.

(c) An application filed with the Secretary for a license under this Act shall constitute an application for all Federal authorizations required for construction and operation of a deepwater port facility. The Secretary shall consult with other agencies to insure that the applications contain all information required by the agencies. The Secretary will forward a copy of the application to those Federal agencies with jurisdiction over any of the construction and operation and will not issue a license under this Act until he has been notified by such agencies that the application meets the requirements of the laws which they administer. Hearings held pursuant to this Act shall be consolidated insofar as practicable with hearings held by other agencies.

(d) The provisions of this Act shall in no way alter or otherwise affect the jurisdiction of the Council on Environmental Quality or the requirements of the National Environmental Policy Act of 1969 except that a single detailed environmental impact statement shall be prepared in connection with each license by the Secretary and circulated in compliance with the Guidelines of the Council on Environmental Quality. Such statement shall fulfill the responsibilities of all participating Federal agencies under section 102 (2) (C) of that Act with respect to the proposed facilities.

SEC. 105. PROCEDURES FOR ISSUING LICENSE.—(a) Secretary shall prescribe by regulation the procedures, including appropriate charges, for the submission and consideration of applications for licenses. Each application shall contain such financial, technical, and other information to support the determinations required by section 103(b) of this Act as the Secretary may by regulation require.

(b) Before granting any license the Secretary shall publish in the Federal Register a notice containing a brief description of the proposed facility and information as to where the application and supporting data required by subsection (a) may be examined and giving interested persons at least ninety days for the submission of written data, views, or arguments relevant to the grant of the license, with or without opportunity for oral presentation. Such notice shall also be furnished to the Governor of each State which may be significantly affected by the proposed facility, and the Secretary shall utilize such additional methods as he deems reasonable to inform interested persons and groups about the proceeding and to invite comments therefrom.

(c) If the notice published under subsection (b) did not provide for a public hearing, then upon the request of any interested person when in the judgment of the Secretary substantial objections have been raised to the grant or the terms of the license the Secretary shall hold one or more public hearings to consider such objections. Where such objections relate to the proposed site of the facility, at least one such hearing shall be held in the vicinity of the proposed site.

(d) Where the Secretary concludes from the comments and data submitted pursuant to subsections (b) and (c) that there exist one or more specific and material factual issues which may be resolved by an evidentiary hearing, he

may direct that such issues be submitted to a supplemental hearing before a presiding officer designated for that purpose. Such officer shall have authority to preclude repetitious and cumulative testimony, to require that direct testimony be submitted in advance in written form, and to permit cross-examination only to the extent necessary and appropriate in view of the nature of the issues. After the hearing the presiding officer shall submit to the Secretary a report of his findings and recommendations, and the participants in the hearing shall have an opportunity to comment thereon.

(e) The Secretary's decision granting or denying the license shall be in writing and shall include or be preceded by an environmental impact statement, where required by section 102 of the National Environmental Policy Act, a discussion of the issues raised in the proceeding and his conclusions thereon, and, where a hearing was held pursuant to subsection (d), findings on the issues of fact considered at such hearing.

(f) The provisions of sections 554, 556, and 557 of title 5, United States Code, are not applicable to proceedings under this section. Any hearing held pursuant to this section shall not be deemed a hearing provided by statute for purposes of section 706(2)(E) of title 5, United States Code.

SEC. 106. (a) Any person adversely affected by an order of the Secretary granting or denying a license may within sixty days after such order is issued seek judicial review thereof in the United States court of appeals for the circuit nearest to which the facility is sought to be located. A copy of the petition shall be forthwith transmitted by the clerk of the court to the Secretary or other officer designated by him for that purpose. The Secretary thereupon shall file in the court the record of the proceedings on which the Secretary based his order, as provided in section 2112 of title 28. This record shall consist of—

(1) the application, the notice published pursuant to section 105(b), and the information and documents referred to therein;

(2) the written comments and documents submitted in accordance with the agency rules by any person, including any other agency and any agency advisory committee, at any stage of the proceeding;

(3) the transcript of any hearing held pursuant to section 105(c) or (d); and the presiding officer's report, if any; and

(4) the Secretary's decision and accompanying documents as required by section 105(e).

(b) If the petitioner applies to the court for leave to adduce additional evidence, and shows to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the Secretary, the court may order such additional evidence (and evidence in rebuttal thereof) to be taken before the Secretary, and to be adduced in such manner and upon such terms and conditions as to the court may seem proper. The Secretary may modify his findings as to the facts, or make new findings, by reason of the additional evidence so taken, and he shall file such modified or new findings, and his recommendation, if any, for the modification or setting aside of his original order, with the return of such additional evidence.

(c) Upon the filing of the petition referred to in subsection (a), the court shall have jurisdiction to review the order in accordance with section 706 of title 5, United States Code, and to grant appropriate relief as provided in such section.

SEC. 107. CONDITIONS IN LICENSES.—The Secretary is authorized to include in any license granted under this Act any conditions he deems necessary to carry out the purposes of this Act. Such conditions may include but need not be limited to:

(1) Such fees as the Secretary may prescribe as reimbursement for the cost of Federal activities occasioned by the application for licensing, development, and operation of the deepwater port facility.

(2) Such measures as the Secretary may prescribe to meet United States international obligations.

(3) Such measures as the Secretary may prescribe to prevent or minimize the pollution of the surrounding waters.

(4) Such provisions as the Secretary may prescribe for the temporary storage of hazardous substances.

(5) Conditions designed to assure that the operation of the deepwater port facility will not substantially lessen competition or tend to create a monopoly. Such conditions shall include a requirement of nondiscriminatory access at reasonable rates.

(6) Provisions requiring that if a license is revoked or expires and is not reissued the licensee will be responsible for rendering the deepwater port facility harmless to navigation and the environment.

SEC. 108. CIVIL PENALTIES.—(a) Any licensee who violates any condition of his license or any rule or regulation of the Secretary issued under this Act may be assessed a civil penalty by the Secretary, in a determination on the record after opportunity for a hearing, of not more than \$10,000 for each day during which such violation occurs.

(b) A licensee aggrieved by a final order of the Secretary assessing a penalty under this section may within sixty days after such order is issued seek judicial review thereon in the United States district court for the judicial district nearest to which the licensee's facility is located or in the United States District Court for the District of Columbia, and such court shall have jurisdiction of the action without regard to the amount in controversy. Judicial review of the Secretary's determination shall be in accordance with section 706 of title 5, United States Code.

(c) Penalties assessed pursuant to this section may be collected in an action by the United States, but the order of the Secretary shall not be subject to review otherwise than as provided in subsection (b).

SEC. 109. CRIMINAL PENALTIES.—Any person who willfully and knowingly violates any provision of this Act or any rule, regulation, restriction, or condition made or imposed by the Secretary under the authority of this Act shall, in addition to any other penalties provided by law, be punished by a fine of not more than \$25,000 for each day during which such offense occurs.

SEC. 110. REVOCATION OR SUSPENSION OF LICENSE.—(a) Whenever a licensee fails to comply with any provision of this Act or any rule, regulation, restriction, or condition made or imposed by the Secretary under the authority of this Act or fails to pay any civil penalty assessed by the Secretary under section 108 (except where a proceeding for judicial review of such assessment is pending) the Secretary may file an appropriate action in a United States district court to (1) suspend operations under the license or (2) if such failure is knowing and continues for a period of thirty days after the Secretary mails notice of such failure by registered letter to the licensee at his record post office address, revoke such license: *Provided*, That when such failure would in the judgment of the Secretary create a serious threat to the environment, he shall have the authority to suspend operations under the license forthwith. The licensee may seek judicial review of the Secretary's action in the United States district court for the district nearest to the deepwater port facility or in the United States District Court for the District of Columbia within sixty days after the Secretary takes such action.

SEC. 111. APPLICABLE LAWS.—(a) The Constitution and the laws and treaties of the United States shall apply to deepwater port facilities licensed under this Act and insofar as consistent with international law to activities connected with the operation and use of such deepwater port facilities in the same manner as if the facilities were located in the navigable waters of the United States. Foreign flag vessels or natural or juridical persons who are not nationals of the United States using such facilities shall be deemed to consent to the jurisdiction of the United States for the purposes of this Act. To the extent they are applicable and not inconsistent with the Act or with other Federal laws and regulations now in effect or hereafter adopted, the civil and criminal laws of the nearest State are declared to be the law of the United States for such facility. All such applicable laws shall be administered and enforced by the appropriate officers and courts of the United States. State taxation laws shall not apply to such facility, but this shall not affect the right of a State to tax its citizens or residents.

(b) The laws of the United States referred to in the previous subsection include but are not limited to the following:

(1) Sections 301, 306, 307, 308, 309, 310, 311, 312, 402, 403, 404, 504, and 505 of the Federal Water Pollution Control Act (Public Law 92-500, 86 Stat. 816) and sections 111, 112, 113, 114, 303, and 304 of the Clean Air Act (42 U.S.C. 1857c-6 through 1857c-9 and 1857g through 1857k): *Provided*, That to the extent any of the foregoing provisions require or presuppose action on the part of any State, such action may, as appropriate, be waived or taken by the Administrator of the Environmental Protection Agency: *And provided, further*, That a deepwater port facility licensed under this Act shall not be considered "a

vessel or other floating craft" for purposes of section 502(12) of the Federal Water Pollution Control Act.

(2) Sections 9-20 of the Rivers and Harbors Act of March 3, 1899 as amended (30 Stat. 1151; 33 U.S.C. 401, 403, 404, 406, 407, 408, 409, 411, 412, 413, 414, and 415).

(3) The Ports and Waterways Safety Act of July 10, 1972 (Public Law 92-340; 86 Stat. 424).

(4) Acts to establish load lines for vessels, March 2, 1929 as amended (45 Stat. 1492), and August 27, 1935 as amended (49 Stat. 888) (46 U.S.C. chapter 2a).

(5) Federal Boat Safety Act of August 10, 1971 (Public Law 92-75, 85 Stat. 213) (46 U.S.C., chapter 33, sections 1451-1589).

(6) Vessel Bridge to Bridge Radio Telephone Act, August 4, 1971 (Public Law 92-63; 85 Stat. 164) (33 U.S.C., chapter 24, sections 1201-1208).

(7) Sections (a) and (b) of Revised Statute 4370 as amended, Revised Statute 5294 as amended, sections 7, 8, and 9 of the Act of June 19, 1886 as amended (24 Stat. 81), section 27 of the Merchant Marine Act of 1920 (41 Stat. 999, as amended, 46 U.S.C. 7, 289, 316(a), 316(b), 319, 320, and 883).

(8) As they relate to Pipeline Safety, the Acts of June 25, 1948 as amended (62 Stat. 738; 18 U.S.C. 831), and August 12, 1968, as amended (82 Stat. 720; 49 U.S.C. 1671, Public Law 90-481).

(9) The Marine Protection, Research, and Sanctuaries Act of 1972, Public Law 92-532.

(c) The Secretary is authorized to promulgate such other regulations governing health and welfare of persons using deepwater port facilities licensed under this Act as he deems necessary.

SEC. 112. Facilities connected to a deepwater port facility licensed under this Act such as pipelines and cables, which extend above or into submerged lands or waters subject to the jurisdiction of any State or possession of the United States, when in such waters shall be subject to all applicable laws or regulations of such State or possession to the extent not inconsistent with Federal law or regulation. Nothing in this Act shall be construed as precluding a State from imposing, within its jurisdiction, more stringent environmental or safety regulations.

SEC. 113. The customs and navigation laws administered by the Bureau of Customs, except those specified in section 111(b) (7) herein, shall not apply to any deepwater port facility licensed under this Act; but all materials used in the construction of any such deepwater port facility and connected facilities such as pipelines and cables shall first be made subject to a consumption entry in the United States and duties deposited thereon. However, all United officials, including customs officials, shall at all times be accorded reasonable access to deepwater facilities licensed under this Act for the purpose of enforcing laws under their jurisdiction or carrying out their responsibilities.

SEC. 114. The Secretary of State, in consultation with appropriate Federal agencies, shall seek appropriate international measures regarding navigation in the vicinity of deepwater port facilities.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 18, 1973.

HON. CARL ALBERT,
Speaker of the House of Representatives,
Washington, D.C.

DEAR MR. SPEAKER: In accordance with today's Presidential Message on Energy, I am enclosing our proposed bill "To amend the Outer Continental Shelf Lands Act and to authorize the Secretary of the Interior to regulate the construction and operation of deepwater port facilities".

We recommend that it be referred to the appropriate committee and that it be enacted.

Regardless of the policies adopted to increase domestic supplies, imports of crude oil and products into the United States are projected to probably double by 1980 and could continue to increase dramatically in succeeding years.

Most United States ports, already heavily congested, are not equipped to handle this increased trade. With few exceptions the largest ship which can enter United

States ports fully loaded is 65,000 deadweight tons (DWT). (Compared to the new deep draft tankers which are now being built in excess of 200,000 DWT.) The use of small vessels is the least desirable method of importing large quantities of crude oil and products into the United States, both because of environmental and economic considerations. As imports of crude oil and products increase, our conventional ports will become more congested and the risks of collision and groundings will increase.

An alternative to this prospect which promises significant benefits both environmentally and economically is the construction of deepwater port facilities. Deep draft tankers could use these facilities, generally connected to shore by a pipeline. These tankers make possible substantial cost savings and can be designed to reduce the risks of pollution through use of multiple tanks, double bottoms, segregated ballast and other design improvements.

If we do not act, it is highly possible that transshipment terminals to the United States will be built in the Caribbean or in Canada. This not only deprives this Nation of an essential transportation asset, but we also lose associated employment and incur balance of payments deficits. More importantly, these foreign terminals service the United States through increasing numbers of small and medium sized tankers, many of them old.

The bill we are proposing would remove any legal impediments to the development of such deepwater terminals off the United States coast by establishing authority in the Department of the Interior for licensing the construction and operation of ports beyond the 3-mile limit. This process would include strict environmental controls and specific provision for navigation and safety. Licenses would be issued to any United States citizen, domestic corporation, State or local government when the Secretary finds that the applicant is financially responsible and has demonstrated an ability and willingness to comply with all applicable laws and conditions. Prior to issuing any license, the Secretary is required to consult with the governors of adjacent coastal States to ensure that the facility and its directly related land based activities would be consistent with the States' land use planning programs.

The construction and operation of proposed deepwater port facilities will not unreasonably interfere with international navigation or other reasonable uses of the high seas. Such construction and operation and the regulation of related activities will constitute a reasonable exercise fully consonant with the principle of freedom of the high seas and will be consistent with international obligations of the United States.

The license required by this Act would be additional to permits or licenses which may be required under existing legislation from other Federal agencies. However, the proposed bill provides a mechanism whereby all Federal permits necessary for the construction of the deepwater port facility will be handled through a single application filed with the Interior Department. This Department will be responsible for ascertaining that the other Federal agencies with jurisdiction over the construction of the facility have given necessary approvals.

It should be emphasized that the basic planning and design of these deepwater port facilities will be left to non-Federal initiatives—as will the financing thereof. The Federal Government's role will be largely confined to reviewing the plans to assure that the facility will meet the requirements of the Act and comply with other applicable laws.

This legislation is an essential step towards significantly reducing the environmental risks associated with increased marine traffic carrying oil imports. In addition, this legislation will result in substantial cost savings to the American consumer. We therefore urge its speedy enactment.

The Office of Management and Budget advises that enactment of this bill would be in accord with the President's program.

Sincerely yours,

JOHN C. WHITAKER,
Acting Secretary of the Interior.

Enclosure.

A BILL To amend the Outer Continental Shelf Lands Act and to authorize the Secretary of the Interior to regulate the construction and operation of deepwater port facilities

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Deepwater Port Facilities Act of 1973".

SEC. 2. (a) Section 5(a)(1) of the Outer Continental Shelf Lands Act is amended by adding the following sentence at the end :

"The Secretary of the Interior shall prescribe such rules and regulations as may be necessary to accommodate the exploration and exploitation of the oil and gas and other mineral resources of the Outer Continental Shelf with the construction and operation of deepwater port facilities licensed by him."

(b) Section 5(c) of the Outer Continental Shelf Lands Act is amended by deleting the words "produced from said submerged lands in the vicinity of the pipeline".

TITLE I

SEC. 101. (a) Congress finds and declares that:

(1) Onshore port facilities in the United States are becoming increasingly congested as the United States' trade in fuel and other commodities increases. Such facilities are not able to accommodate some of the large vessels which are being used increasingly in ocean shipping.

(2) The national interest in economic use of resources, environmental protection, transportation safety, competitive advantage in world trade, and security in international relations is best served by the use of larger vessels and development and operation of United States deepwater port facilities that can accommodate them.

(3) The environmental dangers and safety hazards inherent in the increasing traffic in United States harbors, ports, and coastal areas make it desirable that appropriate offshore deepwater port facilities be constructed to protect the Nation's citizens, coastlines, and marine environment from pollution and other dangers to life, health, and property.

(4) The construction and operation of such deepwater port facilities by United States citizens under Federal license in accordance with this Act would be a reasonable use of the high seas in accordance with international law.

(5) The construction and operation of deepwater port facilities off the coast of the United States by United States citizens should be subject to Federal license and regulation, and closely coordinated with the regulation of the exploration and exploitation of natural resources under the Outer Continental Shelf Lands Act in order to assure an adequate accommodation of such uses.

(b) The purpose of this Act is to authorize and regulate the construction and operation of deepwater port facilities in accordance with the policy of this Act.

(c) Nothing in this Act shall be deemed to affect the legal status of the high seas, the superjacent airspace, or the seabed and subsoil, including the continental shelf.

SEC. 102. DEFINITIONS. As used in this Act the term:

(a) "Secretary" means Secretary of the Interior unless otherwise designated.

(b) "deepwater port facility" means a facility constructed off the coast of the United States, and beyond three nautical miles from such coast, for the principal purpose of providing for the transshipment of commodities between vessels and the United States. It includes all associated equipment and structures beyond three nautical miles from such coast, such as storage facilities, pumping stations and connections to pipelines, but does not include pipelines.

(c) "United States" or "State" includes the several States, the District of Columbia, any territory or possession of the United States, and the Commonwealth of Puerto Rico.

(d) "citizen of the United States" means any citizen of the United States; any State or political subdivision of a State, or any private, public or municipal corporation created by or under the laws of the United States or any State.

(e) "application" means any application filed under this Act for a license to construct, operate or make significant alterations to a deep-water port facility, or for a renewal or modification of such license.

SEC. 103. (a) No citizen of the United States may construct or operate or make any significant addition to a deepwater port facility without first receiving a license from the Secretary. No commodities or other materials may be transported between the United States and a deepwater port facility unless such deepwater port facility is licensed under this Act.

(b) The Secretary is authorized to issue to any citizen of the United States a license to construct or operate a deepwater port facilities if he first determines that:

(1) the applicant is financially responsible and has demonstrated his ability and willingness to comply with applicable laws, regulations and license conditions;

(2) the construction and operation of the proposed deepwater port facility will not unreasonably interfere with international navigation or other

reasonable uses of the high seas, and is consistent with the international obligations of the United States; and

(3) the facility will be located, constructed or operated in a manner which will minimize or prevent any adverse significant environmental effects. In making the determination required by this paragraph, the Secretary shall consider all significant aspects of the facility including any connecting pipelines in relation to:

- (A) effects on marine organisms;
- (B) effects on water quality;
- (C) effects on ocean currents and wave patterns and on nearby shorelines and beaches;
- (D) effects on alternative uses of the oceans such as fishing, aquaculture, and scientific research;
- (E) susceptibility to damage from storms and other natural phenomena; and
- (F) effects on aesthetic and recreational values.

(c) The Secretary shall not limit the number of licenses or deny licenses on grounds of alleged economic effects of deepwater port facilities on the commodity and transportation markets served by them or by other port facilities.

(d) Licenses issued under this section shall be for a term of no longer than 30 years, with preferential right in the licensee to renew under such terms and for such period not to exceed 30 years as the Secretary determines is reasonable.

(e) The Secretary shall consult with the governor of any State off whose coasts the facility is proposed to be located to ensure that the operation of the facility and directly related land based activities would be consistent with the State land use program.

(f) The grant of a license under this section shall not operate as a defense to any civil or criminal action for violation of the antitrust laws of the United States.

(g) Licenses issued hereunder may be transferred after the Secretary determines that the transferee meets the requirements of this Act.

(h) The Secretary shall not issue a license hereunder in any case where the President determines that it would be contrary to the national security of the United States.

SEC. 104. (a) The Secretary is authorized to issue reasonable rules and regulations governing application for and issuance of licenses and the construction and operation of deepwater port facilities under this Act. Such rules and regulations shall be issued in accordance with section 553 of title 5 of the United States Code without regard to the exceptions contained in subsection (a) thereof.

(b) In carrying out all of his functions under this Act, the Secretary shall consult with all interest or affected Federal agencies. The Secretary is authorized to utilize on a reimbursable basis the full resources of the Federal Government in ocean engineering and undersea technology for the purpose of determining standards and criteria for construction of all facilities licensed under this Act.

(c) An application filed with the Secretary for a license under this Act shall constitute an application for all Federal authorizations required for construction and operation of a deepwater port facility. The Secretary shall consult with other agencies to ensure that the applications contain all information required by the agencies. The Secretary will forward a copy of the application to those Federal agencies with jurisdiction over any of the construction and operation and will not issue a license under this Act until he has been notified by such agencies that the application meets the requirements of the laws which they administer. Hearings held pursuant to this Act shall be consolidated insofar as practicable with hearings held by other agencies.

(d) The provisions of this Act shall in no way alter or otherwise affect the jurisdiction of the Council on Environmental Quality or the requirements of the National Environmental Policy Act of 1969 except that a single detailed Environmental Impact Statement shall be prepared in connection with each license by the Secretary and circulated in compliance with the Guidelines of the Council on Environmental Quality. Such statement shall fulfill the responsibilities of all participating Federal agencies under section 102(2) (C) of that Act with respect to the proposed facilities.

SEC. 105. Procedures for issuing license. (a) The Secretary shall prescribe by regulation the procedures, including appropriate charges, for the submission and consideration of applications for licenses. Each application shall contain such

financial, technical and other information to support the determinations required by section 103(b) of this Act as the Secretary may by regulation require.

(b) Before granting any license the Secretary shall publish in the *Federal Register* a notice containing a brief description of the proposed facility and information as to where the application and supporting data required by subsection

(a) may be examined and giving interested persons at least 90 days for the submission of written data, views, or arguments relevant to the grant of the license, with or without opportunity for oral presentation. Such notice shall also be furnished to the governor of each State which may be significantly affected by the proposed facility, and the Secretary shall utilize such additional methods as he deems reasonable to inform interested persons and groups about the proceeding and to invite comments therefrom.

(c) If the notice published under subsection (b) did not provide for a public hearing, then upon the request of any interested person when in the judgment of the Secretary substantial objections have been raised to the grant or the terms of the license the Secretary shall hold one or more public hearings to consider such objections. Where such objections relate to the proposed site of the facility, at least one such hearing shall be held in the vicinity of the proposed site.

(d) Where the Secretary concludes from the comments and data submitted pursuant to subsections (b) and (c) that there exist one or more specific and material factual issues which may be resolved by an evidentiary hearing, he may direct that such issues be submitted to a supplemental hearing before a presiding officer designated for that purpose. Such officer shall have authority to preclude repetitious and cumulative testimony, to require that direct testimony be submitted in advance in written form, and to permit cross-examination only to the extent necessary and appropriate in view of the nature of the issues. After the hearing the presiding officer shall submit to the Secretary a report of his findings and recommendations, and the participants in the hearing shall have an opportunity to comment thereon.

(e) The Secretary's decision granting or denying the license shall be in writing and shall include or be preceded by an environmental impact statement, where required by section 102 of the National Environmental Policy Act, a discussion of the issues raised in the proceeding and his conclusions thereon, and, where a hearing was held pursuant to subsection (d), findings on the issues of fact considered at such hearing.

(f) The provisions of sections 554, 556 and 557 of title 5, United States Code, are not applicable to proceedings under this section. Any hearing held pursuant to this section shall not be deemed a hearing provided by statute for purposes of section 706(2) (E) of title 5, United States Code.

SEC. 106. (a) Any person adversely affected by an order of the Secretary granting or denying a license may within sixty days after such order is issued seek judicial review thereof in the United States Court of Appeals for the circuit nearest to which the facility is sought to be located. A copy of the petition shall be forthwith transmitted by the clerk of the court to the Secretary or other officer designated by him for that purpose. The Secretary thereupon shall file in the court the record of the proceedings on which the Secretary based his order, as provided in section 2112 of title 28. This record shall consist of:

(1) The application, the notice published pursuant to section 105(b), and the information and documents referred to therein;

(2) The written comments and documents submitted in accordance with the agency rules by any person, including any other agency and any agency advisory committee, at any stage of the proceeding;

(3) The transcript of any hearing held pursuant to section 105 (c) or (d); and the presiding officer's report, if any; and

(4) The Secretary's decision and accompanying documents as required by section 105(e).

(b) If the petitioner applies to the court for leave to adduce additional evidence, and shows to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the Secretary, the court may order such additional evidence (and evidence in rebuttal thereof) to be taken before the Secretary, and to be adduced in such manner and upon such terms and conditions as to the court may seem proper. The Secretary may modify his findings as to the facts, or make new findings, by reason of the additional evidence so taken, and he shall file such modified or new findings, and his recommendation, if any, for the

modification or setting aside of his original order, with the return of such additional evidence.

(c) Upon the filing of the petition referred to in subsection (a), the court shall have jurisdiction to review the order in accordance with section 706 of title 5, United States Code, and to grant appropriate relief as provided in such section.

SEC. 107. Conditions in Licenses. The Secretary is authorized to include in any license granted under this Act any conditions he deems necessary to carry out the purposes of this Act. Such conditions may include but need not be limited to:

(1) Such fees as the Secretary may prescribe as reimbursement for the cost of Federal activities occasioned by the application for licensing, licensing, development, and operation of the deepwater port facility.

(2) Such measures as the Secretary may prescribe to meet United States international obligations.

(3) Such measures as the Secretary may prescribe to prevent or minimize the pollution of the surrounding waters.

(4) Such provisions as the Secretary may prescribe for the temporary storage of hazardous substances.

(5) Conditions designed to assure that the operation of the deepwater port facility will not substantially lessen competition or tend to create a monopoly. Such conditions shall include a requirement of non-discriminatory access at reasonable rates.

(6) Provisions requiring that if a license is revoked or expires and is not reissued the licensee will be responsible for rendering the deepwater port facility harmless to navigation and the environment.

SEC. 108. CIVIL PENALTIES. (a) Any licensee who violates any condition of his license or any rule or regulation of the Secretary issued under this Act may be assessed a civil penalty by the Secretary, in a determination on the record after opportunity for a hearing, of not more than \$10,000 for each day during which such violation occurs.

(b) A licensee aggrieved by a final order of the Secretary assessing a penalty under this section may within sixty days after such order is issued seek judicial review thereon in the United States District Court for the judicial district nearest to which the licensee's facility is located or in the United States District Court for the District of Columbia, and such court shall have jurisdiction of the action without regard to the amount in controversy. Judicial review of the Secretary's determination shall be in accordance with section 706 of title 5, United States Code.

(c) Penalties assessed pursuant to this section may be collected in an action by the United States, but the order of the Secretary shall not be subject to review otherwise than as provided in subsection (b).

SEC. 109. CRIMINAL PENALTIES. Any person who willfully and knowingly violates any provision of this Act or of any rule, regulation, restriction or condition made or imposed by the Secretary under the authority of this Act, shall, in addition to any other penalties provided by law, be punished by a fine of not more than \$25,000 for each day during which such offense occurs.

SEC. 110. REVOCATION OR SUSPENSION OF LICENSE. (a) Whenever a licensee fails to comply with any provision of this Act or any rule, regulation, restriction or condition made or imposed by the Secretary under the authority of this Act or fails to pay any civil penalty assessed by the Secretary under section 108 (except where a proceeding for judicial review of such assessment is pending) the Secretary may file an appropriate action in a United States District Court to (1) suspend operations under the license or (2) if such failure is knowing and continues for a period of thirty days after the Secretary mails notice of such failure by registered letter to the licensee at his record post office address, revoke such license, *provided that* when such failure would in the judgment of the Secretary create a serious threat to the environment, he shall have the authority to suspend operations under the license forthwith. The licensee may seek judicial review of the Secretary's action in the United States District Court for the district nearest to the deepwater port facility or in the United States District Court for the District of Columbia within sixty days after the Secretary takes such action.

SEC. 111. APPLICABLE LAWS. (a) The Constitution and the laws and Treaties of the United States shall apply to deepwater port facilities licensed under this Act and insofar as consistent with international law to activities connected with the operation and use of such deepwater port facilities in the same manner as if

the facilities were located in the navigable waters of the United States. Foreign flag vessels or natural or juridical persons who are not nationals of the United States using such facilities shall be deemed to consent to the jurisdiction of the United States for the purposes of this Act. To the extent they are applicable and not inconsistent with the Act or with other Federal laws and regulations now in effect or hereafter adopted, the civil and criminal laws of the nearest State are declared to be the law of the United States for such facility. All such applicable laws shall be administered and enforced by the appropriate officers and courts of the United States. State taxation laws shall not apply to such facility, but this shall not affect the right of a State to tax its citizens or residents.

(b) The laws of the United States referred to in the previous subsection include but are not limited to the following:

(1) Sections 301, 306, 307, 308, 309, 310, 311, 312, 402, 403, 404, 504, and 506 of the Federal Water Pollution Control Act, P.L. 92-500, 86 Stat. and Sections 111, 112, 113, 114, 303, and 304 of the Clean Air Act (42 U.S.C. 1857c-6 through 1857c-9 and 1857g through k); *provided*, that to the extent any of the foregoing provisions require or presuppose action on the part of any State, such action may, as appropriate, be waived or taken by the Administrator of EPA, and *provided, further*, that a deepwater port facility licensed under this Act shall not be considered "a vessel or other floating craft" for purposes of Sections 502(12) of the Federal Water Pollution Control Act.

(2) Sections 9-20 of the Rivers and Harbors Act of March 3, 1899 as amended, 30 Stat. 1151, 33 U.S.C. 401, 403, 404, 406, 407, 408, 409, 411, 412, 413, 414, and 415.

(3) The Ports and Waterways Safety Act of July 10, 1972, P.L. 92-340, 86 Stat. 424.

(4) Acts to establish load lines for vessels, March 2, 1929 as amended, 45 Stat. 1492 and August 27, 1935 as amended, 49 Stat. 888 (46 U.S.C., Chapter 2a).

(5) Federal Boat Safety Act of August 10, 1971, P.L. 92-75, 85 Stat. 213 (46 U.S.C., Chapter 33, §§ 1451-1589).

(6) Vessel Bridge to Bridge Radio Telephone Act, August 4, 1971, P.L. 92-63, 85 Stat. 164 (33 U.S.C., Chapter 24, §§ 1201-1208).

(7) Sections (a) and (b) of Revised Statute 4370 as amended, Revised Statute 5294 as amended, Sections 7, 8 and 9 of the Act of June 19, 1886 as amended, 24 Stat. 81, Section 27 of the Merchant Marine Act of 1920, 41 Stat. 999, as amended, 46 U.S.C. 7, 289, 316(a), 316(b), 319, 320, and 883.

(8) As they relate to Pipeline Safety, the Acts of June 25, 1948 as amended, 62 Stat. 738, 18 U.S.C. 831, and August 12, 1968, as amended, 82 Stat. 720, 49 U.S.C. 1671, P.L. 90-481.

(9) The Marine Protection, Research, and Sanctuaries Act of 1972, P.L. 92-532.

(c) The Secretary is authorized to promulgate such other regulations governing health and welfare of persons using deepwater port facilities licensed under this Act as he deems necessary.

Sec. 112. Facilities connected to a deepwater port facility licensed under this Act such as pipelines and cables, which extend above or into submerged lands or waters subject to the jurisdiction of any State or possession of the United States, when in such waters shall be subject to all applicable laws or regulations of such State or possession to the extent not inconsistent with Federal law or regulation. Nothing in this Act shall be construed as precluding a State from imposing, within its jurisdiction, more stringent environmental or safety regulations.

Sec. 113. The customs and navigation laws administered by the Bureau of Customs, except those specified in section 111(b)(7) herein, shall not apply to any deepwater port facility licensed under this Act; but all materials used in the construction of any such deepwater port facility and connected facilities such as pipelines and cables shall first be made subject to a consumption entry in the United States and duties deposited thereon. However, all United States officials, including customs officials, shall at all times be accorded reasonable access to deepwater port facilities licensed under this Act for the purpose of enforcing laws under their jurisdiction or carrying out their responsibilities.

Sec. 114. The Secretary of State, in consultation with appropriate Federal agencies, shall seek appropriate international measures regarding navigation in the vicinity of deepwater port facilities.

Mr. UDALL. Our first witness this morning will be Hon. John Young, a colleague of ours, a statesman from the great State of Texas.

STATEMENT OF HON. JOHN YOUNG, A REPRESENTATIVE IN CONGRESS FROM THE 14TH CONGRESSIONAL DISTRICT OF THE STATE OF TEXAS

Mr. YOUNG. Mr. Chairman, you are always so gracious, if not also accurately describing your colleagues. I do want you to know I do appreciate it.

I told you I would be brief, Mr. Chairman, and members of the committee; I will be.

Mr. Chairman, I come here today to support a relief for the energy crisis confronting this Nation, with special emphasis on the improvement of our port facilities. I specifically desire to support the Freeport Seadock which I understand will be presented to you here also, as well as the offshore concept, with the proviso that normal ports development will not be impeded or retarded.

I do want to emphasize in relation to the proviso that I just mentioned, that there are undoubtedly some ports that have the capacity for improvement to the point of alleviating quickly and more economically the improvement of the port facility. As an example of this, I want to refer to Harbor Island, Tex., at the port of Corpus Christi in my congressional district, and with the Chair's permission, I would like to introduce as a part of this record a proposal made by the Nueces County Navigation District to the Corps of Engineers, and there is an authorized study already created on this.

Mr. UDALL. We are happy to have this for our files, and we appreciate it.

Mr. YOUNG. Thank you, sir.

[The information referred to is in the subcommittee files.]

Mr. YOUNG. Mr. Chairman, with a very modest modification of the entrance to the port, a channel of about 72 feet deep—I am paraphrasing my statement. This port can be updated to handle cargoes or vessels of something like 250,000 to 300,000 deadweight tons. This, admittedly, will not take care of the huge supertankers that Seadock and others will take care of. But we think it will take care of 86.5 percent of the projected tanker operation for the next 20 years. And in addition to that, Mr. Chairman, it will be in all respects a multipurpose port enjoying all the facilities of a regular port, dockside railroads, dry cargoes, a fantastic benefit in cost ratios.

Why this place? Why is it unique? It is because of the very unique oceanographic characteristics of the Gulf of Mexico at that point. The deep waters of the gulf sweep in close to the shore, so with a very modest improvement in depth, increasing depth from say 55 feet now, to 72 feet, we will have this port.

How long a channel? Nine and a half miles.

Now, it is all nearly in place. Now, Mr. Chairman, as to the question of environment and ecology, we also have a very unique situation. This port has operated for nearly 50 years, handling the largest tankers in the American service, up to 80,000-ton tankers for 50 years without a single mishap, a record in the environmental field of excellence.

And so, Mr. Chairman, I would then also like to make a part of your files an environmental impact statement by Dr. C. H. Oppenheimer on this project, who is associated with or was head at one time of the Texas University Oceanographic Laboratory.

Mr. UDALL. It will be received for the files.

Thank you.

Mr. YOUNG. Mr. Chairman, that concludes my statement and I want to say again I deeply appreciate your letting me appear here.

Mr. UDALL. Without objection, the text of your statement will appear in the record.

[The prepared statement of Mr. Young follows:]

STATEMENT OF HON. JOHN YOUNG, A REPRESENTATIVE IN CONGRESS FROM THE
STATE OF TEXAS

Mr. Chairman and members of the subcommittee, in realization of the urgent problems confronting our Nation in the field of energy, I wish to state categorically that I come here as a member of the United States Congress in support of every reasonable program and project designed to alleviate the energy crisis and particularly with reference to the need for improvement of the port facilities contemplated by the study here under discussion. These projects include the Freeport seadock proposal, the concept of offshore superports, and the improvement of existing port facilities where practicable and feasible. There is but one proviso I would add to my support of the projects under study here and that would be that they in no way constitute a hindrance or impediment to the normal development of existing port facilities.

With regard to the proviso stated and in further recognition of the urgency of this crisis, great special emphasis should be placed on practical and expeditious accomplishment of the needed port improvements. In this I have special reference to existing port facilities that can be quickly and relatively economically modified so as to meet this immediate need for improved port facilities.

An example of this would be the proposal of the Nueces County Navigation District for a modification of the existing Corpus Christi ship channel at Harbor Island. This proposal, when realized, would provide a practical and efficient intermediate facility that would in no way conflict with any of the proposals contemplated in the offshore superport concept here under consideration. The project could be accomplished at a fraction of the cost and a fraction of the time needed for a superport offshore. With a depth in the neighborhood of 72 feet, it would accommodate vessels in the 250 thousand to 300 thousand DWT category. This facility would have the added advantage of providing a multi-purpose port with all facilities available at a conventional onshore port. I am advised that there are presently in place some 35 or 40 pipelines of various kinds capable of distributing petroleum to various points of need in the Central and Southwestern United States.

All projects of the types we are considering here must fully and carefully take into consideration environmental and ecological situations, and in this the proposed Harbor Island project is no exception. While there has been much speculation as to the relative environmental impact of different types of port facilities, the Harbor Island proposal has the added advantage of a history of excellence in this field. The present facility at Harbor Island has been handling large tankers for nearly half a century without a single serious mishap. Through human error, this record could be shattered tomorrow, as it could be at any other port facility, but the many years of successful operation establish as a practical, realistic fact, that there is nothing at Harbor Island inherently in conflict with the ecology and environment. The proposal of the Nueces County Navigation District calls for water depths of 72 feet which does not represent a great increase in depths to those already in existence at this location; and, because of the oceanographic characteristics of the Gulf in the vicinity of Harbor Island, the channel length would not exceed more than 8 to 10 miles.

It has been a pleasure to appear here with this distinguished group, and I pledge you my support for all projects that can be reasonably expected to effectuate a proper solution to our energy crisis and our need for improved port facilities.

Mr. UDALL. We are hearing today the bill to authorize the Secretary of Interior to license deepwater ports, and as I understand your appearance today, you are in favor of that kind of undertaking.

Mr. YOUNG. Yes, sir; very much.

Mr. UDALL. You are also suggesting, in addition thereto that we are going to need to improve the current conventional harbor facilities such as the one you referred to in your district where this is feasible.

Mr. YOUNG. That is correct, Mr. Chairman.

Mr. UDALL. And I take it the funds for that harbor improvement will be sought from the Appropriations Committee or authorization from other committees.

Mr. YOUNG. Mr. Chairman, as I stated, the study has already been authorized, and the funding is now in process. The corps has indicated they can use \$100,000 this year, and every indication, it seems favorable that we will get that money.

Mr. UDALL. And you see no conflict whatever between the authorization and licensing of deepwater ports, and the expansion of facilities such as those in your district?

Mr. YOUNG. To the contrary, this will be a complement to the others.

Mr. UDALL. Mr. Melcher?

Mr. MELCHER. Thank you, Mr. Chairman.

Mr. Young, I am very much interested in your statement particularly some comments you made which not only would propose that—did I use the right term, Freeport?

Mr. YOUNG. Freeport seadock. That happens also to be—the city of Freeport is also in my district, and seadock is, as you will hear later, a proposal that will have a monobuoy type of operation which would be somewhere, 20, 28 miles offshore, depending on what depth vessels we intend to have.

Mr. MELCHER. Well, you speak about the better ability for large tankers, large oil tankers. Now, did I understand from the comment you made that this would also enhance other types of shipping?

Mr. YOUNG. This particular project, Harbor Island, will be for all of these purposes, a multipurpose port. It will be a harbor. The ships will be tied up alongside the dock. There will be railroad facilities, highway facilities. It is a very unique situation. It is right at the mainland, and it is very close to deep water in the gulf.

Mr. MELCHER. All right. Could I follow from that, that it might relieve when it is completed and available, the facilities are available, would it relieve some of the bottleneck we are experiencing right now at Houston with grain shipments?

Mr. YOUNG. Mr. Melcher, it would relieve any problems that we have with oceanographic transportation, whether it be dry cargo, liquid cargo, or whatnot.

If I might add here real quickly, from the liquid cargo standpoint, there are some 35 or 40 pipelines already in place that could take these petroleum products to all parts of the Southwestern United States, the Midwest, everywhere. Bear in mind, sir, this port has been operated for nearly 50 years.

Mr. MELCHER. All right. The pipelines are there.

You mentioned something that there are railroad facilities. Are there sufficient railroad facilities there to handle large quantities of grain?

Mr. YOUNG. Mr. Melcher, they have been there. They have been removed because the Port of Corpus Christi some 21 miles up the channel on the mainland, handles day cargo shipments, but the physical

aspects of replacing railroads to any capacity that you might desire are there and would be done quickly.

Mr. MELCHER. It could be done.

Mr. YOUNG. It could be done, yes, and I might say would be done.

Mr. MELCHER. You think it is likely that it would be done?

Mr. YOUNG. Indeed, sir.

Mr. MELCHER. Well, I appreciate your testimony very much. I find it not only interesting, but constructive, and probably you are pointing us in the right direction. Thank you very much.

Mr. YOUNG. This is a dangerous statement for me to make, because I have no idea what my reputation is with my colleagues, but you will know that what I say does not come easily to a Member of Congress. I will stake my reputation, whatever it is, with you, that what I said about this project is correct. It is a God-sent benefit, and we ought to take care of it.

Mr. MELCHER. Well, our colleague's reputation in the House is very high, and the statement speaks for itself. Thank you very much.

Mr. YOUNG. Thank you very much.

Mr. UDALL. Are there any questions on my right? [No response.]

Mr. De Lugo, any questions over here?

Mr. De LUGO. No.

Mr. UDALL. I thank you very much, Mr. Young, for your testimony here today.

Our next statement is from another honorable Member of the House of Representatives, Mr. Jack Brooks of Texas.

STATEMENT OF HON. JACK BROOKS, A REPRESENTATIVE IN CONGRESS FROM THE NINTH CONGRESSIONAL DISTRICT OF THE STATE OF TEXAS

Mr. BROOKS. Mr. Chairman, I thank you for the opportunity to be here. I have copies of my statement.

Mr. UDALL. Does my colleague prefer to insert it in the record in full or summarize it, or is it his preference to read it?

Mr. BROOKS. I will go through it very concisely.

The topic before you this morning is one of the most challenging and important issues facing the United States today. It is challenging in technological respects and important in economic and social respects.

This Nation must have adequate energy supplies, and we must provide the means of obtaining such resources as we need to supplement our domestic reserves. It is obvious that some means must be provided for accommodating the large supertankers now in use in the maritime trade.

I have had a longstanding interest in this problem. In 1970, I requested congressional action on a resolution directing the Corps of Engineers to begin studies for port facilities in the gulf coast area that would accommodate very large vessels. The Corps of Engineers has held a number of hearings on this issue throughout the gulf coast, the most recent of which was in Galveston, Tex., in my district, on May 25. Frankly, I have deep concern about the direction the Corps of Engineers' studies are taking, and I would hope that the Congress would not follow the same path.

While I fully recognize the need to have facilities that can accommodate supertankers carrying petroleum products, I would caution that we must look at the entire picture and not be shortsighted in adopting recommendations that will compromise the realization of our Nation's full potential. Consideration should not be limited to offshore facilities alone but should include the development of multipurpose superports onshore that will enhance our exporting as well as our importing capability.

If we do not provide the means of shipping products produced in the United States, I fear that we will continue to face deficit balances of trade for an indefinite period of time.

The same inequities in transportation costs that exist now in comparison with ports that can handle supertankers, will exist shortly in comparison with ports that can handle bulk cargo carriers. Most of the deepwater ports in the world, particularly the Europort in Rotterdam, have the capacity, because of their onshore location, to handle both dry bulk and liquid cargo. If we are going to compete, we must compete across the board and not just halfway.

Qualified consultants have advised me that it is economically and environmentally feasible to develop a multipurpose port particularly along the gulf coast.

The data which have been developed by me and others interested in a deep harbor on the Texas gulf coast reveal the following:

1. Modern hopper dredges can operate in sea conditions ranging up to 20 feet in height, and can, of course, deposit dredged material wherever desired.

2. One of these dredges can remove 25 million cubic yards of material annually in the gulf in water ranging from 92 to 40 feet, and deposit it in regular paralleling banks 6,000 feet down current from a channel having a bottom width of 1,000 feet and five to one side slopes.

3. Foreign hopper dredges are currently available for contracts to perform work as described above at prices ranging from 30 cents to 35 cents per cubic yard, based on today's dollars—and we had better do it quickly because the dollars are going down—including mobilization of equipment into the area, overhead and profit.

The following calculation demonstrates the economic feasibility of a deep harbor. A 92-foot channel, 1,000 feet wide from the 16-fathom curve approximately due south of the Galveston jetty entrance would be 45 statute miles long and require removal of 340 million cubic yards. At a cost of 35 cents per cubic yard, this indicates an expenditure of \$119 million. An additional \$25 million would extend the deep channel 2 miles in any direction in lower Galveston Bay, on a separate alignment from existing channels where possible. I am reliably advised that \$25 million would be required for the acquisition of land, construction of a deep slip 1,200 by 600 feet, bulkheading, et cetera. The entire system, therefore, would be available for approximately \$169 million, and would accommodate vessels of deadweight tonnage up to 300,000 tons, dry or liquid.

These figures certainly compare favorably with the estimates I have seen which are in the neighborhood of \$400 million to \$500 million for a single-purpose offshore monobuoy facility. Why pay twice the price for half a loaf?

Using four dredges with an average of 7,000 cubic yard capacity, you can complete the work in $3\frac{1}{2}$ years. If you use more dredges, you can do it faster, of course.

Shoreside facilities have a number of advantages over offshore installations. The men can get ashore. You can get the machinery repaired. It would provide means for exporting grain and other dry cargo products from the midcontinent, and gulf coast areas at savings of approximately \$3 per ton, and this could substantially improve our competitiveness in world markets.

The steel and aluminum industries likewise could become more competitive by realizing similar savings in raw material costs. Support services for the huge ships would be concentrated at the terminus of the deep channel and new industries and increased job opportunities would be the end product.

I know that this subcommittee's primary interest is in the environmental aspects of superport technology. The position you take will be highly instrumental in determining what type of facilities are ultimately selected because, obviously, consideration must be given to environmental as well as economic factors.

Let me deal briefly with the relative risks of environmental damage which might be caused by both offshore and onshore facilities. First, consider the damages associated with dredging itself. Any deep channel would have to be located so as to avoid known live reefs where marine life are present and dredged material deposited so as to afford adequate depths for commercial fishing and shrimping vessels. The resultant mounds of material can be expected, from past experience, to improve the concentration of fish. It must be borne in mind that dredging is a requirement for submarine pipe lining and some disturbance of the sea bottom can be expected in any event.

When it comes to comparing the dangers of an oil spill resulting from the use of the monobuoy method versus bringing ships into a bulk-handling terminal on shore, it is doubtful that either system can claim an advantage over the other. It has been reported to me, and was testified to by the proponents of the monobuoy system, that transfer of oil cannot safely take place from a monobuoy in seas higher than 8 feet. This indicates a critical condition in waves just under this height. Any spill will almost assuredly end on the beaches. It is significant that there would be no harbor or refuge for these big ships, if they got into trouble, closer than Freeport in the Bahamas, unless one is provided on the gulf coast.

Authorities agree that spillage, leaks, and illegal discharges have accounted, over the last few years, for many times the volume of oil introduced into the oceans caused by groundings or collisions. Except for the last 3 or 4 miles, the deep channel could and should be separate and apart from the channel used by ordinary traffic. This is the method used at Rotterdam-Europoort.

Traffic control systems are becoming more and more common, and required in congested harbors everywhere. They have radar control of every ship that comes into and out of the harbor at the Europoort. This is how you prevent collisions in fog and in bad weather. One advantage of the protected, open at only one end, berth is that booms can be installed at the entrance after a vessel enters, and any spills contained and removed by equipment always at hand.

The unfortunate reliance upon imported petroleum for a substantial share of our energy needs in the future has far-reaching implications for our military security. The destruction of our tankers off the beaches by enemy submarines during World War II lives in the memory of many of us. The monobuoy system is very vulnerable to destruction by explosive charges which might be set by unfriendly forces from a small fishing boat. In an age where terrorists operate thousands of miles from their home base, the factor of security must be considered.

We are spending now, this past year, about \$71½ billion in our country for crude oil. The estimate for this year of 1973 is about \$9 billion on the May 15 dollar valuation. The estimate for 1980, 7 years from now, is \$221½ billion on last month's dollar values. That means that we are going to have billions of dollars in American money abroad available to purchase industry products and to disrupt the value of the dollar in Europe as it has been used for before.

While I realize that the subcommittee will not be making a decision authorizing a particular type of facility, I would bring to the attention of the subcommittee these additional factors. I note one of the bills that will undoubtedly be considering, H.R. 7501, which a number of you have sponsored, is referred to as the Deepwater Port Facilities Act of 1973. The name sounds good, but it defines a deepwater port facility as a facility constructed off the coast of the United States and beyond the 3 nautical-mile limit. Ports are places where you can tie up a ship, where you can get off of it and walk on the land. This is my concept of a port.

I hope the subcommittee will not take the position that the only type of deepwater port facility is the monobuoy or some other offshore system. We must continue to fully consider all aspects of this tremendously important project so that the facilities constructed best serve the interests of all the people of this nation.

I thank you very much for your consideration and regret the length of my testimony.

Mr. UDALL. Thank you, Mr. Brooks. It is very helpful and valuable testimony.

I take it that today there is no port in the United States to your knowledge where these very large, 300,000 ton tankers can enter a stateside port.

Mr. BROOKS. Not on the east coast or the gulf coast. There is a location on the west coast, the far west coast of Puget Sound.

The Japanese have them. Many countries around the world have them already. That is why the large dredges are available. This is an interesting phenomenon. The greatest country in the world is about 6 or 7 years behind a half a dozen smaller countries. They built these dredges especially to dredge these deep harbors. They have done that in South America, in Europe, and in Japan, and we are just getting around to it. That is why this dredge capability is available in foreign countries to be rented, leased or bought for use over here.

Mr. UDALL. Is the Galveston situation unique, or is it your understanding that with this kind of modern dredge, we could have deepwater ports in other areas of the United States?

Mr. BROOKS. You could have them in other areas, but you want to build a superport, Mr. Chairman, where you have in-place facilities.

You can build a superport very cheaply on an atoll in the Pacific, but there is nothing there to be served. In the gulf coast area, in the Galveston area, we have about \$15 billion worth of in-place, productive capacity in oil refineries, chemical refineries, grain elevators, aluminum, steel, various types of manufacturing capabilities. Those in-place facilities are already there. You do not have to replace them, but you enhance their value and make it possible for them to continue to compete throughout the United States and throughout the world.

Mr. UDALL. Of course, the proponents of the off-shore deepwater facilities would suggest that you could tie those facilities in with a pipeline which runs 20 miles under the sea bed, without running all the risk of collisions in the harbor, spills in the harbors, these kinds of things.

What is your response to that kind of work?

Mr. BROOKS. My response to that kind of work is why spend \$400 million to \$500 million. I do not know who is going to pay for it, but in the final analysis, the public will. They'll take it off their taxes or charge it to the people of this country. There is no other way to foot the bill. They are not going to dig down and put up \$400 million to \$500 million of their own assets if they don't recover it either out of taxes or the public to build such a facility.

For less than half of that we can build a full facility that handles dry cargo from the Midwest, grain, automobiles, anything you want to move. The fact that you can plug a liquid cargo pipeline into existing pipelines is undoubtedly true, but it is a half-step. It seems to me unthinkable that this country would be doing it that way. That is what they do in the jungle where there is a big oilfield. They extend one of these things out into the water and then pump it out and haul it off in big ships.

Is this country going to be dependent on the Bahaman Islands?

The only deepwater port that would service a monobuoy ship would be Freeport in the Bahaman Islands. If something happens to such a ship, it has some problems out there, it cannot come to tie up at shore and be repaired.

Mr. UDALL. Let me ask you this question.

We are going to hear later this morning from a group which is already well along in the planning of an offshore facility off New Orleans, one of the very crowded and busy ports in the country.

Are you telling us that the United States ought to adopt onshore facilities, improving, enlarging, and deepening onshore harbors in all cases, or is there another place for these offshore monobuoy facilities you're talking about?

Mr. BROOKS. My personal opinion is superports on the shore are much more desirable. I hate to see \$400 million, \$500 million spent, as they estimate it would cost to put a monobuoy off the gulf coast at Freeport or Galveston, to spend that much money because that just comes out of somebody's pocket, yours and mine, and I think it is a waste to do a partial job.

I do not think we ought to be spending our efforts in this country doing it that way.

There is another factor. If it is going to be done, the public has a vital interest in it. If you give a monopoly to a consortium of oil companies to import crude oil, you eliminate all the independent competi-

tion. They just put the squeeze to them as you or I might if we owned the pipeline.

They will get a cut out of everything that goes through it, or they will just turn them right down to the ground. "Gentlemen, we do not have enough for you. I am sorry. This week your allotment is 1,000 barrels a day. I know you need 50,000, but I am sure that you can understand that we have a use for this elsewhere, and that is the name of competition."

I do not think it would be a wise expenditure of public money. I do not think it would be the wisest expenditure of public or private money, when you have an alternative which is vastly superior in my judgment.

Mr. UDALL. All right.

Mr. RUPPE?

Mr. RUPPE. Thank you very much. I certainly do appreciate your very forceful piece of testimony here this morning.

Just to get my own information up to date, has there been any past effort made by your city to develop such a deepwater port?

Mr. BROOKS. Yes, sir. In 1970, Mr. Ruppe, I introduced a resolution asking for the Corps of Engineers to make a study of Galveston and the gulf coast area for such a deepwater port, to meet the competition of worldwide deep ports, having looked at some of them myself. In the Senate then Senator Ellender and others expanded that to include the entire gulf coast, to include New Orleans, and so this study involved the entire gulf coast.

A study is being made by the Corps of Engineers now, and they have had about five hearings along that line. A good bit of the testimony has been on monobuoys, and the Corps of Engineers, I think, has been somewhat limited in their honest evaluation of the matter by directives, probably guidelines and suggestions from the Office of Management and Budget, which has the idea that such a deep port would be partly financed by the Federal Government, and that monobuoys would be financed by somebody other than the Federal Government.

Mr. RUPPE. I realize your point with respect to monobuoys. That appears to be the position taken in the shaping of the bill. I suggest that it would be impossible for your local city to build a deepwater port.

Mr. BROOKS. It is not practical for an individual port to finance \$170 million worth of bonds. That is a pretty big order for a single port facility. Now, the Federal Government can do it and justify it and recoup a large amount of the cost by increased business throughout an entire sector of the country.

In the Netherlands, for example—and I want to paraphrase what they said, when they considered the building of a port 70 miles into the North Sea where it is cold and miserable. They have crosscurrents which are devastating, dangerous, and troublesome. When they started to consider building the port, the thrust of the comment was, "it is unthinkable that we should not build a superport for Netherlands." They did not even consider the cost or the obstacles. They said, we must solve them, and they did. They built a dike out into the North Sea. They built a concrete manufacturing facility to mix concrete blocks—I forgot how much they weigh, but many tons—big pyramidal blocks to use to build that dike. They moved the concrete manufacturing establishment out there, built them, cured them, and built a sort of a big dam

out into the North Sea. Finally they put the locks in, pumped in all that material, filled it all in, dug their channel, put a radar system on it, and they have doubled and tripled their volume. They are the greatest port in the world. It serves all north Europe.

Mr. RUPPE. Have any of the Corps of Engineer studies, as of yet, suggested any favorable or, perhaps, not too unfavorable, environmental impacts?

Mr. BROOKS. The Corps of Engineers had a report on the environmental impact. Their impression, as I recall at Galveston, was that there was more—I believe the gist of it was that they felt there would be more environmental damage possible from an onshore facility than there would be from a couple of pipelines pumping billions of barrels of oil 40 miles into the gulf. I do not know why they got that feeling. I did not agree with them, but that was their conclusion on it.

Mr. RUPPE. Thank you very much for your comments.

Mr. UDALL. Any questions on my left here?

Mr. SEIBERLING. I just want to commend our colleague for making an extremely informative and very cogent statement. I am a novice in this subject, and I find this most educational.

Thank you very much.

Mr. UDALL. Questions over here?

Mr. STEELMAN. Yes, Mr. Chairman. I would like to commend both of my fellow Texas colleagues, Mr. Young and Mr. Brooks for their very informative statements. This is a unique viewpoint to me regarding the merits of these two types of facilities.

Mr. Brooks, as you are well aware, one of the big issues in our area is whether or not superports can be located in the Gulf near New Orleans, or should be located along the Texas gulf. As I understand it, the deep ports would be mutually exclusive. You build one or the other.

Mr. BROOKS. That is not necessarily true. You could build two of them if traffic justified it, and it might well. New Orleans is a great port, and the Galveston area—a superport, for example, in Galveston would serve Dallas. You could ship anything you manufacture out of Dallas by rail down there, or by truck. A monobuoy system is not going to do anything for Dallas or for north Texas. It would bring in liquid cargo such as oil and gas maybe, but that is about all you can bring in by liquid. They have some systems for moving ore in liquid form and pumping it, but 45 miles I believe, would be a pretty long haul.

Mr. STEELMAN. Has your viewpoint been communicated to our colleagues in the Texas Legislature? You know, they took this question up some during this past session.

Mr. BROOKS. As a result of the legislation that I had introduced, I talked to the then candidate for Governor, Dolph Briscoe. He endorsed a deepwater study and the then Governor, Preston Smith passed a resolution for a committee to study that. The committee has a chairman from Houston who has invited me to testify. They are just getting organized. It has taken some time to get underway. They have been moving fairly rapidly. They have asked me to come down and testify at their next meeting and provide them with my thoughts on the matter, which was the genesis of their creation. I am looking forward to going down there and talking to them. Fortunately, they

have two members of their commission who are from my home county, and I look forward to working on them assiduously.

Mr. STEELMAN. Working on them or with them?

[General laughter.]

Mr. BROOKS. It is just a choice. It depends on how they go.

[General laughter.]

Mr. STEELMAN. Is it the purpose of this commission to develop alternatives in regard to these ports?

Mr. BROOKS. They have directed a little more of their efforts toward a monobuoy offshore system than I think desirable. They have had some consideration of the onshore facility, but they have not put as much emphasis on it as I think they should. I look forward to talking with them and visiting with them.

The general counsel is Jim Cross, an able gentleman.

Mr. STEELMAN. No further questions, Mr. Chairman.

Mr. UDALL. Anything further?

Mr. Martin?

Mr. MARTIN. Mr. Chairman, I have one question.

First, I would like to say, I too am a landlubber, and I appreciate two of our colleagues from the gulf coast bringing us this alternative concept to our attention as we begin to consider the proposal for an offshore buoy system.

I have one question, though about the time that would be required to convert these existing beachports. You mentioned the equipment available, and the cost estimates involved.

I wonder what your estimate would be about the time that would be required to dredge the entire channel and to develop the facilities for docking these ships.

Mr. BROOKS. There are dredges of 13,000 cubic feet capacity. There are many dredges in the 7,000 to 10,000 foot capacity class. By using those with the 7,000 foot capacity, using four of them, you could do the job in 3½ years.

Now, if you wanted to, you can do it for immediate use. Instead of dredging a 1,000-foot channel, you dig it in two sections. You do 500 feet wide in the first cut. Then you do the next, the other side, after you finish, which would cut the time in half, using only four of these 7,000-foot dredges.

Another alternative is to use six of these units, and get some of the bigger ones, 10,000 cubic yard capacities, or maybe get that big one, the 13,000, get the biggest in the world that are available now. I think we can get them. The engineers say that they are available, and I think we can cut it to 2 years.

Mr. MARTIN. So somewhere between 2 and 4 years, then.

Mr. BROOKS. Yes, sir, it could be done, yes, sir.

Mr. MARTIN. There would be no problem with the dock and silt as it develops.

Mr. BROOKS. Not to my knowledge.

Mr. MARTIN. Thank you, sir.

Mr. STEELMAN. Mr. Brooks, could you summarize in two or three points what you think the advantages of the onshore port facilities would be for the monobuoy system?

Mr. BROOKS. The basic advantages of the onshore system are that it will handle dry cargo as well as liquid cargo, which is what the mono-

buoy people are thinking about. Also, there is a lot of difference between tying up to a floating buoy and bringing that ship into a port and tying it up.

Those are the basic advantages. Both cargoes can be handled, and it is in a safe place. Another advantage is, a big one, is all of the peripheral industry for servicing these big ships, all of the dockwork, all of the repairs can be made available and can be accomplished right there at such a port. If you are out in the middle of the ocean there is nothing you can get out there.

Mr. STEELMAN. You also said it was going to be cheaper?

Mr. BROOKS. The best estimates I could get from these engineers—we checked them pretty carefully—I sent these figures to the Corps of Engineers—would be about \$169 million for a deepwater port off the coast of Galveston.

Mr. STEELMAN. It would be \$169 million for an onshore—

Mr. BROOKS. That is right, and the estimate for a monobuoy would be \$400 million to \$500 million. Another little gimmick that they use and I didn't have time to talk about it—they talk about maintenance. Maintenance of a deepwater port, of a dredged channel, with this same kind of good equipment is somewhere probably in the neighborhood of \$3 million to \$5 million a year. When you maintain it, it is perfect. There is nothing wrong with it.

But the estimate of the monobuoy system, with say half of a \$500 million investment in a property that would have a depreciation, if you depreciate over 25 years, depreciation will total \$250 million. That is \$10 million a year straight depreciation, and it is not just as good the second year as it was the first year. In 10 years it might be all gone. So the depreciation and the basic maintenance of such a system might well be much higher than the maintenance of a port. You do not have to do a lot to a port except dredge it out.

Mr. MARTIN. You emphasized the advantage of being able to handle dry cargo—again I have to ask this question just because of my lack of familiarity. But I am puzzled why this would be a factor. It would seem to me that Galveston and Corpus Christi would still be able to handle the dry cargo, whether or not the pipeline—

Mr. BROOKS. They do handle a tremendous amount of dry cargo now—grain, cotton, ore.

Mr. MARTIN. Are they limited as to what you can handle?

Mr. BROOKS. But the depth of the channel is 40 feet, and the big cargo ships that bring in ore and that are continually handling grain, draw up to 90 feet. There are much bigger ships and they are deeper, and they are cheaper. They are more economical to operate because with one ship, one captain, one crew, one programming you can handle many thousands of tons of additional cargo. This is a competitive situation that we are forced into by world markets. And if we fail to face this, our competitive position will suffer badly.

Mr. UDALL. I hope you can understand that for the record.

Mr. Cronin?

Mr. CRONIN. I just want to comment that I really appreciate the testimony, particularly as our colleague pointed out, there are other parts of the world who do step up to some of these problems and solve them just because of their will to do so. They have to examine and build these harbors.

Mr. BROOKS. They dug one in Brazil.

Mr. CRONIN. Yes; and I think that is a problem with the basic attitude that permeates a lot of problems that we are facing here in this country today—is the basic will and desire to get the problem solved, and then put the energy or whatever it takes to get at the problem.

I appreciate it, Mr. Brooks.

Mr. UDALL. Mr. Saylor?

Mr. SAYLOR. Mr. Brooks, it is delightful to have you before the committee. I think in all the years it has been my privilege to serve with you in the House, this is the first time you have appeared before this committee. You are now in the position that you had so many of us before, sitting down in the hot spot. I have enjoyed your testimony, and I just want to say for the record that I knew that if Marines were given the opportunity when it finally came down to the last analysis, they would determine that ships were the only way, and would decide that they wanted to be the M division of the Navy after all. Colonel, I am delighted to have you here with us today.

[General laughter.]

Mr. SAYLOR. That's the Navy manner of handling things.

Mr. BROOKS. I appreciate the opportunity to appear before you, and I hope that you will take cognizance of these things.

We do appreciate the Navy. You know, the marines have an interesting feeling about the Navy. The Navy was so nice to them. They had those clean sheets and good food, and when they got to a nice, happy little island and by happy people who wanted to blow your brains out, they let us off.

[General laughter.]

Mr. UDALL. I am not sure what this is contributing to the subcommittee.

We thank you, Captain John, and you, Colonel Jack.

Mr. SAYLOR. I would like to ask, Mr. Chairman, Jack, on the bottom of page 5 you have a statement which intrigued me, and I think you could explain this sentence. "Except for the last 3 or 4 miles, the deep channel could and should be separate and apart from the channel used by ordinary traffic."

In other words, you would have a separate channel for the ship coming in and not be used by the other traffic that is normal traffic that comes into Galveston Harbor?

Mr. BROOKS. That is right. That is the way they do it in the Europort and some of the other big superports, and this would be a feasible way to do it in Galveston. As the jetty comes out from Galveston, you already have in place tremendous granite jetties on either side, and that 3 or 4 miles would be shared. Beyond that you would have a separate deep channel for these bigger ships which require some special consideration and the ordinary traffic of 100,000-ton ships and down could use the existing 40-foot channel without any difficulty. It would simplify both their unloading and offloading. They would be unloading at the present docks that are now installed, whereas these larger ships would be handled at new docks with, of course, deeper depths.

Mr. SAYLOR. Now, in view of the fact that there would be larger ships and would require larger berthing places, there is nothing to be considered as far as this bill is concerned, as to where these would be located.

Now, would you have them landward or seaward on the present facilities in Galveston?

Mr. BROOKS. I think they could probably be landward. It is possible to make them seaward, but when you make them seaward, you have special current and beach buildup considerations though we do not have a bad crosscurrent there at all, fortunately.

Mr. SAYLOR. I think you pointed out very well the situation in the East. Here some years ago the Army Corps of Engineers dredged the Delaware River 45 feet to take care of ore boats. They now say that the 45-foot channel was fine for ships of that era, but 20 years later, in fact, they have to offload down into deep water before they can—

Mr. BROOKS. They have to go in light. That is the term, and it costs them money. It is costly to offload at sea. The weather has to be good. It has to be daytime, you have to be able to see, everything has to be just right, and it costs a lot of money. It means that the overall cost per ton of transportation goes up substantially, and you negate the advantage of larger ships.

This is not going to be negated in Japan and Europe and Asia, but it is going to be negated in the United States if we do not do something about it.

Mr. SAYLOR. Well, I appreciate very much your testimony.

Mr. UDALL. Mr. De Lugo?

Mr. DE LUGO. Thank you very much, Mr. Chairman.

Congressman Brooks, I want to tell you that this has been an experience for me. I certainly understand why your constituents have elected you into Congress. You are tremendously effective.

Mr. BROOKS. If we have a tape of that, I would like to replay it.

Mr. DE LUGO. I doubt very much whether you will need it at election time with your record. Your testimony has been very helpful to me because there has been quite a lot of talk about these ports for super-tankers in my area. May I ask you something? You referred to the Freeport, Bahamas port.

What is the status of that?

Mr. BROOKS. It is a deepwater port now existing which the proponents of the monobuoy system sail—and I thought it was the wildest statement that I ever heard—that when you bring a ship, a big ship to the United States, if the seas are too high or they have problems of any kind, they can go back to the Bahama Islands to their deepwater port to get their repairs, so on and so forth. I think it is unrealistic that the United States is going to depend on some fellow country like the Bahaman Islands as a supplier for a major segment of our transportation.

Mr. DE LUGO. You also stated, Congressman, that you understand that the monobuoys can only effectively or safely operate in seas up to 8 feet?

Mr. BROOKS. Yes, sir. That was the testimony at a hearing of the Texas A. & M. research group. I can readily understand why an 8-foot sea would be tricky to be handling these great big ships, these big pumps that are pumping hundreds of thousands of barrels of oil rapidly. It would be a little dangerous in seas of over 8 feet to do that.

You understand, 8 feet does not sound like much here, but out there it is a whole lot.

Mr. DE LUGO. I served on board a ship.

Mr. BROOKS. Well, then, you understand about that, the sea can get rough.

Mr. DE LUGO. Well, thank you very much, Congressman Brooks. You have been very helpful to me.

Thank you, Mr. Chairman.

Mr. UDALL. Mr. Seiberling?

Mr. SEIBERLING. Jack, I wonder if I could ask a couple more questions.

I have done a little reading about the traffic problems of the super-tankers and similar big ships. Some of them on the drawing board will draw up to 100 feet. Some of them are underpowered with respect to the total tonnage, so they are very difficult to maneuver. Maybe regulations will eventually direct themselves to that, but that is a problem, I understand.

Now, if you are out at a monobuoy 20 miles out or something like that, is there not going to be more room for maneuver than if you were trying to get these huge vessels into channel?

Mr. BROOKS. Undoubtedly there is more room out in the middle of the ocean than there is in a channel, but I would say the only way to solve this is by accurate control of those vessels. This can be done. They have not had one collision in the Rotterdam port, the biggest port in Northern Europe, one of the biggest in the world, because they have every ship identified by radar. They just keep track of them, and this is the way you do it.

You want to also consider that there is not going to be a tremendous number of these giant vessels coming in. There are not going to be 50 in 1 day coming in, whereas you might have 50 smaller vessels. I was in Galveston a couple weeks ago and there were 37 ships lying offshore. You are not going to have 37 big, jumbo tankers lying offshore. You know, two tankers a day will bring in enough oil to keep all those refineries going, two a day, and so the traffic problem is not going to be as acute.

Mr. SEIBERLING. Well, maybe not in numbers, but I understand that a tanker of 400,000 tons deadweight skids sideways for a mile after the bridge decides to make it turn, and it takes 5 miles to stop it from full speed to a dead halt with existing navigation equipment and existing power installation.

What I am getting at is, should this legislation not also direct itself to requiring some sort of regulation of the maneuverability and the stopability of these vessels before we proceed much further?

Mr. BROOKS. My comment on that is that the maneuverability and the powering of these large vessels will be dictated not by what we might do, but by the economics. The people that invest in these tremendous ships, and have them built in Japan or wherever they are going to have them built, are not going to want to endanger that investment in any way, and the experience in Rotterdam with the larger ships to date has been highly successful.

They have used tugboats and they have used controls, and they have apparently encountered no serious difficulty in coming into that channel, which is 70 miles long and where you have a very serious cross current as distinguished from the gulf coast area. The cross current in the North Sea is tremendous, and a big problem, but they have been able to handle it up there.

Mr. SEIBERLING. It seems to me there is also an economic pull in the other direction, and that is that the operating costs of a vessel with less motor power are presumably less. In other words, from the standpoint of controls, I would think that you would require them to be overpowered and overpropelled.

Mr. BROOKS. This is a problem for the manufacturers.

I do not think that the problem has resulted in it being a difficulty for the other major superports. If it should, as they continue to plan bigger ones on the drafting boards, they are going to have to consider the problem of relative power to deadweight.

Mr. SEIBERLING. You do not think, in other words, it should be required by legislation?

Mr. BROOKS. I do not think it should be required. I think it would be done.

Mr. CRONIN. Would the gentleman yield?

Mr. SEIBERLING. Yes.

Mr. CRONIN. Relative to this, do you think it would be a proper legislative initiative to require all ships to have such devices? For example, there have been great advances made in new shipboard radars, anticollision devices and guidance devices. The FAA has recently required all pilots to be transponder-equipped within traffic control areas.

Do you think it would be feasible in the legislation to require that all ships using these ports be equipped with equivalent onboard radar for guidance—

Mr. BROOKS. This may already be the law.

Mr. CRONIN. No, it is not.

Mr. BROOKS. Well, if it is not, it could be and I am sure it would be. This is part of the concept of a radar control. I do not mean to limit it to radar, but the best possible technological control of those ships would be mandatory. On big ships, there is no question about it. It ought to be part of their equipment and I am sure it would be.

Mr. SAYLOR. Mr. Seiberling, would you yield to me at this point?

Mr. SEIBERLING. Yes.

Mr. SAYLOR. I just wanted to say that all big ships now being constructed already have onboard all of the latest as far as the radar and electronic equipment is concerned. The only thing you need to be sure about is that whatever channels that are going to be used in the local area are charted by the Coast Guard, and as you were coming into the port you would have that map or chart available for the captain as he is coming into that channel, and you would have no difficulty at all in corresponding with all the safety devices that have been suggested.

Mr. SEIBERLING. My other question is, you have made a very good case, I think, for the onshore versus the offshore facility. This bill that we have before us, deals with deepwater facilities. Have you any legislative suggestions so we can move in the direction that you recommend?

Mr. BROOKS. I will have some for you in detail, but my judgment is we should not just arbitrarily decide that an offshore facility is the answer to our problem.

Mr. SEIBERLING. Well, thank you.

I have no further questions.

Mr. UDALL. Is this an example of what the gentleman from Massachusetts, Mr. Cronin, has been telling us for a long time, that energy as related to efficiency is fragmented all over the Congress. The problem of deepwater ports off the beach is a problem not alone for the Interior Committee, but also for the Merchant Marine Committee, the Public Works Committee and some of the other committees of the House. Again we are faced with fragmental jurisdiction. This committee clearly has jurisdiction over the Outer Continental Shelf and the recent program, the water level program on the floor, that kind of thing. That's how we ended up with jurisdiction on this particular bill, this license, those offshore deepwater ports on the Outer Continental Shelf.

Mr. SEIBERLING. Would it be possible for this committee and the other committees to somehow jointly come up with a package solution to these things?

Mr. UDALL. Well, we have been exploring these kinds of things, not with total success. There is a great jealousy about jurisdiction, as Mr. Brooks from his studies in Congress can tell you.

Mr. SEIBERLING. Well, I think this committee, in respect to the strip mining legislation, has shown a remarkable potential for cooperation between subcommittees. Maybe that will lay the ground for similar cooperation between committees.

Mr. UDALL. Let us pray.

[General laughter.]

Mr. UDALL. Thank you, Mr. Brooks. We appreciate your appearing.

Mr. BROOKS. Thank you very much.

Mr. UDALL. Mr. William B. Read and Mr. Robert Chitwood. I understand you gentlemen would prefer to appear together as a panel and make your statements and then answer questions.

Is that correct?

Mr. READ. That is correct.

Mr. UDALL. We have prepared testimony here, a statement from Mr. Read and a statement from Mr. Chitwood before each member of the committee. We have the various attachments, brochures, and other memoranda which we appreciate for the record.

Who wants to go first?

Mr. READ. Mr. Chairman, I will go first.

Mr. UDALL. All right, sir.

STATEMENT OF WILLIAM B. READ, PRESIDENT, LOOP, INC. (LOUISIANA OFFSHORE OIL PORT)

Mr. READ. I would like to thank the members of the Environmental Subcommittee of the House Interior and Insular Affairs Committee for their interest in our proposed project and for the invitation to make this statement. My name is William B. Read, and I am appearing this morning in my capacity as president of LOOP, Inc.

LOOP, Inc., with offices in New Orleans, is a corporation formed to design, construct, and operate a common carrier deep draft crude oil tanker unloading terminal in Gulf of Mexico waters off the coast of Louisiana.

Formed in October 1972, our 13 shareholders include Ashland Oil, Inc.; Chevron Pipe Line Co.; Exxon Pipeline Co.; Marathon Oil Co.;

Murphy Oil Corp.; Shell Oil Co.; Tenneco Oil Co.; Texaco, Inc.; the Toronto Pipe Line Co., wholly owned by Gulf Oil; Union Oil Co. of California; Clark Oil & Refining Corp.; the Standard Oil Co., Ohio; and Texas Eastern Transmission Corp.

Our staff of 19 includes 11 professional engineers experienced in the various disciplines involved in the design, installation, and operation of a deep draft terminal facilities. We are presently involved in the design phase of our proposed project, and our staff efforts are being complemented by a number of engineering contractors and advisory committees composed of representatives of shareholder companies. We will complete the design work necessary for an application for an offshore oil terminal by the end of this summer.

I would like to submit a copy of the Louisiana offshore oil port feasibility study completed in June of 1972 and presently being updated by our engineering group, and brief biographical data of key personnel responsible for the various engineering aspects of our project.

The purpose of our project is to provide an economically and environmentally feasible facility to handle the transportation requirements of the large volumes of imported petroleum needed to meet the Nation's growing energy demands.

By 1985 our Nation's energy demands are expected to reach the equivalent of 60 million barrels of petroleum per day. Domestic sources of energy, including petroleum, natural gas, nuclear power, coal and hydroelectric power, are predicted to meet only three-quarters of the national requirement.

Presently crude oil supplies 42 percent of national energy consumption. Domestic crude production is expected to peak in this decade at about 13 million barrels per day. This represents only 77 percent of our present needs and by 1985, in light of both rapidly rising demand and domestic inability to meet that demand, we will need to import 52 percent of our crude oil requirements, an amount in excess of 15 million barrels of petroleum per day.

The cost of transporting this large volume of imported crude oil takes on great significance. Costs can be considerably lessened through the use of supertankers. Ten years ago there were virtually no ships in the world of 100,000 deadweight tons. Today there are over 200 and this number is expected to reach 800 by 1975. By 1980 the 200,000-300,000-ton tanker will become the world's standard.

At present bringing oil to east and gulf coast ports from the Persian Gulf in tankers of 47,000 tons costs approximately \$13 a ton. By contrast 250,000-ton tankers can transport crude oil to Louisiana for about \$5.70 a ton. The cost drops to \$5.15 a ton in 500,000-ton tankers. Looked upon conversely, these cost savings can be viewed as penalties to American industry and consumers for failing to utilize these larger vessels—higher transportation costs for crude oil will result in increased consumer product prices, a further loss of competitiveness in world markets for American products, and a high risk of the movement of critical processing industries outside the United States.

The second significant reason for the use of supertankers is the projected impact of these ships in reducing port congestion. The port of New Orleans, for example, handles some 120 million tons of cargo annually. The 1,500-foot-wide maintained channel at the foot of Canal

Street is annually transversed by some 88,000 barges, 34,000 towboats and tugs, and 10,000 ocean-going vessels. This average of 132,000 bottoms annually does not include pleasure craft or ferryboats, and breaks down to 361.64 bottoms daily.

Because of depth constraints, ports on the east and gulf coasts cannot handle supertankers—ships requiring a draft over 60 feet of water. Although there are transshipment alternatives—bringing supertankers to deep draft ports near the United States and transshipping via smaller ships, or loading smaller ships directly from supertankers—transshipment alternatives do not solve, and in fact would aggravate, port congestion problems.

The use of terminals specifically designed to handle supertankers would drastically reduce the potential number of ships arriving at our existing ports. For example, in the case of the use of 47,000-ton tankers as opposed to 250,000-ton tankers, arrivals would be reduced from more than 45 daily to less than 9 daily by 1985. Industry figures show that more than 78 percent of tanker accidents occur in congested harbor areas. Reducing the number of ships in already congested traditional port areas reduces the potential for accidents.

In view of the significant economic and environmental advantages of supertanker operation, the construction of deep draft crude oil terminals in proximity to the United States refining centers is a pressing need.

The Louisiana Offshore Oil Port project consists of a marine terminal for unloading deep draft crude oil tankers, large diameter buried pipelines from the marine terminal to a shore storage facility, and the shore storage facility itself. I refer subcommittee members to the map on page 18 of this statement. The marine terminal would be located in 100 to 120 feet of water approximately 21 miles off the Louisiana coast. The storage facility would be located on shore in LaFourche Parish.

An adjunct to the LOOP facility will be a large diameter pipeline from the storage facility to the St. James Parish terminal of Capline.

The LOOP facility is proposed to supplement crude supplies to the existing Louisiana refinery complex, and through Capline, the largest crude oil pipeline in the United States, will supply many of the refineries of mid-continent America as far north as Detroit. These areas contain more than 25 percent of the Nation's refinery capacity.

A number of concepts for the marine unloading terminal were studied as LOOP facility alternatives. The single point mooring, or SPM, was chosen by LOOP engineers as the most economical, logical, and safest method of operation. The SPM concept has been proven in over 100 worldwide applications since its first use in 1959. Of all the world's capability to handle ships of 200,000 tons or over, 60 percent are single point moorings. Since 1966, an annual average of 15 new SPM's have been added to the world total.

SPM systems operated by one LOOP shareholder in Libya, Singapore, and Okinawa, have handled 1.2 billion barrels of crude oil without a serious accident. Another shareholder presently operates installations handling 450 million barrels annually, and these systems have handled a total of 3.6 billion barrels without a serious accident.

In order to develop a clear understanding of the system proposed, I refer the members of the committee to page 19 of this statement.

As indicated by this simplified flow chart, the essential elements of the SPM concept include one or more single point moorings, pumping and operations platforms, and submerged pipelines carrying unloaded crude oil to a shore storage facility.

The SPM floating buoy would be anchored to the floor of the gulf and can withstand very extreme sea and weather conditions. Vessel approach and departure from SPM's are relatively simple maneuvers for tankers of all sizes. Vessels approach the SPM directly, and mooring can be accomplished in a very few minutes with the aid of a mooring launch. The vessel is secured to the SPM with bow lines only and is free to rotate around a 360° arc, like a weathervane, always heading into the wind, sea, and current. The vessel and SPM are not subject to as large environmental forces as a vessel rigidly secured to a fixed berth. When the tanker finishes unloading, hoses which had been connected to the tanker's manifold are capped and placed in the water. Mooring lines are slipped and the tanker leaves the berth without the aid of tugs or launches.

The worldwide use and subsequent experience with SPM systems has provided a critical element in developing sound procedures for operation and maintenance. The industry has recognized the importance of sharing this experience in promoting safer operations. An organization of SPM operators known as the SPM Forum has provided the format for an exchange of experience and ideas. This program of information sharing is an important adjunct to developing and updating operational and maintenance procedures, and, in light of the excellent history of the SPM, these procedures provide an important element of effective oil spill prevention.

The design of the remaining elements of the LOOP project, the operations platforms, pipelines, and tank farm are conventional in nature and certainly not unique to systems presently in use in offshore Louisiana. Designs of these items are being developed in accordance with existing Federal and State regulations and industry standards. A vast storehouse of successful experience with offshore platforms, submerged pipelines, and tank farm construction in Louisiana is readily available.

Pipelines from the marine terminal to the shore storage facility will be corrosion protected, wrapped and coated with concrete, and buried underneath the seabed, using the technology developed over many years of offshore pipelining.

Engineering design criteria being developed have, as a key consideration, protection of the environment. Tanks with floating roofs will be utilized to eliminate venting of hydrocarbons to the atmosphere. Water drawn from the bottoms of crude oil tanks will be conducted in a closed piping system to a treating plant for removal of any oil and sulfides and replenishment of oxygen before the water is returned to the environment. Tanks will be surrounded by spill dikes to contain any oil that might accidentally spill and the entire shore storage terminal area will be surrounded by a dike designed to withstand storm-driven tides.

Monitoring systems include radar monitoring of tanker traffic in SPM berth areas, anchorage areas, and tanker approach/departure areas; monitoring of crude oil discharge at the offshore platform and

shore terminal; fire indicator sensors located throughout the facility; and continuous monitoring of meteorological conditions.

Recognizing the impact that any release of petroleum would have on the environment, LOOP will use all possible diligence to design and construct its facilities to preclude any release over which control can be exercised. This will include design to all applicable codes and regulations, pressure testing, cathodic protection against corrosion, adequate relief systems, protective devices, and all other measures necessary to assure containment during maximum operating conditions.

LOOP also proposes to install a leak detection and reaction system that will minimize such releases, using the best equipment provided by the present state of the art. Pipelines coming to shore will be equipped with custody transfer grade metering on the offshore platform and at the onshore terminal. These meters will be continuously monitored by a computer located in the control building at the onshore terminal. Should the onshore meters show a predetermined quantity less than the offshore meter, the system will alarm. Also, a simultaneous decrease in discharge pressure and an increase in flow rate at the platforms will cause the pumping unit on that pipeline system to shut down and an alarm transmitted to the control center.

Initially, it is expected that the LOOP facility will consist of three SPM's, operations platforms, and two buried pipelines to a short storage facility. SPM's and liens to shore would be added subsequently as needed until the full configuration of five SPM's and five lines to shore is attained. This facility—costing over \$500 million—will have a potential throughput capacity of over 4 million barrels per day and would be able to unload tankers of 500,000 deadweight tons at a rate in excess of 100,000 barrels per hour.

In site selection for the various facility elements, LOOP, Inc. has maintained close contact, and continues to consult with concerned local, State, and Federal agencies.

In studying the various alternatives for the marine terminal location including navigation fairways, we have been in contact with a number of State and Federal agencies which may have concern with our proposed project.

We have maintained close contact with representatives of both the Environmental Protection Agency and the Council on Environmental Quality, and have consulted with them concerning design criteria, facility location, and operating procedures.

On March 30, 1973, in a presentation to the Louisiana Deep Draft Harbor and Terminal Authority, a State agency created by the legislature to promote and regulate deep draft port development in Louisiana, LOOP requested that our proposed terminal facility be included as phase 1 of the authority's development program. The Louisiana statute requires that the authority promulgate an environmental protection plan to insure protection of the environment throughout all phases of the authority's development program.

I would like to submit a copy of the act creating the Louisiana Deep Draft Harbor and Terminal Authority and outlining the environmental protection plan.

Mr. UDALL. Do you have this for our files?

Mr. READ. Yes.

Mr. UDALL. The information will be accepted for our files.

Mr. READ. In preparation for our designation as "phase 1" of the Louisiana Deep Draft Harbor and Terminal Authority's development program, and in expectation of an application for an offshore

oil port to be readied for Federal approval late this summer, LOOP has recently initiated two major studies leading to a detailed environmental assessment.

LOOP has begun a 12-month environmental assessment program, expected to cost up to \$1 million, designed to more than meet the requirements for environmental impact statements outlined by the National Environmental Policy Act of 1969. LOOP will prepare a complete environmental assessment report and submit this report as well as all basic data used to prepare the report to the designated Federal lead agency as part of a permit application. The objectives of LOOP's program is to provide a comprehensive description of existing baseline conditions and to predict the impact of construction and operation of the proposed facility on these conditions.

For this study, the proposed facility has been divided into two basic components: The area of the offshore unloading terminal, including the area of the pipeline route to shore; and the area of the tank farm. A study of the pipeline route from the tank farm to Capline is being undertaken under the same contractual agreement. Study of the tank farm area will also include study of the adjacent bays and estuaries.

Three organizations have been chosen to conduct these environmental assessment studies. Nicholls State University located at Thibodaux, La., will furnish seven principal investigators with expertise in chemistry or biology and will be responsible for all offshore chemical and biological investigations. The area to be studied by Nicholls consists of the waters located approximately 5 miles on either side of the proposed offshore terminal and pipeline route from the unloading area to shore. Bottom trawling will be employed monthly at each of 15 stations to determine the species composition, relative abundance, and seasonal distribution of the fishes and large benthic invertebrates, primarily crustacean. In addition, the water column and bottom sediment will be sampled for benthics, zooplankton, phytoplankton, and chemical analysis.

The Louisiana State University Center for Wetland Resources has been chosen to conduct the offshore physical oceanographic studies and the complete onshore environmental assessments of the tank farm site, the adjacent bays and estuaries, and the pipeline route to Capline. In addition to the offshore physical study, the LSU will have responsibility for the onshore tank farm site and the pipeline project. The expertise for the LSU Center for Wetland Resources in marshland studies is widely recognized.

As part of the oceanographic study, a 12-month general survey will be made of the seasonal variability of the circulation patterns in the areas of the Gulf of Mexico affected by the proposed facility. In addition, a detailed study will be made utilizing moored current meters to determine the velocity structure in the vicinity of the proposed offshore terminal site. Monthly samplings will be made of temperature and salinity distributions in the region from the Mississippi Delta to the area of the proposed offshore site, and from the shore to the 120-foot depth contour. Net drift from the vicinity of the proposed site and from the shore will be evaluated by drift card releases, drogue tracking, and dye releases.

In addition to the offshore physical study, LSU will have responsibility for the onshore tank farm site and pipeline route. During the 12-month study, LSU will identify all present, past, and future land uses and provide a detailed description of the topographic, physiographic, and geologic features within the area of the proposed action. On a bimonthly basis, the study will identify and quantify all terrestrial and aquatic organisms in the various habitats involved, including the near-shore gulf bottom, estuarine water bodies, natural levee forests, and back swamp forests. The socioeconomic considerations for the environmental assessment report will be furnished by an economic impact study already completed.

Existing air and water quality at the proposed site and maximum noise levels at site boundaries will be determined. At the close of the 12-month program, LSU will prepare the final report and interpret all data and results, including those data obtained by Nicholls State University.

In addition to Nicholls State University and LSU, LOOP has retained the firm of Dames & Moore to serve as consultants. The primary purpose of Dames & Moore is to provide guidance as required for environmental report planning and preparation. Total cost of LOOP's environmental assessment program will be as much as \$1 million.

A common objective of State and Federal Governments and the oil industry must be to assure that the United States has the ability to receive sufficient supplies of foreign petroleum to meet energy requirements, a concept endorsed by President Nixon in his recent energy message.

Key elements in achieving this ability are: (1) balanced consideration of energy, economic, environmental, and national security requirements; (2) location of deep draft terminals to permit petroleum to be moved from these terminals to various refineries by pipeline, thus minimizing both environmental risks and transportation costs; and (3) appropriate Federal guidelines and procedures related to the construction and operation of such facilities.

With regard to our proposed facility, we believe that any Federal legislation for offshore port facilities should take the form of a licensing law. Seven essential considerations are suggested:

1. That existing statutes not be amended in a patchwork fashion, rather, that a new act be adopted to govern the licensing of offshore port facilities, including related pipelines;
2. That the new act provide for a single Federal licensing authority;
3. That the licensing standards to be applied include a balancing of environmental impact with energy needs and other national interests;
4. That the act deal with the single purpose of licensing offshore oil ports for the transfer of crude oil and petroleum products;
5. That the act provide a suitable means for considering the interests of the respective States;
6. That the act establish procedures which will result in an expeditious administrative decision granting or denying a license; and
7. That those laws which are essential for application to offshore

port facilities be extended to the facilities and a designated geographic area.

In conclusion, there is a real and pressing need for governmental action which will establish procedures under which suitably located deepwater terminal facilities can be constructed without unnecessary delay. The urgency of this need is highlighted by rapid growth in U.S. petroleum imports and the time lag between a commitment to construct a deepwater terminal and its actual operation.

I would like to again thank the distinguished members of this subcommittee for their interest and will answer any questions you may have concerning our project.

Mr. UDALL. Thank you, Mr. Read.

Mr. Chitwood?

Mr. CHITWOOD. Thank you, sir.

Mr. Read, will not read my entire statement for the sake of time.

Mr. UDALL. It will appear in the record in full and you can summarize.

Mr. CHITWOOD. Thank you, sir.

[The information referred to follows:]

STATEMENT OF R. H. CHITWOOD, VICE PRESIDENT, CITIES SERVICE OIL CO. AND
CHAIRMAN, SEADOCK MANAGEMENT COMMITTEE

Mr. Chairman, I am R. H. Chitwood, Vice President of Cities Service Oil Company and Chairman of the SEADOCK Management Committee. I am pleased to be here today on behalf of SEADOCK. The purpose of the SEADOCK project is to develop a deepwater facility capable of unloading petroleum imports from the new 200,000 to 500,000 deadweight ton class of very large crude carrier or VLCC. The proposed location is 25 to 30 miles offshore of Freeport, Texas. We believe that SEADOCK is in the public interest because it offers significant environmental advantages as well as cost savings to the consumer. Today I will describe what we propose to do and bring you up-to-date on the status of our project.

SEADOCK's membership presently includes eleven oil companies and one petrochemical company. The oil companies are: Amoco, Atlantic Richfield, Cities Service, Continental, Crown Central, Exxon, Mobil, Phillips, Shell, Texaco and Toronto Pipeline. The petrochemical company is Dow Chemical. The current membership represents about 2.7 million barrels per day of the total 3.3 million barrels per day of refining capacity located in the Texas Gulf Coast area. Membership in SEADOCK is open and we expect other companies to join. The facility will act as a common carrier.

Today I will discuss four main topics. First, I will briefly review the U.S. energy outlook which creates the need for deepwater terminals. Then I will describe in more detail the SEADOCK proposal. Next I will discuss the positive effects that we believe the combination of VLCC's and deepwater terminals will have on our economy and environment. And finally, I will close with some comments pertaining to the type of Federal legislation which we believe is needed to make the SEADOCK project a reality.

U.S. ENERGY OUTLOOK

Based on the "intermediate case" United States energy demand projection published recently by the National Petroleum Council, U.S. consumption is expected to nearly double from about 32 MMB/D of equivalent oil in 1970 to 59 MMB/D by 1985.

UNITED STATES ENERGY DEMAND BY FUEL CONSUMED

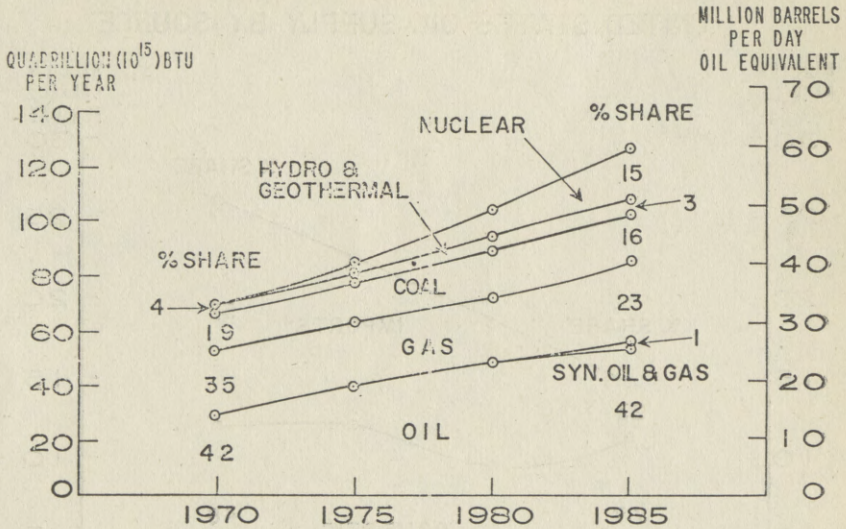


FIGURE 1

In this projection petroleum is the marginal source of supply. By that, I mean the NPC estimated the available supply from each non-petroleum energy source and allowed crude oil to fill the remainder of energy demand. For example, nuclear energy was assumed to grow as fast as possible, taking into account the delays being encountered in siting and construction of new power plants. Nuclear energy reaches 15% of total supply by 1985. Hydroelectric sources are developed to their maximum today, and little short range growth is projected from geothermal sources. Coal consumption is expected to grow somewhat, but to account for only 16% of total supply in 1985. Growth will be limited by difficulties in meeting environmental regulations on air pollution, health and safety standards in mining, and in securing adequate railroad capacity to transport coal to demand centers. As you know, domestic gas sources are dwindling. Gas as a percentage of total supply is expected to drop from 35% in 1970 to 23% in 1985. Synthetic oil and gas are not expected to enter the picture until the early 1980's. The balance of energy must be supplied by oil. Thus, it appears from these studies that oil consumption will grow at a relatively constant rate, accounting for 42% of total supply in 1985.

As recently as 1970, domestic production supplied 77% of U.S. needs. During 1971, however, U.S. production exceeded additions to proven reserves and the API recently reported that 1972 reserves had declined by 4½ percent from 1971. Domestic production is projected to remain about constant over the forecast period, as its percentage of supply drops to 48% in 1985. The remainder of the oil must be brought in from foreign sources, primarily by ship, since one-half of the world's oil reserves are in the area around the Persian Gulf. Petroleum imports are projected to amount to 10.5 MMB/D by 1980. 3 MMB/D of this total is expected to move through SEADOCK.

FIGURE 2

UNITED STATES OIL SUPPLY BY SOURCE

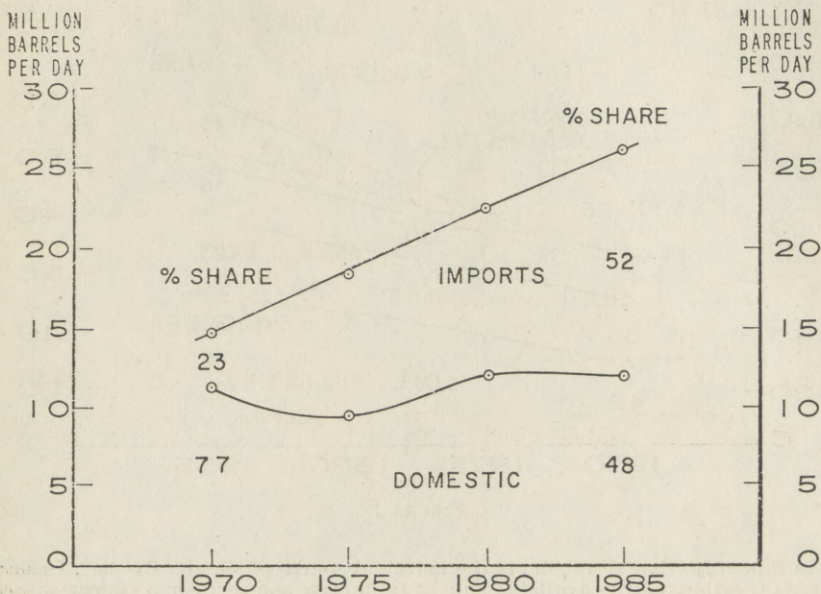


FIGURE 2

OCEAN TRANSPORTATION COST

With this tremendous increase in the volume of oil being moved by ships, the lowest cost methods of shipping must be used. VLCC's are the most economical method. The recent trend in ship building is aimed at reducing transportation cost. The 30,000-ton vessel is the average size ship that has called on Gulf Coast ports in the past few years. Let's consider the cost of moving a barrel of crude from the Persian Gulf to the Gulf Coast on a 30,000-ton ship during 1980 as equal to 100 percent. If 50,000-ton ships were used, the cost would be reduced to about 88 percent. The 50,000 tonner is the biggest ship that can get into most U.S. ports when fully laden. The ship of today, the 250,000-ton vessel, could cut this cost to 45 percent of the 30,000-ton ship cost if it could be unloaded at a U.S. port, and the 500,000-ton ship, the ship of tomorrow, would cut shipping cost to 38 percent. The draft of these vessels is increasing rapidly and U.S. ports are not deep enough to allow entry of a fully laden 250,000-ton and larger ships.

The use of VLCC's saves money in another way. The cost of building a deep-water terminal like SEADOCK is less than the cost of deepening and enlarging existing ports to handle a large volume of VLCC traffic. The number of tanker arrivals required in Texas ports to supply the 3 million barrels per day of SEADOCK throughput I just mentioned will increase dramatically if a deep-water terminal is not provided. If 30,000-ton ships were used, 13 arrivals per day at Texas ports would be required. This reduces to 8 calls per day for 50,000-ton ships and 1 call per day for VLCC's. In addition, with expected growth in refining capacity, oil products shipped from Texas ports will also increase, either with or without deepwater terminals. We estimate that the total load on Texas ports will double by the early 1980's without an offshore terminal. This illustrates the positive effect VLCC's will have in reducing port congestion.

TRANSPORTATION COST — 1980 PERSIAN GULF TO U.S. GULF COAST

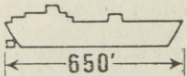
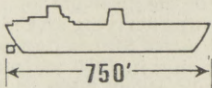
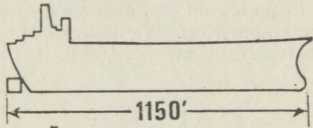
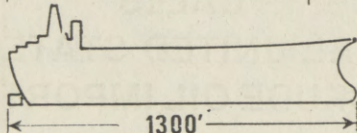
	SHIP	CARGO & DRAFT	RELATIVE COST/BBL.
1950		30,000 DWT 35 FT.	100 %
1960		50,000 DWT 38 FT.	88 %
1970		250,000 DWT 65 FT.	45 %
1975		500,000 DWT 95 FT.	38 %

FIGURE 3

TRENDS IN TANKER SIZE

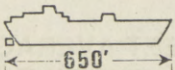
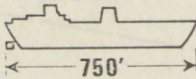
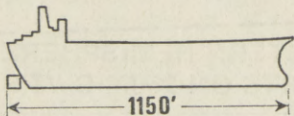
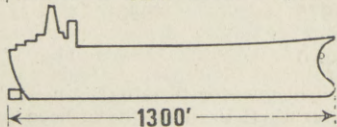
	SHIP	CARGO & DRAFT	FOR 3,000,000. BARRELS/DAY
1950		30,000 DWT 35 FT.	13 EACH DAY
1960		50,000 DWT 38 FT.	8 EACH DAY
1970		250,000 DWT 65 FT.	1 & 1/2 EACH DAY
1975		500,000 DWT 95 FT.	1 EACH DAY

FIGURE 4

DEEPWATER TERMINALS

Having reviewed the economic incentive offered by VLCC's, let's look at the ways in which they might be used. Several ports in the Western Hemisphere are currently capable of handling big ships. Transshipping, or bringing the VLCC into a port in the Bahamas or Canada, unloading it and then reloading its cargo into smaller ships that can enter existing U.S. ports, is considerably less expensive than direct shipment in smaller tankers, but somewhat more costly than using VLCC's directly to the United States.

Obviously, transshipping still leaves us faced with the problem of how to handle a tremendous increase in the number of small ships arriving at U.S. ports. For example, about 4,000 tankers unloaded in the United States during 1970. Using 30,000-ton vessels for direct service or transshipping in 1985 means an increase to over 20,000 annual arrivals compared to only about 3,500 if 250,000-ton to the U.S. and unloading them into smaller ships which can enter existing ports also has the disadvantage of increased port congestion. We believe these considerations demonstrate the need for deepwater terminals in the U.S.

ANNUAL SHIP CALLS TO SUPPLY TOTAL UNITED STATES WATERBORNE CRUDE OIL IMPORTS

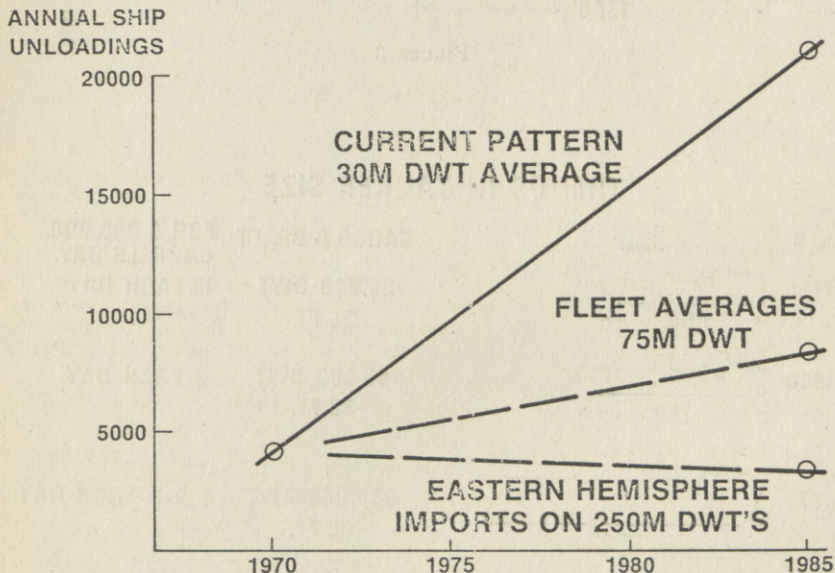


FIGURE 5

The most advantageous place to locate a deepwater terminal is near a major refining area. Three proposed deepwater terminal locations have been proposed to serve the Gulf and East Coasts. The 3.3 MMB/D of refining capacity located along the Texas Gulf Coast and Western Louisiana represents nearly 25% of the total U.S. capacity. SEADOCK will serve this area. Another industry project, LOP, in Louisiana, is planning to handle imports to another 25% of the U.S. refining capacity located in Louisiana and the Chicago area via Capline, one of the major petroleum pipelines in the U.S. A similar effort is under way to provide a deepwater terminal to supply the refineries in the New York-Philadelphia area. I would like to emphasize that we believe SEADOCK is not in competition with these other projects. We believe all of these terminals are needed.

LOCATIONS WHERE DEEPWATER TERMINALS ARE NEEDED

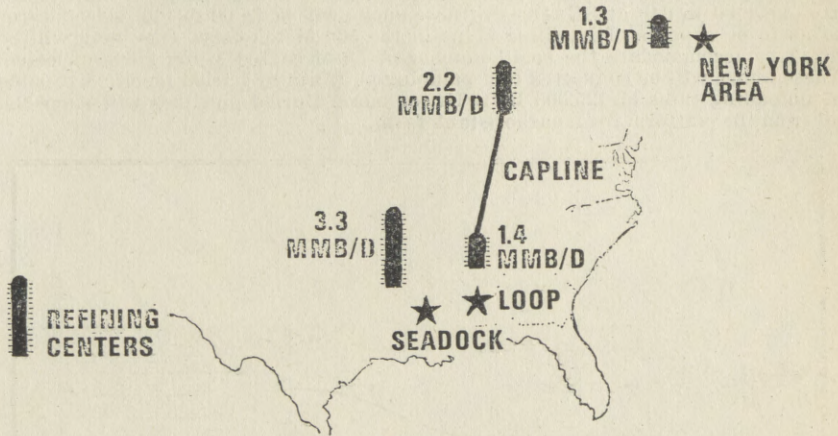


FIGURE 6

THE SEADOCK PROJECT

SEADOCK has chosen the single point mooring or SPM technique for our terminal. With this system, the tanker moors at a buoy and oil is then pumped from the tanker through a floating hose to an SPM and from there into an under-sea buried pipeline to shore. I would like to point out that this is a proven concept since over 100 SPM's have been installed and successfully operated worldwide since the first application in 1959. The single point mooring has the advantage of being operable in weather that would put other types of terminals out of service. The tanker is free to weathervane about the buoy, facing into the wind, current, and waves to keep mooring line and other forces to a minimum. These buoys are sturdy and safe.

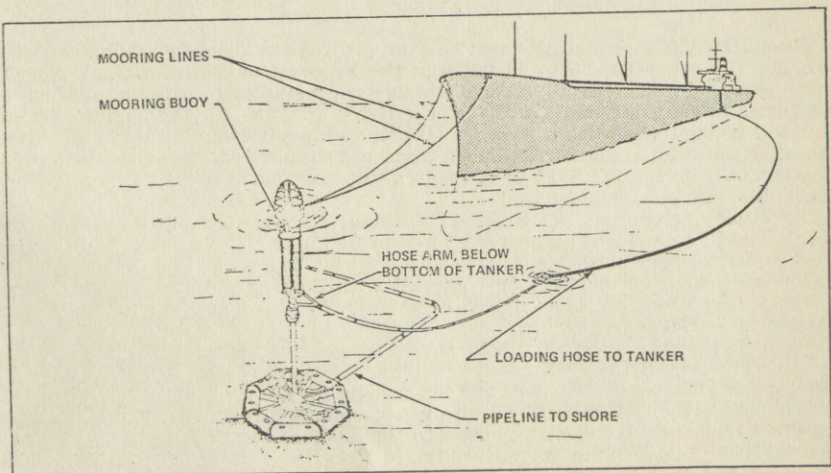


FIGURE 7

SEADOCK plans to build the initial marine facilities at a location 25 to 30 miles offshore of Freeport, Texas. This is essentially the same location recommended by the Corps of Engineers in their study. SEADOCK studied a number of offshore locations ranging all the way from Corpus Christi to Port Arthur. The onshore and multiple offshore pipelines are the most costly portions of the SEADOCK system. The Freeport location balances those costs to achieve a minimum investment. This location is in naturally deep water and requires no dredging.

At least three SPM's are planned initially. Since a wide range of ships' sizes are expected to call at SEADOCK, these buoys will be in 90 to 110 feet of water so as to be capable of handling ships in the 500 M ton class. One buoy will be fitted to accommodate the small number of 50 M to 100 M-ton ships expected. These buoys will be connected to a pumping platform by buried pipelines capable of unloading rates of 125,000 BBL/Hr. or more. Buried pipelines will move the oil from the platform to an onshore tank farm.

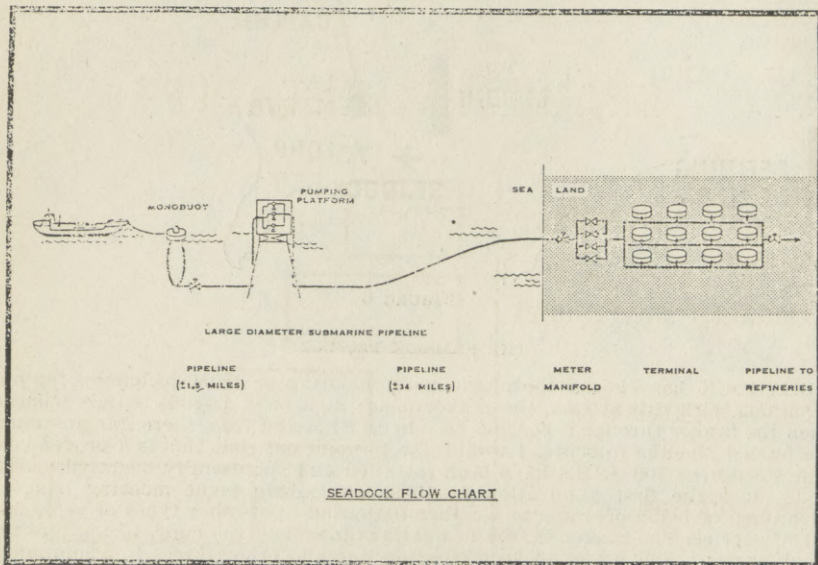


FIGURE 8

The initial offshore facilities will be equipped with sufficient pumping capacity to move the crude the 35 to 40 miles to the Freeport onshore terminal. An offshore pumping and control platform which is very similar to existing production platforms in the Gulf will also house the living quarters for the offshore crews, and will be equipped with a weather station and monitoring and communication facilities. Additional platforms, buoys, and lines to shore will be added as needed. The modular design of SEADOCK insures easy expansion to that future, deeper draft ships can be accommodated.

Crude oil arriving at the Freeport terminal through the pipelines from the platform will be metered and diverted into large tanks. The terminal will provide segregated storage for the various crudes shipped. The tanks will be 500,000 Bbl or more in capacity and will be equipped with floating roofs to control hydrocarbon vapor capacity. The onshore terminal will also house the primary communications and control center.

From this terminal the oil will be moved by existing and new pipeline systems to the refineries. SEADOCK is coordinating its studies with others engaged in development of the most efficient pipeline system for distribution to the refineries.

Systems such as SEADOCK require a tremendous investment. The segment of SEADOCK extending from the buoys to the onshore terminal is referred to as the marine portion. Our current estimate fixes its cost at \$310 million. The Freeport terminal is estimated to require an ultimate expenditure of \$80 mil-

lion. Beyond SEADOCK, the distribution system to the refineries including pipeline, pumping stations, and breakout storage will cost \$155 million. That makes the total facilities investment \$545 million. SEADOCK expenditures to date have already amounted to about \$1,000,000 for organizational and legal activities and preliminary engineering and environmental work.

As you can imagine, the construction of SEADOCK will require considerable time. The timetable we hope to follow would allow SEADOCK to be in operation by 1976. However, the actual schedule will be greatly dependent on such factors as when Federal enabling legislation is provided, the time required for processing of the permit application, environmental impact statement preparation and review by Federal agencies, completion of necessary public hearings, cooperation of affected states and so forth. This project is currently being implemented by SEADOCK's Management Committee that functions much like a board of directors, a Technical Committee that sets and reviews standards, a Legal Committee that has responsibility for the necessary legal research and permitting activities, a Public Affairs and Government Relations Committee that has responsibility for meetings such as this, and our full-time employees located in Houston.

SEADOCK TIMETABLE

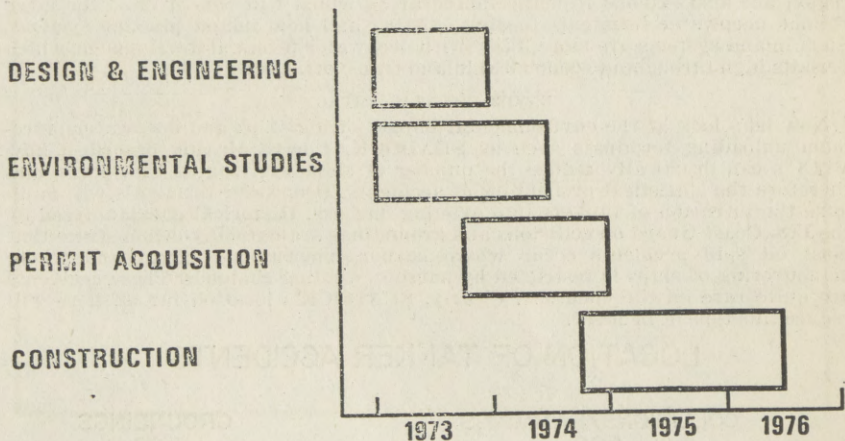


FIGURE 9

SEADOCK is currently active primarily in the Design and Engineering phase, and the Environmental Studies phase of our project schedule. A considerable amount of work has already gone into the Design and Engineering phase. Our Houston based engineering staff is engaged in gathering data regarding volume forecasts, physical information and design criteria. They have finished a preliminary onshore soil analysis and are working on a similar study offshore. Conceptual design, sizing, and optimization of all facilities is well under way.

Environmental studies have been started to gather data required for an environmental assessment. Dames and Moore, a leading environmental consultant, and Texas A. & M. University have been awarded a joint contract for this work. Specialized segments of these studies will be handled by subcontracts such as the measurement of air quality parameters being conducted by Southwest Research Institute. SEADOCK estimates that the environmental studies will take until early 1974 to complete.

The final phase, actual construction of the SEADOCK facilities, can begin in 1974 if all permits have been obtained. Construction activities, including pre-construction engineering, and material acquisition will take at least 18 months. Operation could commence in early to mid-1976. This timetable demonstrates why we must move *now* if we are to have a deepwater terminal when it is needed.

ECONOMIC IMPACT

Now let's turn our attention to the impact that deepwater terminals like SEADOCK will have on the U.S. Let's look first at the economic impact. While the future cost of petroleum products will undoubtedly rise in response to the law of supply and demand, these terminals will help minimize this cost by reducing the cost of transportation. This is important not only to the individual in what he pays for gasoline and other products, but to U.S. industry that depends on minimum cost energy to remain competitive. SEADOCK and other similar facilities will help provide an adequate supply of energy as the United States becomes increasingly dependent on imported crude oil. This will insure that existing industry is supplied with energy needed to continue operations.

All knowledgeable sources concur that there is no "short term" viable or publicly acceptable U.S.-energy supply alternatives to increased imports of petroleum. Because of declining domestic production deepwater terminals are needed to supply existing refinery capacity. The actual land requirements for a deepwater terminal are minimal including pipelines for delivering oil to refineries. Downstream industrial developments that might follow construction of a deepwater terminal are already subject to state and local legislation and regulation. These downstream developments can thus be restricted in some areas but allowed to develop in other areas. To the extent development is desirable, deepwater terminals do provide a means to attract new industry and assure continued economic growth for the U.S. This growth opportunity exists not only for the Coastal region but also extends to many inland areas which will benefit from the large volume deepwater terminals feeding existing and new inland pipeline systems. Such inland systems are more likely with deepwater terminal development which permits high throughput economical inland transportation.

ENVIRONMENTAL IMPACT

Now let's look at the environmental impact of big ships and deepwater petroleum unloading terminals such as SEADOCK. I have already described how VLCC's can drastically reduce the number of ships arriving at U.S. ports, and therefore the statistical probability of accidents. Deepwater terminals will minimize the intrusion of tankers into existing harbors. Historical data analyzed by the U.S. Coast Guard on collisions and groundings dramatically demonstrate that most oil spill accidents occur where harbor congestion is great and where maneuvering of ships is restricted by narrow, winding channels. These accidents are quite rare on the open sea. Clearly, SEADOCK's location far offshore will reduce this type of incident.

LOCATION OF TANKER ACCIDENTS

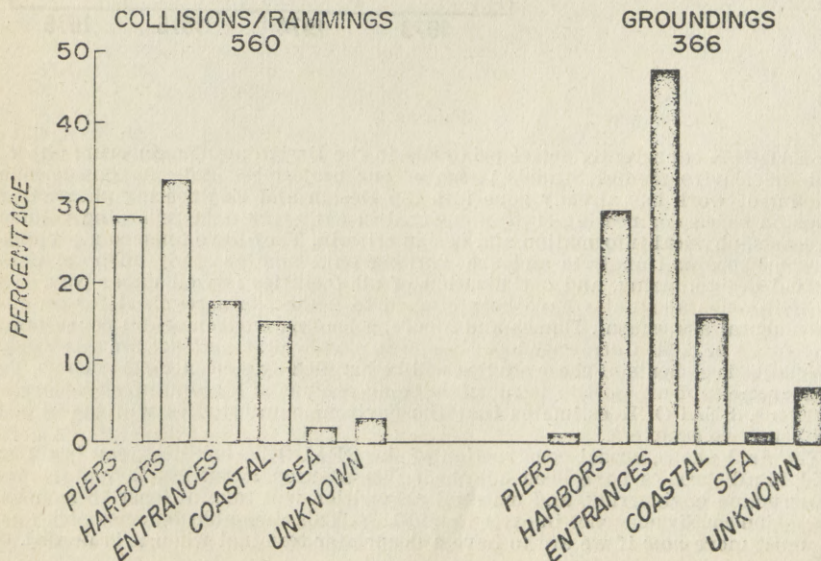


FIGURE 10

I have described how VLCC's and deepwater terminals will reduce the probability of accidents. Now, I will discuss oil losses from terminals. The President's Council on Environmental Quality in their East Coast study concluded that deepwater terminals and VLCC's would cut spills to about one-tenth ($\frac{1}{10}$) of what they would be if small ships were used in direct service or transshipment.

I would like to summarize the design aspects of SEADOCK which will reduce pollution risks. First of all, SEADOCK will be an unloading terminal not subject to the two major problems of ballast disposal and overfilling of tanks during loading operations. SEADOCK will handle only petroleum; operations will not be complicated by multi-purpose equipment or procedures. Simple operating procedures will keep the chances of errors and accidents to a minimum.

DESIGN ASPECTS WHICH REDUCE POLLUTION RISK

- UNLOADING TERMINAL — NO BALLAST PROBLEMS
- NO OVERFILLING OF TANKER
- PETROLEUM ONLY — NO DRY PRODUCTS
- UNCOMPLICATED
- DRIP PANS
- ELECTRONIC MONITORING
- FACILITY INVISIBLE FROM SHORE
- PIPELINES FOR FINAL DELIVERY
- EMISSION CONTROL
- NO EXCESSIVE SOUND LEVELS

FIGURE 11

On the ship, drip pans will be placed under all temporary connections and the low wall around the entire deck of the ship provides backup to catch a spill.

Electronic monitoring devices will be installed to indicate any operating problems and facilitate rapid shut-down of pumping operations.

The marine facilities will not change the Gulf horizon since they will be invisible from shore. The pipelines that will move the oil from the ships have proven safe during years of extensive experience with similar installations. An Army Corps of Engineers' report indicates that oil spills should be almost completely eliminated through the use of buried submarine pipelines. The tanks will have floating roofs to control emissions. There will be no excessive sound levels associated with SEADOCK.

The operation of SEADOCK will benefit from the experience gained at some of the newer oil terminals around the world. The Milford Haven terminal, located in a national park in England, has operated with a spill rate of less than $\frac{1}{2}$ barrel for every 1 million barrels handled according to a recent government report. In a region of Ireland noted for its beaches, the Bantry Bay terminal has handled well over 500 million barrels of oil with no measurable spills. Single point moorings, similar to those that SEADOCK will use, have operated with spill rates as low as Milford Haven and Bantry Bay. These operations will illustrate how proper design and adherence to good operating procedures have resulted in remarkably pollution free operations. With new technology and expertise which have been developed over the years, we are certain these accomplishments can be equalled and exceeded by U.S. deepwater terminals.

In the unlikely event of a spill, the oil must first be contained, then picked up. This is an area of new and rapidly changing technology. Extensive research and testing in the area of the new spill control equipment is accelerating. The American Petroleum Institute, the Environmental Protection Agency, and the U.S. Coast Guard have research programs totaling at least 10 million dollars per year, and substantial expenditures are being made by individual oil companies. I assure you that SEADOCK will have the most appropriate facilities available.

Acting as another line of backup to the manpower and equipment on site at

SEADOCK would be the industry cooperatives formed to marshal the equipment and trained personnel of a particular geographic area in the event they are needed.

In addition to the good intentions of tanker and terminal owners and operators, there are significant financial incentives for avoiding oil spills. The first, and most obvious, of these is that every barrel of oil lost is a barrel of product that cannot be sold. In addition, industry assumes financial liability for clean-up of spills. Two voluntary agreements insure coverage of oil pollution losses resulting from tanker operations. The first of these is known as TOVALOP. TOVALOP covers most tankers (over 95%) serving the United States and provides clean-up cost based on tanker tonnage for up to 10 million dollars. The second agreement is CRISTAL. Participating oil companies have provided additional coverage up to 30 million dollars for the correction of oil pollution. An important feature of both agreements is that funds are available to start clean-up procedures immediately, before responsibility for the accident is assigned.

INDUSTRY'S LIABILITY FOR OIL POLLUTION

TOVALOP	— TANKER OWNERS VOLUNTARY
	— UP TO 10 M\$
	— IMMEDIATE ACTION
CRISTAL	— MAJOR OIL COMPANIES
	VOLUNTARY
	— SECONDARY LIABILITY UP TO
	30 M\$ TOTAL
	— IMMEDIATE ACTION
WAQUA	— WATER QUALITY IMPROVEMENT
	ACT OF 1970
	— TANKERS TO 14 M\$
	— TERMINALS TO 8 M\$

FIGURE 12

In addition, U.S. waters are subject to the provisions of the Water Quality Improvement Act of 1970 which assigns legal liability up to 14 million dollars to the owner or operator of vessels, and up to 8 million dollars for pollution from terminals. This act also requires every terminal to have a contingency plan for handling spills. This plan must be approved by the U.S. Coast Guard and would include provisions for handling even the largest, most improbable spill. Clearly, the participants of SEADOCK and similar facilities have strong incentives for reducing the potential for oil spills.

SUMMARY OF ENVIRONMENTAL CONSIDERATIONS

I hope this discussion has given you a feel for the attention that is going into designing SEADOCK. I have discussed how SEADOCK's ability to serve VLCC's will reduce the number of tankers required for imports, and will keep the ships far offshore where accidents are less likely to occur. We have seen that SPM technology is proven, and that SEADOCK will not utilize novel, untried concepts. In addition, spill clean-up capability is continually improving with the

design of new equipment, the formation of cooperative organizations, and the financial backing of insurance groups. In short, we believe that deepwater terminals like SEADOCK will be beneficial to the U.S. environment.

FEDERAL LEGISLATION, NECESSITY AND TYPE

Based upon legal studies which we have undertaken, we are of the opinion that the U.S. Government has jurisdiction to authorize and control deepwater terminal facilities on the Outer Continental Shelf.

However, our studies also indicate that there is a lack of any codified Federal law which specifically provides for the licensing and regulation of the construction and operation of offshore deepwater port facilities.

Although existing law would be applicable to a number of aspects of our proposed facility, the lack of any clear authority for making applications and the granting of permits creates considerable uncertainty as to the legal standards applicable to a project of the scope of the one SEADOCK is undertaking.

This being the case, we believe that Congress should exercise Federal jurisdiction in this area by the enactment of legislation authorizing a Federal agency to issue permits under comprehensive statutory and regulatory provisions specifically governing such offshore facilities.

There are several bills now pending in Congress which deal to some extent with aspects of deepwater port facilities. However, H.R. 7501, which is now being considered by this subcommittee, is the type of comprehensive bill which would allow a Federal agency to license the construction and operation of a deepwater petroleum terminal.

In general this Bill provides for a Federal agency to assure that any application for a license to construct and operate a deepwater port facility will meet all the requirements of other Federal agencies which now have jurisdiction over any aspect of such construction and operation. The Bill also provides that adequate consideration will be given to the environmental impact such a facility might have as well as to the need for such a facility from the standpoint of national interest requirements.

We can support the general approach to Federal legislation envisioned by H.R. 7501, as being comprehensive and designed to cover in one piece of legislation the authority of one Federal agency to issue a license for the construction and operation of a deepwater petroleum terminal while at the same time giving adequate safeguards and consideration to various effects the facility may have on the environment, the national interest and the jurisdiction of the state and Federal government.

The need for this type of legislation is pressing, both from the standpoint of national interest and environmental considerations. We urge Congress to enact this type of legislation as soon as possible.

STATEMENT OF R. H. CHITWOOD, VICE PRESIDENT, CITIES SERVICE OIL CO., AND CHAIRMAN, SEADOCK MANAGEMENT COMMITTEE

Mr. CHITWOOD. Mr. Chairman, I am R. H. Chitwood, vice president of Cities Service Oil Co. and chairman of the Seadock Management Committee. I am pleased to be here today on behalf of Seadock. The purpose of the Seadock project is to develop a deepwater facility capable of unloading petroleum imports from the new 200,000 to 500,000 deadweight ton class of very large crude carrier or VLCC. The proposed location is 25 to 30 miles offshore of Freeport, Tex. We believe that Seadock is in the public interest because it offers significant environmental advantages as well as cost savings to the consumer. Today I will describe what we propose to do and bring you up to date on the status of our project.

Seadock's membership presently includes 11 oil companies and one petrochemical company. The oil companies are: Amoco, Atlantic Richfield, Cities Service, Continental, Crown Central, Exxon, Mobil, Phillips, Shell, Texaco, and Toronto Pipeline. The petrochemical com-

pany is Dow Chemical. The current membership represents about 2.7 million barrels per day of the total 3.3 million barrels per day of refining capacity located in the Texas gulf coast area. Membership in Seadock is open and we expect other companies to join. The facility will act as a common carrier.

Today I will discuss four main topics. First, I will briefly review the U.S. energy outlook which creates the need for deepwater terminals. Then I will describe in more detail the Seadock proposal. Next I will discuss the positive effects that we believe the combination of VLCC's and deepwater terminals will have on our economy and environment. And finally, I will close with some comments pertaining to the type of Federal legislation which we believe is needed to make the Seadock projects a reality.

I believe that each of you have attachments to my statement.

Mr. UDALL. Yes. They are before us.

Mr. CHITWOOD. If you would refer to figure 1, I would like to go through the figures with you.

Mr. UDALL. It is a series of charts grouped together.

I might say, Mr. Chitwood, this committee has had extensive testimony for weeks now on the fuel shortage and energy crisis.

Mr. CHITWOOD. I am going to be very brief on that, sir.

The National Petroleum Council has estimated, as you all are aware the U.S. consumption has nearly doubled from 32 million equivalent oil in 1970 to 59 million barrels a day in 1985. I do not believe that needs any elaboration.

If you will turn to figure 2, as recently as 1970, domestic production supplied 77 percent of our U.S. needs, and as Mr. Read pointed out, by 1985 it will supply only 48 percent of our needs. Petroleum imports are projected to amount to 10.5 million barrels a day by 1980. I would like to point out that 3 million barrels a day of that total is expected to move through Seadock.

If you will then turn to figure 3, please, Mr. Read has already given some relative costs of tankers, so I will not go through all of those figures with you, but the recent trend in shipbuilding is aimed at reducing transportation costs. In referring to figure 3, the transportation costs associated with VLCC's are less than half of the 30,000 to 50,000 deadweight ton ships that are now harboring at our ports.

Moving right along to figure 4, the cost of building a deepwater terminal like Seadock is less than the cost of deepening and enlarging existing ports to handle a large volume of VLCC traffic. The number of tanker arrivals required in Texas ports to supply the 3 million barrels per day of Seadock throughput will increase dramatically if a deepwater terminal is not provided.

Several ports in the Western Hemisphere are currently capable of handling big ships. Bringing the VLCC into a port in the Bahamas or Canada, unloading it and then reloading its cargo into small ships is considerably less expensive than direct shipment in smaller tankers, but somewhat more costly than using VLCC's directly to the United States.

If you will turn to figure 5, the transshipping still leaves us faced with the problem of how to handle a tremendous increase in the number of small ships arriving at U.S. ports, as illustrated in this figure.

If you will turn to figure 6, the most advantageous place to locate a

deepwater terminal is near a major refining area. Three deepwater terminal locations have been proposed to serve the gulf and east coasts. The 3.3 million barrels of refining capacity along the Texas gulf coast and western Louisiana represents nearly 25 percent of the total U.S. capacity. Seadock will serve that area. Another industry project with us today is LOOP in Louisiana, and it plans to handle imports applicable to another 25 percent of the refining capacity in the United States.

A similar effort is under way to provide a deepwater terminal to supply the refineries in the New York Harbor and Philadelphia area. As also mentioned this morning, there are several dredging projects being proposed, and significantly, the one in the Corpus area. I would like to emphasize that we believe that Seadock is not in competition with these other projects. We believe they are all needed.

If you will turn to figure 7, Seadock has chosen the single point mooring, or SPM, technique for our terminal. With this system, the system is similar to that being used by LOOP and described earlier by Mr. Read, and I believe I will eliminate that part.

I would like to add that Seadock plans to build the initial marine facilities at a location about 30 miles offshore of Freeport, Tex. This is essentially the same location recommended by the Corps of Engineers in their study. Seadock studied a number of offshore locations ranging all the way from Corpus Christi to Port Arthur. The onshore and multiple offshore pipelines are the most costly portions of the Seadock system. The Freeport location balances those costs to achieve a minimum investment. This location is in naturally deep water and requires no dredging.

If you turn to figure 8, at least three SPM's are planned initially. Since a wide range of ships' sizes are expected to call at Seadock, these buoys will be in 90 to 110 feet of water so as to be capable of handling ships in the 500,000 deadweight ton class. One buoy will be fitted to accommodate the smaller number of 50,000 to 100,000-ton ships expected. These buoys will be connected to a pumping platform by buried pipelines capable of unloading rates of 125,000 barrels per hour or more. Buried pipelines will move the oil from the platform to an onshore tank farm.

The initial offshore facilities will be equipped with sufficient pumping capacity to move the crude the 35 to 40 miles to the Freeport onshore terminal. An offshore pumping and control platform, which is very similar to existing production platforms in the Gulf, will also house the living quarters for the offshore crews, and will be equipped with a weather station and monitoring and communication facilities. Additional platforms, buoys and lines to shore will be added as needed. The modular design of Seadock insures easy expansion so that future deeper draft ships can be accommodated.

Also, systems such as Seadock require a tremendous investment. The marine portion is estimated at a cost of \$310 million. The Freeport terminal is estimated to require an ultimate expenditure of \$80 million. Beyond Seadock, the distribution system to the refineries including pipeline, pumping stations, and breakout storage will cost \$155 million. That makes the total facility investment \$545 million.

If you turn to figure 9, the construction of Seadock will require considerable time. The timetable we hope to follow will allow Seadock

to be in operation by 1976. However, the actual schedule will greatly depend on factors starting with Federal enabling legislation, the time required for processing of the permit application and environmental work.

Seadock is now involved primarily in the design and engineering phase and the environmental studies phase of the project schedule. A considerable amount of time has already gone into the design and engineering phase. Our Houston based engineering staff is engaged in gathering data regarding volume forecasts, physical information and design criteria. They have finished a preliminary onshore soil analysis and are working on a similar study offshore. Conceptual design, sizing and optimization of all facilities is well underway.

Environmental studies have been started to gather data required for an environmental assessment. Dames and Moore, a leading environmental consultant, and Texas A&M University have been awarded a joint contract for this work. Specialized segments of these studies will be handled by subcontracts such as the measurement of air quality parameters being conducted by Southwest Research Institute. Seadock estimates that the environmental studies will take until early 1974 to complete.

The final phase, actual construction of the Seadock facilities can begin in 1974, if all permits have been obtained. Actual construction will take about 18 months. Operation could commence in early to mid-1976. This timetable demonstrates why we must move now if we are going to have a deepwater terminal when it is needed.

If you will turn to figure 10, historical data handled by the U.S. Coast Guard on collisions and groundings dramatically demonstrate that oil spill accidents occur where harbor congestion is great and where maneuvering of ships is restricted by narrow, winding channels. These accidents are quite rare on the open sea. Clearly, Seadock's location far offshore will reduce this type of incident.

The President's Council on Environmental Quality in their east coast study concluded that deepwater terminals and VLCC's would cut spills to about one tenth of what they would normally be if small ships were used in direct service or transshipment.

Figure 11, the design aspects of Seadock will reduce pollution risks in that Seadock will be an unloading terminal not subject to the two major problems of ballast disposal and overfilling of tanks during loading operations. Seadock will handle only petroleum; operations will not be complicated by multipurpose equipment or procedures.

On the ship, drip pans will be placed under all temporary connections and the low wall around the entire deck of the ship provides backup to catch a spill.

Electronic monitoring devices will be installed to indicate any operating problems and facilitate rapid shut-down of pumping operations.

The marine facilities will not change the Gulf horizon since they will not be visible from shore. The pipelines that will move the oil from the ships have proven safe during years of extensive experience with similar installations. An Army Corps of Engineers' report indicates that oil spills should be almost completely eliminated through the use of buried submarine pipelines. The tanks will have floating

roofs to control emissions. There will be no excessive sound levels associated with Seadock.

In the unlikely event of a spill, the oil must first be contained, then picked up. This is an area of new and rapidly changing technology. Extensive research and testing in the area of the new spill control equipment is accelerating. The American Petroleum Institute, the Environmental Protection Agency, and the U.S. Coast Guard have research programs totaling at least \$10 million per year, and substantial expenditures are being made by individual oil companies. I assure you that Seadock will have the most appropriate facilities available.

Acting as another line of backup to the manpower and equipment on site at Seadock would be the industry cooperatives formed to marshal the equipment and trained personnel of a particular geographic area in the event they are needed.

If you would turn to figure 12, in addition to the good intentions of tanker and terminal owners and operators, there are significant financial incentives for avoiding oil spills. The first and most obvious of these is that every barrel of oil lost is a barrel of product that cannot be sold.

In addition, industry assumes financial liability for cleanup of spills. Two voluntary agreements insure coverage of oil pollution losses resulting from tanker operations. The first of these is known as Tovalop. Tovalop covers most tankers, over 95 percent, serving the United States and provides cleanup cost, based on tanker tonnage for up to \$10 million. The second agreement is Cristal. Participating oil companies have provided additional coverage up to \$30 million for the correction of oil pollution. An important feature of both agreements is that funds are available to start cleanup procedures immediately, before responsibility for the accident is assigned.

In addition, U.S. waters are subject to provisions of the Water Quality Improvement Act of 1970 which assigns legal liability up to \$14 million to the owner or operator of vessels, and up to \$8 million for pollution from terminals.

This also requires that every terminal have a contingency plan for handling spills. This plan must be approved by the U.S. Coast Guard and would include provisions for handling even the largest, most improbable spill. Clearly, the participants of Seadock and similar facilities have strong incentives for reducing the potential for oil spills.

Based on legal studies which we have undertaken, we are of the opinion that the U.S. Government has jurisdiction to authorize and control deepwater terminal facilities on the outer Continental Shelf.

However, our studies also indicate that there is a lack of any codified Federal law which specifically provides for the licensing and regulation of the construction and operation of offshore deepwater port facilities.

Although existing law would be applicable to a number of aspects of our proposed facility, the lack of any clear authority for making applications and the granting of permits creates a considerable uncertainty as to the legal standards applicable to a project of the scope of the one Seadock is undertaking.

This being the case, we believe that Congress should exercise Federal jurisdiction in this area by the enactment of legislation authoriz-

ing a Federal agency to issue permits under comprehensive statutory and regulatory provisions specifically governing such offshore facilities.

There are several bills now pending in Congress which deal to some extent with aspects of deepwater ports facilities. However, H.R. 7501, which is now being considered by this subcommittee, is the type of comprehensive bill which would allow a Federal agency to license the construction and operation of a deepwater petroleum terminal.

We can support the general approach to Federal legislation envisioned by H.R. 7501, as being comprehensive and designed to cover in one piece of legislation the authority of one Federal agency to issue a license for the construction and operation of a deepwater petroleum terminal while at the same time giving adequate safeguards and consideration to the various effects the facility may have on the environment, the national interest and the jurisdiction of the State and Federal Government.

The need for this type of legislation is pressing, both from the standpoint of national interest and environmental considerations. We urge Congress to enact this type of legislation as soon as possible.

Mr. UDALL. Thank you, Mr. Chitwood.

As you suggested, we will proceed with the questioning directed to one or both of you jointly.

I take it from your testimony, both the Seadock site and the LOOP site are located on the Outer Continental Shelf.

Mr. READ. Yes.

Mr. UDALL. So it is your understanding and belief and your legal advice that you will be unable to proceed unless there is some Federal licensing legislation along the lines of H.R. 7501.

Mr. READ. Yes, sir.

Mr. UDALL. Neither of you were specific about the bill and I suppose maybe you have not had an opportunity to study it to the extent that you went to, but it would be helpful to the subcommittee when we begin to try to write a piece of legislation to have you and your lawyers analyze the specific pages of this lengthy bill and tell us where it is wrong and where it is right and where it can be improved.

I notice in both cases, your statement related in general to general principle, but in either case we need a specific analysis of the bill.

So if you could provide that for us, this would be helpful.

Mr. CHITWOOD. We will be happy to.

[The information referred to follows:]

ANALYSIS OF H.R. 7501

It is the position of LOOP Inc. that Federal legislation pertaining to the installation and operation of Deep Draft Petroleum Unloading Terminals should be in the form of a single-purpose licensing law. It is not necessary to amend existing statutes in a patchwork fashion, nor is it necessary to have a multiplicity of statutes with each addressing itself to only one isolated aspect of the subject. Instead, we suggest the establishment of a single Federal licensing authority which would be the focal point for environmental assessment under the National Environmental Policy Act. It should operate under Congressional directive to establish a simple licensing procedure leading to an expeditious administrative decision following concomitant consideration of energy needs and environmental impact. In this Act provision can be made for consideration of the interests of the states most affected, those which become hosts to ancillary facilities and activities.

Within this framework we offer particular observations as to H.R. 7501, the proposed "Deep Water Port Facilities Act of 1973".

This bill proposes a licensing law. It would establish the Department of the Interior as the focal point for environmental assessment under the National Environmental Policy Act. It addresses the subject of consideration of the interests of host states. It recognizes the need for constructive action to permit receipt of crude oil and petroleum products in an economically sound manner to help satisfy the nation's energy needs. In all of these respects the bill is directed toward a solution of the particular problem which Congress must aid in solving.

There are some features of the bill which we would prefer to see handled in a different fashion.

Section 2 would amend the Outer Continental Shelf Lands Act by incorporating an accommodation provision and by broadening the provisions concerning pipelines. If an accommodations provision is necessary it can be incorporated into the licensing law without amendment of the Outer Continental Shelf Lands Act. The pipelines to carry crude oil or petroleum products from the marine facilities of a Deep Draft Petroleum Tanker Unloading Terminal should be included in the license rather than be separately authorized. These pipelines are an integral part of the facility; their only reasonably practical use is for carrying crude oil or petroleum products unloaded from large tankers.

The declaration of policy and purpose, Section 101, could more effectively and directly address the particular problem to be solved. We recommend that the Act expressly recognize, in Section 101(a) (1), that existing port facilities are unable to accommodate the large ships carrying crude oil and petroleum products and, in Section 101(a) (2), that there is a national interest in supplying energy requirements through receipt of the crude oil and petroleum products carried in such vessels.

Section 101(a) (1) and Section 102(b), among others, reflect that this bill is a broad scale commodities bill and provides for operations in import, export and coastwise trade. The particular problem to be solved at this time is receipt of crude oil and petroleum products, a single purpose. A single-purpose Act would therefore seem appropriate. The term "Offshore Oil Port" could be substituted for the term "Deep Water Port Facility" in Section 102(b) to show the single purpose of the Act and the definition of this term could reflect that the single purpose is to provide for the unloading of crude oil and petroleum products beyond the Territorial Sea. If found to be necessary to solve other problems in foreign trade of the United States, additional Acts can be designed to cover the specific needs and considered by the Congress.

The prohibition in Section 103(a) against construction or operation without a license should apply to all persons, not just citizens of the United States.

We think it would be helpful to have provisions respecting the qualifications of applicants and specifications as to the content of applications. These suggestions are related to Section 103.

Section 103(c) seems unrelated to the regulation of offshore ports as a reasonable use of the high seas. Whatever relationships economics of commodities and transportation markets in the United States have to legislation for a reasonable use of the high seas are remote, if at all existent.

The term of the license should be for a limited initial period for construction and for a secondary period to be for so long as the Port is used, maintained and operated. Such a provision is more related to the facts of installation and use than is the term provision contained in Section 103(d).

In our judgment the bill could more precisely state the Congressional directive to the Secretary as to the making of a decision. The Act should specify the matters which the Secretary is required to consider in the issuance of a license. Among those matters are concomitant consideration of energy needs and environmental impact, navigational safety, and the legitimate interests of most states. These suggestions are also related to Section 103. The provision for consultation with the Governor of a State, Section 103(e), may not properly provide for consideration of the legitimate interests of host states.

The administrative procedure proposed in the bill is innovative. In proper circumstances this innovation would be commendable. In our judgment particular consideration should be given to providing for the use of the adjudicatory public hearing on the record for passing upon applications for licenses, recognizing that the probable number of applications would be relatively small. Certainly the necessity for a broad regulatory system is not present. It is further suggested that judicial review should be available to parties who participated in the ad-

ministrative proceedings, who are aggrieved by the administrative decision, and who otherwise have standing to sue. These suggestions relate to Sections 105 and 106.

The bill contains no provisions regarding compensation for injury of workmen, navigational safety, labor disputes or general judicial jurisdiction. Perhaps it was thought that amendment of the Outer Continental Shelf Lands Act would take care of these matters. Coverage of them seems necessary. The situation to be dealt with in this instance is analogous to the one which existed when the Outer Continental Shelf Lands Act was being considered.

The operation of an Offshore Oil Port involves the transportation of crude oil or petroleum products by pipeline. Consideration of application of Part I of the Interstate Commerce Act to this activity is appropriate. The regulatory system already exists for pipeline transportation. If crude oil and petroleum products must come ashore through pipelines connected to the marine facilities, the marine terminal would be effectively regulated.

Concerning Section 111, the Constitution and laws and treaties of the United States should be extended in a manner that would treat the facilities as being located in an area of exclusive Federal jurisdiction within a state. There should be no inference of inconsistency with international law or of the possible need for additional treaties to make the legislation viable. The power of Congress to legislate on this subject is, in our opinion, clear in existing conventions to which the United States is a party.

The Convention on the High Seas, in Article 2, guarantees freedom of the seas; it follows that this guarantee encompasses the enjoyment of the benefits flowing from freedom of the seas, including being able to participate in the benefits of movement of crude oil and petroleum products in ships which cannot come into existing conventional ports. That this is intended by the Convention is demonstrated by the declaration in Article 3 that nations having no seacoast should have free access to the sea in order to enjoy the freedom of the seas on equal terms with coastal nations. Certainly, if a landlocked nation must be permitted access to the sea, one whose ports cannot receive large ships is permitted a reasonable use of the high seas in order to realize the benefits of large ships. This cannot be said to be an attempt to subject a part of the high seas to the sovereignty of the United States, an action proscribed by the Convention on the High Seas.

We believe that a coastal nation may exercise reasonable control over the operation of necessary facilities on the high seas in proximity to its coast—that which is essential to insure that neither the rights of the licensing coastal nation nor the rights of all other nations in freedom of the high seas are adversely affected. Certainly the parties to the conventions on the sea did not intend them to be impediments to protection of the marine environment of the high seas or the coastal or inland waters of coastal nations.

Mr. UDALL. Mr. Chitwood, you heard our articulate colleague, Salty Jack Brooks who says Seadock is not needed. It costs a half billion dollars. For a third of that he can give you a port in Galveston which will do twice the job.

What is your response to that?

Mr. CHITWOOD. Well, I would like first to say that the Seadock project certainly does not preempt any of the dredging projects that are associated with perhaps the need of the dry cargo carriers. I am not familiar with all of the needs of the dry cargo ships.

We have—our engineering staff has tried to analyze dredging. As a matter of fact, it did a very thorough job of analyzing dredging, particularly in connection with the Corpus proposal. We are having a very difficult time rectifying Mr. Brooks' figures. Our calculations on dredging costs are several times the figures that are being used.

Mr. UDALL. Whereas he seems to see the single purpose nature of Seadock as a big drawback, you see this in your statement as an advantage, that you are handling one commodity. You can do it in a very

efficient fashion. You can keep out of the road of the dry cargoes, and the other purposes for which harbors are needed.

Is that correct?

Mr. CHITWOOD. You summarize our position very correctly, yes.

Mr. UDALL. Let me ask Mr. Read, is it feasible to dredge the New Orleans harbor all the way from the Gulf in such a way that the crude oil cargo carriers could come into the New Orleans harbor?

Mr. READ. The Corps of Engineers' studies are investigating that as a possibility, and they came up with some extremely high costs and they are having trouble maintaining the existing depth of the river passes during times of high water. I would just offhand, not being an expert in that field, I think it would be unfeasible to try to dredge the mouth of the Mississippi River.

Mr. UDALL. Do you agree with Mr. Chitwood's analysis of harbor needs in this country, to the effect that we are probably going to need three or four of these deepwater offshore oil ports?

Mr. READ. Yes, sir.

Mr. UDALL. And you agree that two on the Gulf and one somewhere around the Atlantic is probably the mixture that is indicated right now in your studies?

Mr. READ. This looks reasonable, yes.

Mr. UDALL. Have either of you had any opportunity to travel abroad and see what is being done with offshore oil facilities elsewhere?

I know in your statements reference was made to Libya and other countries.

Have these proven out in your experience? Have there been problems elsewhere in the world?

Mr. READ. I spent 5 years of service with my company in Europe and in responsibility for marine transportation, and I am familiar with the systems that have been installed, and there were some problems in the initial stages, but these problems have been worked out with the cooperation of the industry and have ended, and the operation of SPM's has been very successful.

Mr. UDALL. Well, Mr. Brooks seems to leave the impression, we're not only behind the rest of the world in transmitting and handling the larger oil productivity but that the successful trend has been to go to harbors like Rotterdam, harbors that they are building in Brazil, and this kind of thing.

In pursuit of this type of thing, is it the experience of both of you that this is the case?

Should we have both larger harbors and the use of SPM offshore facilities?

Mr. CHITWOOD. I think both are needed. A harbor is certainly a bona fide need, but likewise, keeping all the oil that needs to be moved all around this world and the largest container ships possible to minimize the number of them—they'd have to be handled at each location. Certainly keeping them offshore in a hard-check method is the way to handle it.

Mr. UDALL. Mr. Saylor.

Mr. SAYLOR. Mr. Read, Mr. Chitwood, have either of you ever served aboard a vessel that offloaded oil?

Mr. READ. No, sir.

Mr. SAYLOR. Then my second question is needless. I was going to ask you if you ever handled at high sea a hose carrying that bunkered No. 2? If you had, you might have a great deal more respect for men that might be aboard those vessels. What you have talked about is fine in theory but when you are out there on that vessel and you are handling it at high sea, it is an entirely different operation. I would suggest that before you proceed with spending more money in the two corporations, you take your individuals who are doing the designing and put them aboard the present ships that we have, and send them out to sea to see what it is like first to load those ships and second, to try to unload them with the present facilities. I think they might find out that while they can do a lot of things as far as the college books are concerned, when it comes to actual handling, it is an entirely different proposition.

I give you that as one who has had some experience fueling at sea, and it is not an easy proposition, believe me. It sounds fine. It sounds fine in your reports, but in the actual operation, it is a very difficult operation, and I say that because I have read here that you are going to put a few new guards up along the side to keep any spills on deck from going over the side. Try walking around in about one quarter inch of that black stuff aboard a steel deck. I do not care what kind of shoes you put on or if you put these men in bare feet, you are liable to have them over the side very rapidly.

What are you going to do with the scuppers that you have aboard these ships, because they take care of the water that naturally comes aboard when you are in a high sea?

Are you going to keep that in? The sea water has got to get off somewhere. I have not made up my mind on this whole situation, but these are some of the problems that we are concerned with.

Mr. READ, on page 5 in the second paragraph, you say you think that construction is necessary in regard to deep draft crude oil terminals in proximity to the U.S. refining centers.

What do you mean by proximity?

Mr. READ. Mr. Saylor, I mean by proximity is a location where it can effectively serve existing refineries and existing pipeline complexes that serve the refineries, at the closest possible location to easy access to these refineries and pipeline systems.

Mr. SAYLOR. So that could be, under the proposition that both you and Mr. Chitwood have suggested, 10 miles offshore. It could be 20 miles offshore or 30 miles offshore.

Mr. READ. In selecting the location for our facility, we went to the point where the water depth was 110 to 120 feet, so that we could accept the 500,000 ton deadweight tankers and look up and down the shoreline for the best possible location from the standpoint of navigation instructions and a location for an onshore terminal site.

In selecting these, we have considered the environmental effects and the location and the proximity to the refineries.

Mr. SAYLOR. Then, in the next paragraph on your statement, you say that you are going to use large diameter buried pipelines.

What diameter?

Mr. READ. We are considering 48-inch diameter, and perhaps even larger. This is one of the design considerations that our staff is work-

ing on at this time. You must unload these tankers at a very high rate so that we can get them in and out of the port in a hurry.

Mr. SAYLOR. What consideration has been given, if either of you are in the position to tell us, of the type of pipe that will be used?

Would it be a firm pipe as they use in the pipelines, or would it be a plastic, rubber?

Mr. READ. It would be steel pipe, high pressure steel pipe.

Mr. SAYLOR. Well, all I can tell you is that some of your parent companies did not pay any attention to me back in 1968 when they discovered oil in Alaska. I told them to buy American pipe and they thought that I was just too much of an American, so they decided to buy pipe from Japan and from 1968 to 1970 we have had 200 miles worth of pipe rusting in the Valdez Harbor.

I think you had better look at the American steel companies and talk to them about their pipes.

Mr. READ. We are talking with the American suppliers.

Mr. SAYLOR. I am a little disturbed, Mr. Chitwood. I am not familiar with this new mathematics, apparently even in vogue in the oil industry.

I looked at figure No. 4, and I can understand your multiplication in 1950, 1960, and 1970. When you get down to 1975 I am a little at a loss. Eight times 50 gets to be 250, and $11\frac{1}{2}$ times 250 gets to be 500.

Mr. CHITWOOD. I am sorry.

Mr. SAYLOR. That is this new mathematics, when I read in the paper the other day, that you add 333 twice and you get 1100. I am a little stymied and I am trying to follow those figures.

Mr. UDALL. I would warn you that Mr. Saylor is the resident mathematician on this committee.

[General laughter.]

Mr. CHITWOOD. I am afraid I do not understand the question.

Are you referring to the overall length of the ship, Mr. Saylor?

Mr. SAYLOR. No, I am not referring to your overall length. I am referring to cargo and draft. I want to find out how $11\frac{1}{2}$ times 250 is 500.

Mr. UDALL. Say, it takes one ship a day to get 500,000, how come it takes one half a day to get 250,000?

Mr. CHITWOOD. We rounded off to the nearest half, I think.

Mr. SAYLOR. Just a half a million.

If I were unloading, I think it would take two—it would seem to me it would take two to give you 500,000.

Mr. RUPPE. That is still a half a million.

Mr. CHITWOOD. Actually, you would not have one 500,000 ton deadweight ship calling per day to move 300,000 barrels of crude.

Mr. SAYLOR. Well, I think these are some of the things that other people are going to look at, as well as myself.

Mr. CHITWOOD. There are about $71\frac{1}{2}$ barrels per ton, and therefore less than one 500,000 deadweight ton ship would be required each day to move 3 million barrels.

Mr. SAYLOR. Now, all I can say to you two gentlemen is that I appreciate the testimony that you have given to us. I think you have been very helpful, and I would hope that following the advice of the chairman of the subcommittee, that you could point particularly to the

provisions of the bill which we have before us as to any changes you would like to have made or advice that you can give us for the markup of the bill.

Thank you, Mr. Chairman.

Mr. UDALL. Mr. Seiberling.

Mr. SEIBERLING. Following Mr. Saylor's question on the 250,000 tons and 500,000 tons, is that the net cargo carrying capacity, or is that the total weight of the vessel?

Mr. CHITWOOD. Well, that is gross weight of the ship, cargo gross weight.

Mr. SEIBERLING. So it is the cargo gross weight.

Mr. CHITWOOD. The cargo, yes, sir.

Mr. SEIBERLING. So the 500,000 weight vessel would carry twice as much as a 250,000.

Mr. CHITWOOD. Yes, sir.

Mr. SAYLOR. It would carry more.

Mr. SEIBERLING. Well, anyway, I just wanted to understand that this was net and not gross.

Now, going to some of the remarks which Congressman Brooks made, he pointed out that the consortium would tend to favor its members in terms of use of the facilities for pumping oil, and nonmembers would take whatever is left, if any, of the capacity.

What is your comment on that?

Mr. CHITWOOD. I heard Mr. Brooks make the statement. We had hoped to emphasize in every meeting that we have a chance to attend that the facility, that the pipeline that we plan to build, will be a common carrier, and as such will carry crude for profit where the commodity is governed by tariffs without discrimination. The facility that we plan to build would be subject to the jurisdiction of the Interstate Commerce Commission, applicable to all the rules and regulations associated with the common carrier.

Mr. SEIBERLING. Will the mooring buoys be also a part of the common carrier?

Mr. CHITWOOD. Yes, sir. When I said pipelines, I meant—

Mr. SEIBERLING. Well, the statistics on the number of accidents on the chart showing that most of them occurred in the harbor areas, to what extent is that simply because that is where all of the facilities are?

Obviously once you start creating these offshore facilities, then and only then are you creating a place where vessels are going to be concentrated, and where you will more than likely have accidents?

Mr. CHITWOOD. There is no question about putting a terminal in an open sea would create a location where more vessels are calling. Your point is well taken, that there is probably incidents of collisions and rammings are most acute where the congestion is. I point out that we are still minimizing the congestion by putting it way from existing small ship traffic, dry cargo ships. A good example of congestion in the harbor we saw just this last weekend where a dry cargo ship rammed an oil carrier in New York harbor.

Mr. SEIBERLING. Mr. Brooks' figures are correct, your installation would cost about twice as much as an onshore facility.

How could your member companies reconcile themselves to paying twice as much money for the same facility?

Mr. CHITWOOD. I certainly do not want to challenge Mr. Brooks' figures, but if you will notice in our testimony——

Mr. READ. While Mr. Chitwood is looking for his numbers, I might comment on that. In overall cost of our Loop project, over half of the cost is for onshore tankage, and this will be required whether the port is a dredged port or an offshore single port, mooring type port.

Also, the costs of the pipelines are included in our estimated cost, and this would be required also. So that I think a comparison is not completely accurate, apples and oranges.

Mr. SEIBERLING. You mean the pipelines from the onshore facility to some other point inland would be included in your estimates?

Mr. READ. Yes, tying into Capline, for instance.

Mr. SEIBERLING. I would think that your member companies would want to break out the figures that are comparable so that they could take another look at this.

Mr. CHITWOOD. Yes. The figures that we have, that I stated on page 9 of my testimony, that the marine portion of our \$545 million amounts to \$310 million so when Mr. Brooks compares them, we would be looking at \$170 million, or \$169 million compared with the \$310 million.

Mr. SEIBERLING. Well, that is still a lot more money.

Mr. CHITWOOD. I would point out that our best guess on dredging, not only ours but the studies that the Corps of Engineers have just recently completed, none of them have come up with anything like the 30 to 35 cents per cubic yard to dredge. We agreed with Mr. Brooks' calculations that to dredge 45 miles, a 1,000-foot channel 45 miles out into the gulf, you would have to move 340 million to 350 million cubic yards of soil. The 30 to 35 percent quote that was used is based on our moving sand and silt. Certainly, the sea floor has a lot of sand and silt, but it also has clay.

As you get involved in moving other types of soil, your costs certainly go up, the costs associated with moving the soil, and I believe you'll note Mr. Brooks indicated that these channels would be dredged and spoils turned to the side. If the spoils would have to be moved to sea and dumped at sea, then the costs plummet again. The minimum figures that we have indicate that dredging would be at least three times the cost quoted by Mr. Brooks.

Mr. SEIBERLING. So your study indicates that perhaps the cost of the deepwater port might even be higher.

Mr. CHITWOOD. Yes, sir; that is our analysis. We are not in the dredging business. We are also pointing out that the dredges that are being quoted are foreign dredges. Certainly the Corps of Engineers did not consider foreign dredging.

Mr. SEIBERLING. Well, thank you.

Now, do you have any comments on the problem of better maneuverability of these huge tankers that I was discussing with Mr. Brooks and what, if any, requirements we sought to try to include in legislation?

Mr. CHITWOOD. I am not sure that it is necessary, and the legislation should be crystal clear that the navigation aids and navigation requirements are controlled by the appropriate agency of Government, U.S. Coast Guard, or whoever that agent is. The navigation requirements certainly will change over time, and we should be able to take advantage of the latest state of the art that is available to industry.

Certainly industry does not want pollution and spills. It wants to take advantage of what additional——

Mr. SEIBERLING. Well, are you going to impose any additional requirement as to the qualifications of vessels moving in close to your facility?

Mr. CHITWOOD. Certainly.

Mr. SEIBERLING. Will that include maneuverability and everything?

Mr. CHITWOOD. Yes, sir.

Mr. READ. I might point out that the vessels will slightly approaching the mooring area and anchorage area at low speeds. At low speeds they are able to move and stop at shorter distances.

Mr. SEIBERLING. When you have a half a million tons going at one-half knot, you have got a fantastic amount of inertia.

Mr. READ. That is why we are very careful in the choice of our locations, so there is enough room for maneuvering and for separation of the buoys so that they safely can maneuver into the buoy.

Mr. SEIBERLING. How far apart are the buoys?

Mr. READ. We will keep them at least 5,000 feet apart.

Mr. SEIBERLING. And how far will they be from your pumping stations?

Mr. READ. They will be 8,000 feet away from the pumping stations.

We have had a consultation with many of the marine experts within our company. They determined that to be a safe and adequate——

Mr. SEIBERLING. Well, let's assume that the worst happened. One of these vessels fully loaded breaks loose from its mooring and it is forced by the high seas into a collision with your pumping station.

What would be the possible consequences?

Mr. READ. If the tanker did hit the platform, it would probably do some damage to both the tanker and the platform. I would assume that the tanker would drop its anchor for some reason or other. If not in control, they would not maintain their ship's engine.

Mr. SEIBERLING. They would knock or completely wipe out your platform?

Mr. CHITWOOD. I would assume so, given that set of circumstances. Yes; that might be possible.

Mr. UDALL. Let me give out a little time for the minority.

Mr. SEIBERLING. I just wanted to highlight this problem.

Mr. UDALL. Thank you.

Mr. Ruppe.

Mr. RUPPE. Thank you very much, Mr. Chairman.

You gentlemen gave us, I think, a very impressive listing of the statistics of the industry and the problems this country faces in fighting the energy shortage.

Just very briefly, do you think the problem today is the physical shortage of oil in the United States, the inability to unload it in continental ports or by any system that you have suggested, or is it a shortage in refinery capacity?

Very briefly, because I do have limited time.

Mr. CHITWOOD. It is a combination of all three, in my judgment. There is a definite shortage of domestic producing capacity, there is a shortage of refining capacity and we certainly are——

Mr. RUPPE. I wish I had more time to go into it, but I remember 3 years ago when we had hearings here. It was suggested by most of the

witnesses that if we had a continuation of the oil import quota system, there would be no oil shortage in the country, and this is 3 years down the road from that point. I am very happy I wrote the minority views which differed with that conclusion.

On page 6 you indicate, you state—you utilize the words serious accidents.

How would you briefly define a serious accident.

Mr. CHITWOOD. Whose testimony was that?

Mr. UDALL. That was in Mr. Chitwood's.

Mr. RUPPE. I think that is Mr. Chitwood's, is it not?

Mr. READ. I think it was in mine.

To our knowledge, there have been no accidents which we will call serious accidents at any of these single point mooring systems, and by serious accidents I mean a collision or something that would—we have discharged a substantial amount of oil.

Mr. RUPPE. Any spillage of the oil at all?

Mr. READ. No; I cannot say there would not be any spillages, because there is bound to have been some bases that broke or—

Mr. RUPPE. How many barrels of oil would have to be spilled before you would consider it of major or serious proportion?

Mr. READ. That is a difficult question to answer. Any oil would be serious.

Mr. RUPPE. If they were all serious then you would be saying in your testimony, then, that there would be no—

Mr. READ. It depends on the particular occurrence. If there is a chance that it would do some damage to the environment we would consider that serious.

Mr. RUPPE. Under the circumstances, if you have a 1,000 barrel discharge, or 3,000 or 5,000—

Mr. CHITWOOD. I think a major oil spill would be defined as 20,000, if I am not mistaken.

Mr. RUPPE. So there has been no oil spill that you recall over 20,000 barrels?

On page 14, Mr. Chitwood, you refer to the Corps of Army Engineers report that indicates that oil spills should be almost completely eliminated through the use of buried submarine facilities.

Are you referring to oil spillage as regards that portion of the operation conducted through the pipeline, or does the report also indicate that there would be no oil spillages whatever from the tanker to the initial piping station or pumping station?

Mr. CHITWOOD. The report I referred to was the Corps of Engineers' report on the East Coast Deepwater Terminal Study where they had analyzed spills from 900 miles of underwater pipelines from 1967 to 1972. The incidents, all but about 5 percent of the incidents, those accidents were caused by ship dragging anchors rather than through failures of the pipeline itself.

Mr. RUPPE. So the Corps of Engineers refers to the safety when using the buried submarine pipelines.

Mr. CHITWOOD. Yes, sir.

Mr. RUPPE. Right.

Do you think that these vessels, large ones in the future, utilizing the facilities that you are suggesting, would have segregated ballast

and/or double bottoms, or what would your recommendation be on either of these safety features?

Mr. CHITWOOD. I am not qualified to make recommendation on it. I do not know whether they'll be used or not.

Mr. READ. In our proposals, we do not anticipate segregated ballasts or double bottoms would be necessary.

Mr. RUPPE. On page 5 of your testimony, Mr. Chitwood, just to clarify something on my mind, you mentioned 3 million barrels a day of Seadock throughout, and the indicated that if a 30,000-ton vessel were used it would take 13 arrivals.

I did not quite understand—I suppose I am falling back to Mr. Saylor's mathematics—but 13 arrivals of 30,000 tons would be $\frac{1}{2}$ million tons. There is some reference to a $3\frac{1}{2}$ million barrel throughput. That's barrels instead of tons there.

Mr. CHITWOOD. That's $7\frac{1}{2}$ barrels per ton.

Mr. UDALL. Is there not also a difference between the efficiency of handling a very large tanker and one very small one in terms of loading time, in terms of turn around time?

It isn't necessarily true that a 200,000 will carry twice as much as a 100,000.

Is that not true?

Mr. READ. Not in actual operations, you are correct.

Mr. RUPPE. Last question.

Have your environmental studies included examination of shoreward developments from pumping stations, or have your studies been confined to the unloading point, to the pumping station?

Mr. CHITWOOD. I think we are both studying onshore environmental aspects as well as offshore.

Mr. RUPPE. Thank you very much.

Thank you, Mr. Chairman.

Mr. UDALL. Mr. Dellenback.

Mr. DELLENBACK. Thank you, Mr. Chairman.

Gentlemen, we appreciate your being here.

May I make one comment and ask two questions and then pass the question down to my other colleague.

The point that the chairman made on getting from you and your legal counsel a detailed analysis of the bill is something that we really would urge you do. We are not asking for any specific language, but your thinking as to what could be done in the way of balancing environmental impact with energy needs and the like.

I would urge that you give us a detailed analysis of the bills and any specific provisions that you would suggest should be in the legislation.

What would you say to us about the need under your projects for Federal financing as opposed to the need for Federal licensing?

What would you expect in the way of help?

Mr. READ. Our company is prepared to finance the project in its entirety.

Mr. DELLENBACK. In its entirety?

Well, it seems to me that when we normally get into shore ports we get into dredging and this kind of thing. This normally leads into Federal expenditures.

You are talking about the entire contemplated financial needs of these projects as you have outlined them being borne by your own companies, and not by the Federal Government?

Mr. CHITWOOD. That is correct. We require no Federal subsidy in doing what we plan to build.

We would also like to point out, add one thing. We are not a consortium of investor-entrepreneurs. We are a consortium of companies who need to import oil, and we would consider this as part of a total transportation network that we need to develop our business.

Mr. DELLENBACK. It seems to me that that is a point of relevance, but I think the complete analysis not only of total dollars that might be required of one line over the other line is important.

Are we talking about tax dollars, or are we talking about private enterprise dollars?

Are we talking about the mood to invest dollars in this?

I appreciate your comment on that point. The last comment that I have now because of briefness of time, one of my colleagues from Michigan, Mr. Ruppe, had asked. Is your study of the design of your tankers taking you to the point of where you can say whether there would be any new design features in your tankers that would need to be incorporated in the ships if they were going to be offloaded through a new type of marine facility?

Mr. READ. There is no difference. We would be able to handle any tanker that is operating today. The only consideration is the size of the hoist to lift the hoses up to the ship's manifold. The ships would have to have sufficient size hoists to lift the hoses up and tie them on to their manifolds.

Mr. DELLENBACK. So in both ways it would be unnecessary to do anything really significant in ship design.

Again, as a background for my question is the type of discussion that we have had in hearings before this subcommittee on the Alaska versus Canadian pipeline routes, and we talked in terms of special environmental needs of those tankers that would be coming from Valdez. They're talking in terms of new features they should have from the environmental protection sample for use in the type of transshipment used from Alaska to our west coast ports.

So they are talking about special features to protect environments in a certain situation.

We do not see any such distinctions that would be necessary for the tankers used in your facilities versus tankers that would be going into the deepwater, onshore ports.

Mr. READ. No. We would see no need for any special conditions.

Mr. DELLENBACK. Then the changes that would be necessary so any tanker that could use your facility could also if there were onshore space available it could use those facilities, or conversely, any tanker which would be able to and would normally use that type of facility would also be able to use your facilities?

Mr. READ. Yes, sir.

Mr. DELLENBACK. That is true of both facilities?

Mr. CHITWOOD. Yes, sir.

Mr. CRONIN. Mr. Chitwood, in figure 6 of your addendum, the location for deepwater terminals, could you tell me why there is not any need in New England?

Mr. CHITWOOD. Well, the chart shows possible locations of unloading areas. I guess we have started the New York harbor namely because the east coast refining capacity is concentrated in either the New York harbor area or in Philadelphia harbor area of 1.3 million barrels a day.

Mr. CRONIN. So in other words, this is based on existing refinery points as opposed to future needs.

Mr. CHITWOOD. That is correct.

Mr. CRONIN. Does that not seem to be rather contradictory because your whole emphasis on this entire project is the need to handle the tremendous increase in imports over the next 10 to 15 years?

Certainly we do not have a refinery capacity today to process that tremendous increase.

Mr. CHITWOOD. We believe that where the existing refinery centers are today, those areas will naturally be expanded. There are refineries that need the oil now. I am not totally familiar with the harbor conditions in New England, but I am certain they have much more natural harbor areas available than some of the other areas of the United States.

Mr. CRONIN. More important, I think, than the harbor problems is the demand for the fuel. Six New England States today are only able to process 27 percent of their fuel that they use, and we have, I think, some impetus on the way to build some refineries in the six New England States. We projected we would need seven refineries by 1978 to just keep current with the present levels of use, I mean, to keep it at that level of expansion, not taking into account at all the true expansion for the six-State region.

So it would seem to me that this tremendous amount of need is certainly a reason to have a deepwater port in the New England area.

Mr. CHITWOOD. Well, there have been some impediments to building refineries in the area. I would hope that maybe those would be overcome. Certainly, as I view it from my vantage point with my company, there should be refineries built in New England, and would be refineries built there if the climate were so that there could be.

Mr. CRONIN. We are trying to bring that along just so long as our refineries are environmentally pure.

The other question that I have to ask ties in with Mr. Seiberling's line of questioning. If you have disasters at any of the points in the system, be it at the buoy, the pipeline or more importantly, the pumping station, do you have fail-safe systems at each of these points that in effect turn off the supply?

Mr. READ. Yes, we will build in all of the fail-safe systems that are used presently in the state of the art, pressure detection, flow detection. All of these will be built into the system, and will shut down the system with sound alarms, and will continuously monitor the operations at all times, personnel and automatic equipment.

Mr. CRONIN. We have seen—I think we have heard before this committee or maybe the Science and Astronautics Committee—that some of the new control devices could go so far as to limit the spill in effect to the length of the pipe.

Are you talking about fail-safe systems with this minimized potential?

Mr. READ. We use the most sophisticated systems that are available to detect any release.

Mr. CRONIN. It is not a degree of sophistication so much as it is the numbers used.

For example, if you have a check valve in every link of pipe, then the maximum amount of oil that is going to get into the ocean at a break in a length of pipe, if you have one at the source and one at shore, you could have potentially all the oil that is in the line, from one end of the line to the other into the ocean.

Mr. CHITWOOD. We pointed out, as I mentioned in our testimony, these lines will be buried and will be buried very deep. At main shipping locations, they will be at least 10 feet below sea level.

Mr. CRONIN. One last quick question before we have to leave to vote on the floor.

Do you think it would be appropriate for us to work in safety standards in our legislation for deepwater ports to protect the environment?

Mr. CHITWOOD. I am not sure that you need it in the legislation so much as you need to have the existing Federal agencies that do control pipeline safety and the like have the authority to govern the action of these type of facilities that are being built.

Mr. UDALL. Under the bill, the Secretary of Interior could condition the license of all kinds of safety features that are not specifically spelled out in the law.

Mr. CRONIN. Fine.

Could you furnish that for the record, what your safety proposals are going to be in this particular proposal?

Mr. CHITWOOD. Yes, sir.

Mr. UDALL. Mr. Brooks said something about 8-foot seas, the limit that you could load and unload on these facilities.

Do you accept that limitation?

Mr. READ. We have in other operations been able to moor a tanker in seas of 8 feet deep and stay in berth and unload in higher seas than that depending upon the actual conditions of the location.

Mr. UDALL. The berthing is the crucial point.

Mr. READ. Yes, sir.

Mr. UDALL. Once you are there, you can load and unload.

Mr. READ. Even though the seas have been higher.

Mr. RUPPE. I believe that the oil import situation has led us to our sad state of affairs today but right now there is also a shortage of petroleum refining capacity in this country.

If we have these deepwater ports, are you going to supply just those portions of the country that are convenient for you to supply, or are you going to go back to the Midwest where Gulf is discussing pulling out today, and where Sun Oil Co. has discussed cutting off certain dealers?

What are you going to do in those areas in the United States today which are very definitely short of petroleum and refinery capacity? Is this project—if we permit the licensing of it—simply going to result in supplying the convenient close-to-market ports or are you going to carry out your responsibility in all regions of the country and maintain a decent supply situation—a supply situation that does not exist today in the Midwest?

Mr. CHITWOOD. I believe Mr. Read has already pointed out that a lot of the volume coming over LOOP would go into the upper Midwest area through his pipeline artery, the Capline system.

Let me speak for Seadock. We envision—we know there are several projects on the drawing boards to connect Seadock with the mid-continent area refiners, so that oil from our project, we think, will migrate into the oil-starved regions.

Mr. RUPPE. I hope you are right. I hope the companies will not pull out, so that there is nothing to ship and no one to ship it to at that time.

The second thing, Mr. Chairman—would both witnesses supply for the record their projections of the percentage and the barrel volume of the operations that they foresee flowing into the Midwest?

Mr. UDALL. Could you give us that information for the record?

He wants for the record to know how much of the projected volume in each of your installations would you contemplate would be flowing through the Midwest, and out of both regions?

Mr. READ. We have nominations from our shippers through the Capline system.

[The information referred to follows:]

LOOP INC,
New Orleans, La., July 27, 1973.

HON. PAUL W. CRONIN,
Subcommittee on Environment, Committee on Interior and Insular Affairs,
U.S. House of Representatives, Longworth House Office Building, Washington, D.C.

DEAR REPRESENTATIVE CRONIN: With reference to the June 6, 1973 hearings before the Subcommittee on Environment of the Committee on Interior and Insular Affairs, I am pleased to submit for the record the additional information you requested at the time of my appearance.

In response to your request reported on page 96 of the transcript concerning safety proposals to be included in our project proposal, I submit a draft copy of the listing of codes, regulations, standards and practices incorporated in the LOOP Inc. Basic Design Manual. Further to this important subject, I would like to briefly expand on that portion of my statement beginning on page 51 of the transcript through page 53. The additional safety and design information contained in this expansion was compiled subsequent to my June 6, 1973 statement before joint hearings of the Committees on Commerce, Interior and Insular Affairs and Public Works of the United States Senate, July 24, 1973.

Main factors to be considered in designing for maximum operational effectiveness and minimum environmental impact for a deepwater crude oil unloading terminal include:

- (1) location of the facilities;
- (2) designing safety factors in response to potential internal or external forces such as pumping pressures and weather conditions;
- (3) protection against abnormal conditions such as hurricanes or human error;
- (4) containment and treatment of normal effluents such as waste water and sewage;
- (5) design of monitoring systems and emergency reaction plans;
- (6) design of methods to prevent, isolate, and control spills.

Other factors requiring consideration, while not part of facility engineering design, include establishing operational procedures to detect spills, and portable equipment to control and clean up spills.

Location of the LOOP platform and SPM complex 19 miles offshore Lafourche Parish is outside of potentially dangerous bottom mudslide areas, such as those around the mouth of the Mississippi River, and clear of existing ship traffic. Proposed navigation fairways and maneuvering areas are clear of existing production platforms. LOOP, working with the United States Coast Guard and companies presently operating in the Gulf of Mexico, proposes that the fairways to the marine terminal will be marked by lighted buoys, and that LOOP will undertake radar surveillance and monitoring of all tanker approaches in the fairway, anchorage area and to and from the marine terminal.

Ships will normally be moored in order of their arrival, and trained LOOP mooring masters will be on board during mooring and unloading operations. All of the operations in the berthing area—including final inspections and clearing the berth—will be under the supervision of the LOOP mooring master.

During the mooring operation, LOOP mooring launches will have the responsibility of attaching the ship's messenger lines to the SPM buoy's mooring lines, and keeping the floating hoses a safe distance from the ship. Once the ship is moored, a mooring launch then brings hoses alongside, allowing the ship's hoisting gear to lift them over the rail. Secure connection to the ship's manifolds is then effected.

Prior to unloading, manifold connections will be pressure tested by the ship's pumps, and during unloading, LOOP personnel on both platform and shore based control centers will continuously monitor unloading operations.

Unloading crude oil will be measured by transfer meters on the offshore platform and also at the onshore terminal. These meters will be continuously monitored by a computer located in the control building at the onshore terminal. Should the onshore meter show a predetermined quantity less than the offshore meter, the system will alarm, signalling operating personnel to identify the cause, and to shut down the operation in the event of a leak. Also, a simultaneous decrease in discharge pressure and an increase in flow rate at the platforms, indicating a line break, will sound an alarm and cause the pumping unit on that pipeline system to shut down automatically.

In addition, the computer directed supervisory control system will assist the operators in the local and remote control of equipment and monitoring of equipment operation, process stream flows, tank level and inventory; and in the safe and efficient operation of the entire system.

The telecommunication link will be by microwave from the offshore platform to the shore terminal and along the St. James Pipeline. A limited service marine radio station will provide contact with vessels as they enter the Gulf of Mexico. Marine VHF radio will be used during the berthing and unloading operations as well as UHF radio for personnel communications. Maintenance crews and operators will be in constant contact with the terminal by use of mobile VHF and UHF radio.

Pipelines from the marine terminal to the onshore storage facility will be corrosion protected, wrapped and anchored in concrete, and buried beneath the seabed, using the technology developed over many years of offshore pipelining. As an example of this technology, there are more than 1,685 miles of in-service oil pipelines of 8" or more in diameter in the submerged lands and continental shelf offshore Louisiana.

The safety record of pipeline transportation far exceeds that of other modes of transportation. In great measure this excellent record is due to the development and adoption of codes and standards by industry and professional organizations. Nineteen such codes and standards have been adopted by reference in the Department of Transportation regulations governing transportation of petroleum and petroleum products by pipeline, appearing in Section 195.3 of Title 49 of the Code of Federal Regulations.

Storage tanks at the onshore terminal will be surrounded by dikes to contain potential spills in the tank farm area, and pipelines in the area will be equipped with valves to isolate, and pumps to clear, pipelines and tanks in the event of damage. The entire facility will be equipped with both fixed and portable fire fighting systems. Storage tanks will be equipped with floating roofs to minimize venting of hydrocarbons to the atmosphere. A system of dikes, pumps and directed drainage will collect oily waste water which will then be treated prior to returning to the outside environment.

Emergency hurricane security measures will be adopted. These will include filling empty tanks with water to secure them during hurricane winds and high water. The entire tank farm area will be enclosed in a dike higher than the incidence of any storm driven tide over a 100-year period.

During construction of the entire project, LOOP will inspect welding, structural materials and corrosion coating with radiographic and electrical test methods. All phases of the construction will be inspected by experienced personnel, and on completion of the facility installation, all parts of the system subject to pressure will be hydrostatically tested well above maximum operating pressure.

If I can provide any additional information to you or other members of the Subcommittee, please do not hesitate to call on me. I am forwarding sufficient copies of this letter to Mr. Scoville for distribution to the Subcommittee members.

I appreciate your kindness to me at the time of the hearings, and your continued interest in our project.

Sincerely,

W. B. READ, *President.*

LOOP BASIC DESIGN MANUAL—CODES, REGULATIONS, STANDARDS, AND PRACTICES

3.0

3.01—Pipelines

3.011—Government Regulations

Bureau of Land Management Permits

Corps of Engineers Permits

Office of Pipeline Safety

Title 49, Part 192 Transportation of Natural Gas by Pipeline (Fuel)

Title 49, Part 195 Transportation of Liquids by Pipeline

3.012—Industry Codes, Standards & Practices

3.0121—Codes

American National Standards Institute

B31.4 Liquid Petroleum Transportation Piping Systems

3.0122—Standards

American National Standards Institute

B16.5 Steel Pipe Flanges

B16.9 Wrought Steel Butt-welding Fittings

American Petroleum Institute

5LS Specification for Spiral-Weld Line Pipe

5LX Specification for High-Test Weld Line Pipe

6D Specification for Pipeline Valves

601 Specification for Metallic Gaskets

1104 Standard for Welding Pipeline

Manufacturer's Standardization Society

SP44 Steel Pipe Line Flanges

SP48 Steel Butt-welding Fittings (26" up)

3.0123—Recommended Practices

American Petroleum Institute

RP5L1 Railroad Transportation of Line Pipe

RP1102 Liquid Petroleum Pipelines Crossing Railroads and Highways

RP1109 Marking Liquid Petroleum Pipeline Facilities

RP 1110 Pressure Testing of Liquid Petroleum Pipeline

National Association of Corrosion Engineers

RP-01 Control of External Corrosion on Underground or Submerged

Metallic Piping System

Offshore Unloading Facilities

3.02

3.021—Government Regulations

American Bureau of Ships

Standards for Hull Design (SPM)

Coast Guard

CG-321 Marine Warning System

Federal Aviation Administration

Regulation, Part 77 Heliport Navigable Airspace Specification

Outer Continental Shelf Office

OCS No. 8 Platform Safety and Pollution

Part 2 Control Equipment (Installation Only)

OCS No. 9 General Design

Part 1 (Installation Only)

3.022—Industry Codes, Standards & Practices

3.0221—Codes

American National Standards Institute

B31.4 Liquid Petroleum Transportation Piping Systems

C1 National Electrical Code

American Society of Mechanical Engineers

F3 Pressure Vessels (Sec. VIII) Division 1

National Fire Protection Association

30 Flammable and Combustible Liquids Code

78 Lightning Protection Code

Underwriters Laboratories

National Board of Fire Underwriters

Building Code

3.0222—Standards

American National Standards Institute

A58.1 Minimum Design Loads in Buildings

B16.5 Steel Pipe Flanges

B16.9 Wrought Steel Butt-welding Fittings

C37.20 Switchgear assemblies

American Petroleum Institute

2B Specification for Fabricated Structural Steel Pipe

2C Specification for Offshore Cranes

5L Specification for Line Pipe

5LX Specification for High Test Line Pipe

6D Specification for Pipeline Valves

601 Metallic Gaskets

610 Centrifugal Pumps for General Refinery Service

613 High-Speed Special-Purpose Gear Units

616 Combustion Gas Turbines for General Refinery Services

1104 Standard for Welding Pipelines

2531 Mechanical Displacement Meter Provers

2534 Measurement of Liquid Hydrocarbons by Turbine Meter Systems

2543 American Standard Method of Measuring the Temperature of Petroleum and Petroleum Products

2545 Method of Gaging Petroleum and Petroleum Products

2546 Standard Method of Sampling Petroleum and Petroleum Products Manufacturer's Standardization Society

SP44 Steel Pipe Line Flanges

SP48 Steel Butt-Welding Fittings (26' up)

National Electrical Manufacturers Association

TRI Transformers, Regulators and Reactors

SG3 Low-Voltage Power Circuit Breakers

SG4 High-Voltage Power Circuit Breakers

SG5 Power Switchgear Assemblies (For first chapter, see ANSI C37.20-1969)

WC3 Rubber-insulated Wire and Cables for the Transmission and Distribution of Electrical Energy

WC5 Thermoplastic-insulated Wire and Cable for the Transmission and Distribution of Electrical Energy

MG1 NEMA Motor and Generator Standards

WC7 Cross-Linker Thermosetting Polyethylene Insulation for Power Cables Rated 0 Through 600 Volts

WC8 Ethylene-Propylene-Rubber, Insulated, Ozone-Resistant, Wires and Cables, 5000 Volts and Less

*Standards of the Hydraulic Institute**Single-Point Mooring Forum*

Hose Standards

3.0223—Recommended Practices

American Gas Association

Gas Measurement Committee Report

3.022 —*American Institute Steel Construction Manual**American Petroleum Institute*

RP2A Planning, Designing & Constructing Flood Offshore Platforms

RP500A Classification of Areas for Electrical Installations in Refineries

RP2003 Protection Against Static, Lightning & Stray Currents

Instrument Society of America

RP3.1 Flowmeter Installations, Seal and Condensate Chambers

RP4.1 Uniform Face to Face Dimensions for Flanged Control Valve Bodies

S5.1 Instrumentation Symbols and Identification

RP12.1 Electrical Instruments in Hazardous Atmospheres

S12.4 Instrument Purging for Reduction of Hazardous Area Classifications

RP31.1 Specification, Installation and Calibration of Turbine Flowmeters

RP201. Instruments, Gages, Thermocouples, Orifice Plates and Flanges, Control Valves, and Pressure Safety Valves.

3.022—Continued

National Fire Protection Association

10 Installation of Portable Fire Extinguishers

20 Centrifugal Fire Pumps

Stationary Combustion Engines and Gas Turbines

77 Static Electricity

496 Purged Enclosures for Electrical Equipment in Hazardous Location

Single-Point Mooring Forum

Guide: Hose

Steel Structures Painting Council

SP1-10 Cleaning Procedures

3.03—Stations and Terminals

3.031 —Government Regulations

Office of Pipeline Safety

Title 49, Part 195 Transportation of Liquids by Pipeline

3.032 —Industry Codes, Standards & Practices

3.0321—Codes

American Concrete Institute

318 Building Code Requirements for Reinforced Concrete

American National Standards Institute

B31.4 Liquid Petroleum Transportation Systems

C1 National Electrical Code

American Society of Mechanical Engineers

F3 Pressure Vessels (Section VIII) Division 1

National Fire Protection Association

30 Flammable and Combustible Liquid Code

78 Lightning Protection Code

Underwriters Laboratories

National Board of Fire Underwriters Building Code

3.0322—Standards

American National Standards Institute

A58.1 Minimum Design Loads in Buildings

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5LS Specification for Spiral-Weld Line Pipe

5LX Specification for High Test Line Pipe

6D Specification for Pipeline Valves

12D Large Welded Production Tanks

601 Metallic Gaskets

610 Centrifugal Pumps for General Refinery Service

613 High-Speed Special-Purpose Gear Units

616 Combustion Gas Turbines for General Refinery Service

650 Welded Steel Tanks for Oil Storage

1104 Standard for Welding Pipeline

2000 Venting Atmospheric and Low Pressure Storage Tanks

2531 Mechanical Displacement Meter Provers

2534 Measurement of Liquid Hydrocarbon by Turbine Meter Systems

2543 American Standard Method of Measuring the Temperature of

Petroleum and Petroleum Products

2545 Method of Gaging Petroleum and Petroleum Products

2546 Standard Method of Sampling Petroleum and Petroleum Products

American Wood Preserving Association

C3 Standard for the Preservative Treatment of Piles by Pressure Processes

Manufacturer's Standardization Society

SP44 Steel Pipe Line Flanges

SP48 Steel Butt-welding Fittings (26" up)

National Electrical Manufacturer's Association

TR1 Transformers, Regulators and Reactors

SG3 Low-Voltage Power Circuit Breakers

SG4 High-Voltage Power Circuit Breakers

- 3.0322—Continued
 SG5 Power Switchgear Assemblies (For first chapter, see ANSI C37.20—1969)
 WC3 Rubber-insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
 WC5 Thermoplastic-insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
 MG1 NEMA Motor and Generator Standards
 WC7 Cross-Linked Thermosetting Polyethylene Insulation for Power Cables Rated 0 Through 600 Volts
 WC8 Ethylene-Propylene-Rubber, Insulated, Ozone-Resistant, Wires and Cables, 5000 Volts and Less
Standards of the Hydraulic Institute
- 3.0323—Recommended Practices
American Gas Association
 Gas Measurement Committee Report
American Institute Steel Construction Manual
American Petroleum Institute
 RP500C Classification of Areas for Electrical Installations for Pipelines
 RP2003 Protection Against Static, Lightning & Stray Currents
Instrument Society of America
 RP3.1 Flowmeter Installations, Seal and Condensate Chambers
 RP4.1 Uniform Face to Face Dimensions for Flanged Control Valve Bodies
 S5.1 Instrumentation Symbols and Identification
 RP12.1 Electrical Instruments in Hazardous Atmospheres
 S12.4 Instrument Purging for Reduction of Hazardous Area Classifications
 RP31.1 Specification, Installation and Calibration of Turbine Flowmeters
 RP201. Instruments, Gages, Thermocouples, Orifice Plates and Flanges, Control Valves, and Pressure Safety Valves
National Association of Corrosion Engineers
 RP-01 Control of External Corrosion
National Fire Protection Association
 6 Sprinklers, Fire Pumps & Water Tanks
 10 Installation of Portable Fire Extinguishers
 11 Foam Extinguishing System
 20 Centrifugal Fire Pumps
 37 Stationary Combustion Engine & Gas Turbine
 77 Static Electricity
 496 Purged Enclosures for Electrical Equipment in Hazardous Location
Steel Structures Painting Council
 SP1-10 Cleaning Procedures
- 3.04—Environmental
- 3.041 —Government Regulations
Coast Guard
 33CFR154 Large Oil Transfer Facilities
 33CFR156 Oil Transfer Operations
Environmental Protection Agency
 National Environmental Policy Act
State of Louisiana
 Environmental Protection Plan for Deep Draft Harbor
 Federal Clean Air Act Implementation
 Federal Noise Control Act Implementation
 Federal Water Pollution Control Act Implementation
- 3.05—Communications
- 3.051 —Government Regulations
Federal Communications Commission
 Rules and Regulations
- 3.052 —Industry Standards
Electronic Industry Association
 TR-141 Microwave Relay System for Communications
 TR-142 Microwave Housing Facilities

3.052—Continued

- RS-152 Minimal Standards for Land-Mobile Communication F.M. or P.M. Transmitters 25-470 MHZ
- RS-158 Mechanical Consideration for Transmission Line in Microwave Relay Applications
- RS-159 Mechanical Characteristics for Microwave Relay System Antennas and Passive Reflectors
- RS-173 Emergency Stand-by Power Generators and Accessories for Microwave Systems
- RS-195-A Electrical and Mechanical Characteristics for Microwave Relay System Antennas and Passive Reflectors
- RS-199 Solid Dielectric Transmission Systems
- RS-200 Circular Waveguide
- RS-203 Microwave Transmission Systems
- RS-204 Minimum Standards for Land-Mobile Communications FM or PM Receivers
- RS-210 Terminating and Signaling Equipment for Microwave Communications System—Part I Telephone Equipment
- RS-222-A Structural Standards for Steel Antenna Towers and Antenna Supporting Structures
- RS-225 Rigid Coaxial Transmission Lines 50 Ohms
- RS-232 Interface Between Data Terminal Equipment and Communication Equipment Employing Serial Data Interchange
- RS-237 Minimum Standards Land-Mobile Systems Using FM or PM in the 25-470 MHZ Frequency Spectrum
- RS-252 Baseband Characteristics of the Microwave Radio and Multiplex Equipment
- RS-258 Semi-Flexible Air Dielectric Coaxial Cables and Connectors, 50 Ohms
- RS-259 Rigid Coaxial Transmission Lines and Connectors, 75 Ohms
- RS-261-A Rectangular Waveguides (WR3 to WR2300)
- RS-271-A Waveguide Flanges—Pressurizeable Contact Types for Waveguide Sizes WR90 and WR2300
- RS-304 Rigid Waveguides
- RS-316 Minimum Standards for Portable/Personal Land-Mobile Communications FM or PM Equipment 25-470 MHZ
- RS-329 Minimum Standards for Land-Mobile Communications Antennas Part I—Base or Fixed Station Antennas
- RS-334 Signal Quality at Interface Between Data Processing Terminal Equipment and Synchronous Data Communications Equipment For Serial Data Transmission
- RS-363 Standard for Specifying Signal Quality for Transmitting and Receiving Data Processing Terminal Equipment Using Serial Data Transmission at the Interface With Non-synchronous Data Communications Equipment
- RS-368 Frequency Division Multiplex Equipment
- RS-374 Land-Mobile Selective Signal Standards

3.06—Other

3.061 —Government Regulations

Coast Guard

33CFR126 Handling of Explosives or Other Dangerous Cargo Within or Contiguous to Waterfront Facilities

Occupational Safety & Health Administration

29CFR1910 Standards

Public Health Service

Federal Drinking Water Standards

Municipal & Parish

Applicable Rules, Ordinances

3.062 —Industry Recommended Practices

International Oil Tanker & Terminal Safety Group

LOOP INC.,
New Orleans, La., July 27, 1973.

Hon. PHILIP E. RUPPE,
Subcommittee on Environment, Committee on Interior and Insular Affairs,
House of Representatives, Longworth House Office Building, Washington,
D.C.

DEAR REPRESENTATIVE RUPPE: In response to your request, reference page 98 of the transcript of hearings held before the Subcommittee on Environment of the Committee on Interior and Insular Affairs on June 6, 1973, concerning the projected volume of crude oil we contemplate would move through our facility to the Midwest, I am pleased to submit the following information.

As I had stated at the time of my appearance before the Subcommittee, an adjunct to the LOOP facility will be a large diameter pipeline from the storage facility to the St. James Parish Terminal of Caplaine. LOOP Inc. has responsibility for the design and construction of this pipeline; however, ownership will be held by a number of LOOP Inc. shareholder companies in a separate organization.

For the purpose of designing this pipeline, LOOP Inc. has requested throughput nominations from the companies involved, and we are compiling these projections at this time. These incomplete projections closely parallel the results of a recent study, and in response to your request, the figures expressed in that study can be seriously considered in their application to our project.

Projections of the volumes of imported crude oil moving to Louisiana and the Midwest through the proposed LOOP project were prepared as part of a study of the economic impact of a Louisiana Offshore Oil Port by Gulf South Research Institute and the H. J. Kaiser Company. This study was based on estimates of U. S. energy requirements for selected future years as compiled by the U. S. Department of the Interior and the National Petroleum Council. As indicated in the study, approximately 991,000 barrels of imported crude oil per day would move through a facility to mid-continent refineries when in operation in 1977, growing to 1,895,000 b/d by 1985 and 2,375,000 b/d by 1990. This range of crude oil volumes destined for mid-continent refineries is approximately 50% of the total throughput of the terminal as projected in this study.

ACTUAL AND PROJECTED PETROLEUM DEMAND AND SUPPLY FOR PAD DISTRICT III

[In thousands of barrels per day]

Item	Actual		Projected				
	1970	1971	1975	1980	1985	1990	2000
District III production of crude...	6,507	6,484	6,200	5,800	5,430	5,060	4,300
Shipments:							
To PAD I.....	651	567	558	510	473	405	300
To PAD II.....	1,454	1,559	1,380	1,240	1,200	1,160	975
PAD IIIa.....	4,402	4,358	4,262	4,050	3,757	3,495	3,025
Required imports of crude.....	-45	134	1,053	2,990	4,604	6,057	9,084
Crude runs.....	4,357	4,492	5,315	7,040	8,361	9,552	12,109
Expansion factor.....	1,513	1,417	1,352	1,011	840	750	584
Supply of refined products.....	5,870	5,909	6,667	8,051	9,201	10,302	12,693
PAD III demand.....	2,478	2,578	3,017	3,671	4,215	4,746	6,017
Surplus, to.....	3,392	3,331	3,650	4,380	4,986	5,556	6,676
PAD I.....	2,771	2,691	2,920	3,380	3,986	4,456	5,276
PAD II.....	534	533	620	850	900	1,100	1,400
PAD IV and V.....	87	107	110	150	100		

Source: H.J. Kaiser Co. and Gulf South Research Institute.

23-540-74-6

PROJECTED CRUDE THROUGHPUT VOLUME FOR LOUISIANA OFFSHORE OIL PORT

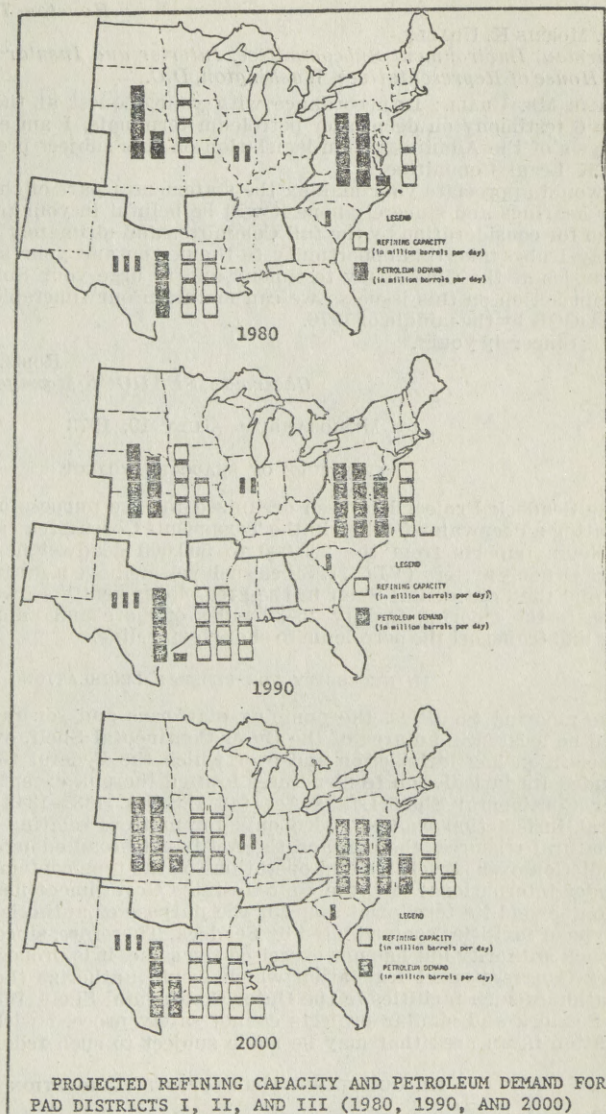
[In thousands of barrels per day]

Item	1977	1980	1985	1990	2000
PAD II.....	991	1,495	1,895	2,375	3,677
Louisiana refineries.....	494	973	1,518	1,966	2,978
Subtotal.....	1,485	2,468	3,413	4,341	6,655
Other PAD III refineries.....	54	97	182	236	447
Medium estimate.....	1,539	2,565	3,595	4,577	7,102
Adjustment for leveling in Louisiana crude output.....	-126	-250	-430	-600	-970
Low estimate.....	1,413	2,315	3,165	3,977	6,132
Medium estimate.....	1,539	2,565	3,595	4,577	7,102
Variance in PAD II demand.....	302	342	400	450	570
High estimate.....	1,841	2,907	3,995	5,027	7,672

Source: H. J. Kaiser Co. and Gulf South Research Institute.

Refining capacity in Louisiana is projected in the study to rise from 1,568 to 3,949 thousand barrels per day between 1975 and year 2000. This projected expansion for refining capacity was found by the researchers to be necessary to meet growing petroleum requirements in Louisiana as well as the Midwest and East Coast markets. The dependency of these areas on petroleum products from Louisiana refineries will continue to grow, although refining capacity in these areas is projected to expand. In the Midwest, refining capacity is forecast to increase at the same rate as the regional demand for petroleum. In Eastern states, refining capacity is forecast to increase more rapidly than demand, but these states remain far short of being able to supply their own requirements.

The Honorable Philip E. Ruppe
 July 27, 1973
 Page 4



Source: "The Economic Impact of a Louisiana Offshore Oil Port", D. A. Neumann, Chief Economist, H. J. Kaiser Company; and Dr. Jan W. Dugger, Scientific Director, Gulf South Research Institute, May 1973.

If I can provide any additional information to you or other members of the Subcommittee, please do not hesitate to call on me. I am forwarding sufficient copies of this letter to Mr. Scoville for distribution to the Subcommittee members.

I appreciate your kindness to me at the time of the hearings, and your continued interest in our project.

Sincerely,

W. B. READ, *President.*

SEADOCK,
Houston, Tex., July 26, 1973.

HON. MORRIS K. UDALL,
*Chairman, Environment Subcommittee, Interior and Insular Affairs Committee,
House of Representatives, Washington, D.C.*

DEAR MR. UDALL: In accordance with your request at the conclusion of my June 6 testimony on deepwater petroleum terminals, I am enclosing a detailed analysis of the Administration legislation on this subject prepared by the SEADOCK Legal Committee.

I would appreciate your making the statement a part of the printed record of your hearings and sincerely hope it will be helpful in your preparation of legislation for consideration by the full Committee and ultimately by the House.

May I also take this opportunity to thank you and your staff for your many courtesies at the time of my testimony and to urge your Subcommittee to take prompt action on this issue so we can maintain our timetable for completion of SEADOCK by the middle of 1976.

Sincerely yours,

ROBERT CHITWOOD,
Chairman, SEADOCK Management Committee.

MEMORANDUM—JULY 19, 1973

I. NATURE OF SEADOCK PROJECT

The Seadock Project has been organized for the purpose of constructing and operating a deepwater facility in the Texas Gulf Coast Area capable of unloading petroleum imports from the 200,000 to 500,000 deadweight ton class of Very Large Crude Carriers (VLCC). Since such vessels have a draft of between 60-100 feet and the Continental Shelf in the area slopes gently seaward, it is necessary to locate the mooring facility 25-30 miles offshore and unload vessels at that point and transport the petroleum to shore by pipeline.

II. NECESSITY FOR FEDERAL LEGISLATION

The mooring facilities, the pumping platforms and several miles of pipeline would be located in an area of the Outer Continental Shelf, over which no State of the Union has jurisdiction and over which the Federal Government has not extended its jurisdiction to structures located therein, except in the case of the Outer Continental Shelf Lands Act (43 U.S.C.A. 1331-1343). Under that Act federal jurisdiction was extended only for matters relating to development of the natural resources thereof, and the Act is not broad enough to extend federal jurisdiction over structures and operations of the type contemplated by Seadock.

Under international law, the United States Government may extend its jurisdiction beyond its territorial seas for the purpose of authorizing and regulating the type of facilities contemplated by Seadock. Therefore, since the United States has such authority but has not exercised the same, it is proposed that the United States Congress enact legislation which would authorize the construction and operation of such facilities in the Outer Continental Shelf. Without such legislation Seadock and similar projects cannot safely proceed with construction and operation in an area that may be made subject to such federal jurisdiction.

III. GUIDELINES FOR PROPOSED LEGISLATION

The following proposals are made in a general manner, and are proposals which we believe should be incorporated in one comprehensive bill without the necessity of specifically amending any other act or law.

A. Single Purpose Act

It is possible, of course, that legislation authorizing the construction and operation of deepwater ports for the purpose of handling any type of cargo would be satisfactory for Seadock purposes. However, Seadock is interested in such facilities for the single purpose of unloading petroleum from VLCC's in the Outer Continental Shelf and moving such petroleum by pipeline from the unloading point to shore. The necessity for such single purpose facilities has been well established, whereas it is not probable that deepwater ports handling other commodities will prove to be required at any time in the near future. Therefore, in order to focus on the immediate necessity for deepwater facilities

which will handle petroleum only, and without having to consider problems that may be involved in handling other types of cargoes, we propose that Congress consider legislation which will authorize the construction and operation of facilities in the Outer Continental Shelf only for the purpose of unloading petroleum and the movement of such petroleum from the unloading point to shore.

B. Extension of Federal Jurisdiction

By the Outer Continental Shelf Lands Act (OCSLA) the laws and jurisdiction of the United States were "extended to the subsoil and seabed of the outer Continental Shelf and to all artificial islands and fixed structures which may be erected thereon for the purpose of exploring for, developing, removing, and transporting resources therefrom, to the same extent as if the outer Continental Shelf were an area of exclusive Federal jurisdiction located within a State," and the United States district courts were given original jurisdiction of cases and controversies arising out of or in connection with such operations.

This manner of extending federal laws and jurisdictions to the Outer Continental Shelf for specific purposes is time-honored, and is one that recommends itself for extending jurisdiction over deepwater ports located therein. If this were done, all federal laws would automatically be extended to the deepwater port facilities without the necessity of listing the applicable laws.

C. Licensing of Construction and Operation of Deepwater Ports

With the extension of all federal laws and jurisdiction to deepwater ports in the Outer Continental Shelf, there will be a variety of federal agencies having jurisdiction over activities which may be related to or associated with the construction and operation of deepwater port facilities. However, no federal agency has the authority to license the construction and operation of the facilities themselves. Therefore, legislation should lodge in one federal agency the responsibility and authority for licensing such facilities. We would favor a statutory procedure whereby a single application filed with a single federal agency would constitute an application for all federal authorizations required for construction and operation of deepwater port facilities, with requirements to insure that all other affected federal agencies will be consulted by the lead agency so that such other federal agencies will pass upon those matters within their jurisdictions before the lead agency can issue a final license. In this connection it would be preferable to provide that the lead agency shall prepare a single detailed environmental impact statement in connection with each license and that such single statement would fulfill the requirements of the National Environmental Policy Act of 1969.

In order to provide for an orderly consideration of an application we would suggest a simple detailed procedure be incorporated in the legislation whereunder all interested parties may have the opportunity to comment or be heard on the application prior to the time that the lead agency grants or denies a license, with further provisions for immediate judicial review by any aggrieved party.

Since the number of locations for petroleum deepwater port facilities will probably not exceed eight, no elaborate rules and regulations for the licensing process should be required and the lead agency can protect the environment and the national interest by being authorized to establish appropriate conditions and restrictions in each license that may be issued for the construction and operation of each individual facility.

D. Jurisdiction of States

The federal legislation proposed relates only to the construction and operation of that portion of petroleum deepwater port facilities located outside the jurisdiction of a state. Under the Submerged Lands Act (43 U.S.C.A. 1301-1315) state jurisdiction over coastal lands and waters is recognized within three geographical miles from the coast (three marine leagues or approximately 10½ miles off the coasts of Florida and Texas), except the "United States retains all its navigational servitude and rights in and powers of regulation and control . . . for the constitutional purpose of commerce, navigation, national defense, and international affairs" which are paramount to state rights therein.

Although it could be argued that Congress may preempt the regulation and control of petroleum deepwater port facilities located within the States' lands and waters, we do not propose that Congress do so. Rather we believe that there are areas within the police power of the states that should not be preempted by Congress and leave the states free to exercise their police powers absent a clear conflict with federal law and regulation.

In this manner there should be a harmonious application of both state and federal laws and regulations since each jurisdiction would have special interests to consider.

IV. ANALYSIS OF S. 1751 AND H.R. 7501 (ADMINISTRATION BILL)

A. General

The legislation proposed by the Department of Interior, which has been introduced as the Deepwater Port Facilities Act of 1973 in both the Senate (S. 1751 introduced by Senators Jackson, Randolph, Cotton, Fannin, Johnson and Baker) and the House of Representatives (H.R. 2501 introduced by Representatives Saylor, Haley, Hosmer, Camp, Treen and Udall) deals with the whole problem of federal authorization of deepwater port facilities and for that reason is superior in form and content to any of the other bills which have been introduced at the federal level.

We feel that the Administration Bill is a fairly comprehensive treatment of the Federal Government's authority over offshore terminals and generally, with our suggested amendments, meets the requirements for the enabling legislation which we believe is necessary in this area.

B. General Summary of Administration Bill

The Administration Bill establishes authority in the Secretary of Interior to grant licenses for the construction and operation of offshore port facilities beyond the 3-mile limit from the coastline by amendment of the Outer Continental Shelf Lands Act and enactment of additional provisions specifying the Secretary's authority over licensing. The amendment of the OCSLA provides the Department of Interior with authority to grant pipeline rights of way over Outer Continental Shelf for purposes other than movement of products extracted from the Outer Continental Shelf, and to provide for the accommodation of offshore terminals with exploration and production on the Outer Continental Shelf.

The Bill provides that an application to Interior will constitute an application to all federal agencies having jurisdiction over the offshore terminal with Interior to issue licenses only with concurrence of such agencies. Specific recognition is given to the requirements of the National Environmental Policy Act. The Bill would require the Secretary of Interior to ensure that facilities licensed will be consistent with state land use programs, while not giving states an express veto power over proposed facilities. The applicant for a license will be required to reimburse the Department of Interior for all costs occasioned by the application, licensing, construction and operation of the facility. A series of open forum hearings may be held at the discretion of the Secretary of Interior whenever substantial opposition to an application is received, with a separate evidentiary hearing on issues of fact raised by the application also being authorized.

C. Recommendations

Following are our recommendations for amendments or changes in the Administration Bill which would make the Administration Bill consistent with the Guidelines for Proposed Legislation mentioned above in Section III of this Memorandum.

Recommendation 1

In order to accommodate the Bill to cover deepwater port facilities which will handle only petroleum (as well as to encompass all legislation in one bill rather than amending the Outer Continental Shelf Lands Act as proposed in the Bill):

1. A. The title of the Bill should be changed to read as follows:

"To authorize the Secretary of Interior to grant licenses for the location, installation, use and operation of petroleum deepwater port facilities."

1. B. The term "Deepwater port facility" in Section 102(b) should be changed to "Petroleum deepwater port facility" and the definition should be changed to that Section 102(b) would read as follows:

"(b) 'Petroleum deepwater port facility' means a facility constructed in the outer Continental Shelf for the principal purpose of providing for the transshipment of petroleum between vessels and the United States. It includes all associated equipment and structures in the outer Continental Shelf such as artificial islands, mooring buoys, pumping platforms, pipelines and connections thereto."

(Among other things, this change will obviate the necessity of the Secretary issuing pipeline rights of way. Since the Secretary is empowered to issue a license

for such a facility the license would include a license to locate, construct, operate and maintain pipelines.)

1. C. A new subdivision (f) should be added to Section 102 to read as follows:

"(f) The term 'outer Continental Shelf' means all submerged lands lying seaward and outside the area of lands beneath navigable waters as defined in Section 1301 of Title 43 of the United States Code, and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control."

(This is the same definition used in the Outer Continental Shelf Lands Act and should be used here as designating the area to which the proposed Act applies rather than as "beyond three nautical miles from such coast" as proposed in 102(b) of the Administration Bill. By this amendment it will be certain that the Federal Government is not attempting to invade the province of the States of Florida and Texas whose jurisdiction extends three marine leagues, or approximately 10½ miles, whereas other states' jurisdiction extends only three miles seaward.)

1. D. Wherever the phrase "deepwater port facilities" appear in the Bill it should be changed to "petroleum deepwater port facilities".

1. E. A new subdivision (g) should be added to Section 102 to read as follows:

"(g) The term 'petroleum' means crude oil, and any products or byproducts of crude oil, or natural gas, or any combination thereof, which may be transported as a liquid."

1. F. The words "for transporting petroleum" should be added between the words "vessels" and "and" in line 17 on page 2 of the Bill.

Recommendation 2

The Administration Bill would amend the Outer Continental Shelf Lands Act (OCSLA) by providing in Section 5(a)(1) that the Secretary of Interior shall prescribe rules and regulations to accommodate the exploration and exploitation of the oil and gas and other mineral resources of the Outer Continental Shelf with the construction and operation of deepwater port facilities; and in Section 5(c) by eliminating the words "produced from said submerged lands in the vicinity of the pipeline", thereby allowing the Secretary of Interior to issue pipeline rights of way through the submerged lands of the Outer Continental Shelf for the transportation of oil or natural gas, whether or not such oil or gas pipelines are used for transportation of oil or gas produced from said submerged lands.

Under Section 5(c) of the OCSLA the granting of rights of way for oil and gas pipelines are subject to the express condition that oil or gas pipelines shall transport or purchase without discrimination in such proportionate amounts as the Federal Power Commission (FPC) in the case of gas, and the Interstate Commerce Commission (ICC) in the case of oil, may determine to be reasonable.

Under the Administration Bill, the administration of deepwater port facilities and its sea-to-shore pipelines will be split between two authorizing acts. Furthermore, the limited economic jurisdiction of the ICC under the OCSLA may not be sufficient to cover all the activities of deepwater port facilities. Therefore, it is our recommendation that the objectives of the amendments of the OCSLA be accomplished by weaving them into the Bill, thereby obviating the necessity of amending the OCSLA. This objective may be accomplished in the following manner:

2. A. Under Section 104(a) of the Bill, the "Secretary is authorized to issue reasonable rules and regulations governing application for and issuance of licenses and the construction and operation of deepwater port facilities under this Act." At the end of this section, there may be added the language otherwise used to amend Section 5(a)(1) of the OCSLA. Thus, the following language may be added at the end of Section 104(a) of the Bill:

"The Secretary may prescribe such rules and regulations as he deems necessary to accommodate the exploration and exploitation of the oil and gas and natural resources of the outer Continental Shelf with the construction and operation of petroleum deepwater port facilities licensed by him." In our opinion, this would accomplish what was intended by the amendment of Section 5(a)(1) of the OCSLA.

2. B. It is our opinion that the ICC will have economic jurisdiction over the operation of the petroleum deepwater port facilities, and such facility would be a common carrier subject to all ICC rules and regulations under Part I of the ICC Act. However, this matter should be made certain by adding the following language as a subsection to Section 111 of the Bill:

"Every licensee of a petroleum deepwater port facility in the receipt, transportation by pipeline, and terminalling of petroleum shall be a common carrier of petroleum by pipeline under Part I of the Interstate Commerce Commission Act of February 4, 1887, as amended (49 U.S.C. §§ 1-27)."

Recommendation 3

It is recommended that Section 102(e) and Section 103(a) be amended by deleting in Section 102(e) the words "significant alterations", and substituting therefor the words "substantial physical addition"; and by deleting in Section 103(a) the word "significant" and inserting therefor the words "substantial physical". These changes are deemed necessary for the purpose of clarity, as the word "significant" is felt to be ambiguous and therefore a source of dispute and litigation. These changes will also make for greater consistency in the language of the two sections involved.

Recommendation 4

Section 103(b)(3) appears to authorize the Secretary of Interior to impose environmental requirements which might differ from those of the National Environmental Policy Act. Since NEPA's Environmental Impact Statement requires a full description of measures which can prevent and minimize adverse environmental impact, the same objects of Section 103(b)(3) can be accomplished by eliminating that section from the Bill and adding to Section 104(d) dealing with NEPA the following language: "The Secretary shall consider all significant aspects of the location, construction or operation of the facility, including any connecting pipeline and measures which can prevent or minimize adverse significant environmental effect, in relation to: . . . (to be followed by language of Section 103(b)(3), A through F, as it now appears in the Bill)."

In the alternative, if consolidation of the language of Section 103(b)(3) into Section 104(d) is not desirable, some limitations and guidelines on the scope of the Secretary of Interior's environmental requirements should be added to the first sentence of Section 103(b)(3) so that it would read as follows:

"(3) The facility will be located, constructed, or operated in a manner designed to minimize or prevent adverse significant environmental effects, taking into account the national interest and proven technology which is commercially available and economically reasonable."

Recommendation 5

Section 103(e) should be amended so as to make the decision of the Secretary of Interior one which is consistent with state land use policies but not necessarily subordinate to those policies. This approach seems more consistent with the intent of the Bill, which contemplates accommodation between various uses and the recognition of national interest. The amendment we suggest is as follows:

"(e) The Secretary shall consult with the governor of any State off whose coast the facility is proposed to be located in order to accommodate the operation of the facility and directly related land based facilities with the state land use program."

Recommendation 6

Section 103(g) of the Bill provides that "Licenses issued hereunder may be transferred after the Secretary determines that the transferee meets the requirements of this Act." In order to avoid any construction that a transferee may have to go through the total licensing procedure provided for in the Act, we suggest that the words "this Act" be deleted and in their place the following words substituted therefor: "subsection (b)(1) of this Section 102." Subsection (b)(1) provides a license may be issued to any citizen of the United States if the applicant is financially responsible and has demonstrated his ability and willingness to comply with applicable laws, regulations and license conditions.

Recommendation 7

Section 104(a) authorizes the Secretary to issue rules and regulations governing application for and issuance of licenses and the construction and operation of deepwater port facilities. It is not anticipated that a large number of projects will be constructed since the Act will be restricted to *petroleum* deepwater port facilities. Therefore, it is unnecessary for the Secretary to establish general regulations concerning construction and operation. Each petroleum deepwater port

facility will be a thing unto itself and probably not subject to general rules and regulations on construction and operation. Therefore, we recommend deletion of Section 104(a) and leave to the Secretary under Section 107 the authority to attach conditions concerning the construction and operation of the facility, and leave to Section 105(a) the Secretary's authority to prescribe rules and regulations in relation to the application for and issuance of a license.

Recommendation 8

Section 104(b) is not clear in respect to reimbursement of potentially large sums of money which may fall on the applicant. Hence, the following amendment seems necessary:

"(b) In carrying out all of his functions under this Act, the Secretary is authorized to consult with all interested or affected Federal agencies and to utilize on a reimbursable basis from monies appropriated to the Department of Interior the full resources of the Federal Government in ocean engineering and undersea technology."

Recommendation 9

Section 104(c) may be read to limit the application only to those facilities located beyond the three-mile limit, thereby requiring separate and additional federal applications to agencies such as the Corps of Engineers for pipelines and structures within navigable waters, and to EPA for onshore facilities. This result is probably unintentional in view of the Act's stated purpose of providing a "mechanism whereby all federal permits necessary for all construction of the deepwater port facility will be handled through a single application filed with the Interior Department". Nevertheless, an amendment to that effect seems mandatory. Moreover, it is desirable to point out that the process should not be unduly delayed. To accomplish these ends Section 104(c) should be changed to read as follows:

"(c) An application filed with the Secretary for a license under this Act shall constitute an application for all federal authorizations required for construction and operation of a petroleum deepwater port facility and all related facilities whether located in waters, seabed, or onshore. The Secretary upon receipt shall forward a copy of the application to those federal agencies having jurisdiction over any of the construction and operation of the petroleum deepwater port facility and all related facilities whether located in waters, seabed, or onshore. The agencies shall as expeditiously as possible notify the Secretary whether or not the application meets the requirements of the laws which they administer. If any such agency is of the opinion that the application does not meet such requirements, it shall advise the Secretary of what is necessary to meet such requirements. The Secretary shall forthwith convey such requirements to the applicant who may amend his application or seek such other remedies that may be available to him under law. Hearings held pursuant to this Act shall be consolidated insofar as practical with hearings held by other agencies in order to avoid undue delay in the consideration of applications for licenses."

Recommendation 10

Section 105(a) requires the Secretary to prescribe by regulation the procedures, including appropriate charges, for the submission and consideration of applications for licenses. It is unnecessary to make this matter mandatory and the word "shall" in line 10 on page 8 of the Bill should be changed to the word "may". The second sentence of Section 105(a) should be stricken since under the first sentence thereof the Secretary could include the requirements that the application contain the necessary financial, technical and other information. In order to show that the issuance of such rules are not mandatory the following language should be added as a second sentence to Section 105(a):

"Applications may be made and licenses issued without the necessity of the Secretary issuing regulations permitted hereunder."

Recommendation 11

We recommend language be added as a subsection to Section 105 to protect trade secrets in the following manner:

"(a) Copies of any communications, documents, reports, or information received or sent by an applicant shall be made available to the public upon identi-

fiable request, and at reasonable cost, unless such information may not be publicly released under the terms of subsection (b) of this section.

"(b) The Secretary shall not disclose information obtained by him under this Act which concerns or relates to a trade secret referred to in Section 1905 of Title 18, United States Code, except that such information may be disclosed—

"(1) to other Federal Government departments, agencies, and officials for official use upon request;

"(2) to committees of Congress having jurisdiction over the subject matter to which the information relates;

"(3) in any judicial proceeding under a court order formulated to preserve the confidentiality of such information without impairing the proceedings;

"(4) to the public in order to protect their health and safety after notice and opportunity for comment in writing or for discussion in closed session within fifteen days by the party to which the information pertains (if the delay resulting from such notice and opportunity for comment would not be detrimental to the public health and safety).

"Nothing contained in this section shall be deemed to require the release of any information described by subsection (b) of section 552, title 5, United States Code, or which is otherwise protected by law from disclosure to the public."

Recommendation 12

Section 107(1) may impose a heavy financial burden, especially as a condition to obtaining a license. Furthermore, the conditions are not subject to any limitation, and are thus open-ended, and may be applied unevenly to applicants. A better approach will be to place authority in the Secretary to promulgate rules and regulations with respect to reimbursement which will be uniformly applied to all applicants. This could be achieved by the following language: "The Secretary may prescribe by regulation reasonable reimbursement by the licensee of the costs occasioned by the licensing", which could be added to either Section 104(a) or Section 105(a) and Section 107(1) eliminated.

Recommendation 13

Since under our Recommendation 2. B. the ICC will have economic jurisdiction over the operation of a petroleum deepwater port facility Section 107(5) is unnecessary and should be eliminated.

Recommendation 14

In Section 109, it is recommended that the word "shall" be changed to "may" so as to make the additional punishment permissible but not mandatory, in view of the fact that punishments impossible under existing laws other than the Administration Bill should in themselves serve as considerable deterrence to violations by the licensee.

Recommendation 15

Section 110 should be amended to expressly provide that any determination on revocation or suspension of licenses be subject to 5 U.S.C. § 706 to ensure judicial of the reasonableness of the Secretary's decision to suspend or revoke licenses. It is also suggested that actions by the Department of Interior be taken to the U.S. District Court nearest the facility as the same would logically be the most convenient forum to hear such matters. The section as amended would read:

"(a) Whenever a licensee fails to comply with any provision of this Act, or any rule, regulation, restriction or condition made or imposed by the Secretary under the authority of this Act or fails to pay any penalty assessed under Sections 108 or 109 (except where a proceeding for judicial review of such assessment is pending) the Secretary may, subject to the provisions of 5 U.S.C. § 706, file an action in the United States District Court nearest the facility to either (1) suspend operations under the license, or (2) if such failure is knowing and continues for a period of thirty days after the Secretary mails notice of such failure by registered letter to the licensee at his record post office address, revoke such license; *provided. . . .*"

Recommendation 16

All of Section 111 is a cumbersome and untried method of extending federal jurisdiction to the Outer Continental Shelf. As indicated in our Guidelines for Proposed Legislation, in Section III of this Memorandum, the time-honored

method used in the OSCLA in extending federal jurisdiction to the Outer Continental Shelf for resource development should be used in extending federal jurisdiction for petroleum deepwater port facilities.

To accomplish this the language of 43 U.S.C.A. § 1333, revised to apply to petroleum deepwater port facilities, should be used in lieu of the present Section 111 of the Administration Bill. This language, so revised, reads as follows:

"Section 111. (a) (1) The Constitution and laws and civil and political jurisdiction of the United States are extended to the subsoil and seabed of the outer Continental Shelf and to petroleum deepwater port facilities which may be erected thereon; and to the waters related thereto, to the same extent as if the outer Continental Shelf were an area of exclusive federal jurisdiction located within a state or located in navigable waters or in the U.S. contiguous zone: *Provided, however,* That petroleum deepwater port facilities on the outer Continental Shelf may be constructed and operated only under the provisions of this Act.

"(2) To the extent that they are applicable and not inconsistent with this Act or with other federal laws and regulations now in effect or hereafter adopted, the civil and criminal laws of each adjacent state as of the date this Act becomes final are declared to be the law of the United States for that portion of the subsoil and seabed of the outer Continental Shelf, and petroleum deepwater port facilities erected thereon, which would be within the area of the state if its boundaries were extended seaward to the outer margin of the outer Continental Shelf, as the President has or shall determine. All of such applicable laws shall be administered and enforced by the appropriate officers and courts of the United States. State taxation laws shall not apply to the outer Continental Shelf.

"(3) The provisions of this section for adoption of state law as the law of the United States shall never be interpreted as a basis for claiming any interest in or jurisdiction on behalf of any state for any purpose over the seabed and subsoil of the outer Continental Shelf, or the property and natural resources thereof or the revenues therefrom.

"Jurisdiction of United States district courts

"(b) (1) The United States district courts shall have original jurisdiction of cases and controversies arising out of or in connection with any operations conducted on the outer Continental Shelf relating to operation and use of petroleum deepwater port facilities, and proceedings with respect to any such case or controversy may be instituted in the judicial district in which any defendant resides or may be found, or in the judicial district of the adjacent state nearest the place where the cause of action arose.

"(2) Foreign flag vessels or natural or juridical persons who are not nationals of the United States using such facilities shall be deemed to consent to the jurisdiction of the United States for the purposes of this Act and the owner of each such vessel, and the owner of the cargo carried therein, before using such facilities shall appoint an agent for service of process in the judicial district nearest the location of such deepwater port facility.

"Applicability of Longshoremen's and Harbor Workers' Compensation Act; definitions

"(c) With respect to disability or death of an employee resulting from any injury occurring as the result of operations relating to petroleum deepwater port facilities, compensation shall be payable under the provisions of the Longshoremen's and Harbor Workers' Compensation Act. For the purposes of the extension of the provisions of the Longshoremen's and Harbor Workers' Compensation Act under this section—

"(1) the term 'employee' does not include a master or member of a crew of any vessel, or an officer or employee of the United States or any agency thereof or of any state or foreign government, or of any political subdivision thereof;

"(2) the term 'employer' means an employer any of whose employees are employed in such operations; and

"(3) the term 'United States' when used in a geological sense includes the outer Continental Shelf and artificial islands and fixed structures thereon.

"Applicability of National Labor Relations Act

"(d) For the purposes of the National Labor Relations Act, as amended, any unfair labor practice, as defined in such Act, occurring upon any petroleum deep-

water port facility shall be deemed to have occurred within the judicial district of the adjacent state nearest the place of location of such island or structure.

"Coast Guard regulations; marking of islands and structures; offenses and penalties"

"(e) (1) The head of the Department in which the Coast Guard is operating shall have authority to promulgate and enforce such reasonable regulations with respect to lights and other warning devices, safety equipment, and other matters relating to the promotion of safety of life and property on the petroleum deepwater port facility or on the waters adjacent thereto, as he may deem necessary.

"(2) The head of the Department in which the Coast Guard is operating may mark for the protection of navigation any portion of such petroleum deepwater port facilities whenever the owner has failed suitably to mark the same in accordance with regulations issued hereunder, and the owner shall pay the cost thereof.

"Prevention of obstruction to navigation by Secretary of the Army"

"(f) The authority of the Secretary of the Army to prevent obstruction to navigation in the navigable waters of the United States is extended to petroleum deepwater port facilities located on the outer Continental Shelf.

"Provisions as nonexclusive"

"(g) The specific application by this section of certain provisions of law to the subsoil and seabed of the outer Continental Shelf and the petroleum deepwater port facilities or to acts or offenses occurring or committed thereon shall not give rise to any inference that the application to petroleum deepwater port facilities, acts, or offenses of any other provision of law is not intended.

"(h) To the extent that the Federal Water Pollution Control Act or the Clean Air Act require or presuppose action on the part of any state, such action may, as appropriate, be waived or taken by the Administrator of the Environmental Protection Agency. A petroleum deepwater port facility licensed under this Act shall not be considered 'a vessel or other floating craft' for purposes of Section 502(12) of the Federal Water Pollution Control Act."

It should be pointed out that subsection (b) (2) of the proposed Section 111 is not included in the OSCLA, but (b) (2) is included to be consistent with the desire that foreign flag vessels and cargo owners using petroleum deepwater port facilities will be subject to U.S. jurisdiction even though the acts of such persons may be thought to have occurred on the high seas.

It should also be noted that our Recommendation 2. B. above suggests an additional subsection to Section 111 to cover the economic jurisdiction of the ICC.

Recommendation 17

Section 112 preserves to the states their submerged lands rights, namely "all applicable laws or regulations of such state or possession to the extent not inconsistent with federal law or regulation. Nothing in this Act shall be construed as precluding a state from imposing, within its jurisdiction, more stringent environmental or safety regulations." That last sentence may be interpreted to mean that state environmental or safety regulations do not need to be consistent with the United States Constitution or paramount federal law, which cannot be what Section 112 intends. Furthermore, it seems desirable to reiterate the paramount rights retained by the United States in the submerged lands, 43 U.S.C. §§ 1311(d) and 1314(a). Thus, Section 112 should be amended to make it clear that the authority of the United States in the Submerged Lands Act is not diminished by Section 112. The last sentence of Section 112, as appears in the Administration Bill should be deleted and the following substituted: "Nothing in this section shall affect the paramount rights of the United States pursuant to the Submerged Lands Act, 43 U.S.C. §§ 1311(d) and 1314(a)."

The federal paramount rights pursuant to the Submerged Lands Act comprise the constitutional authority of Congress to improve navigation and the rights to regulate commerce, navigation, national defense and international affairs.

Recommendation 18

The following language should be added as a part of Section 113:

"This Act shall not be applied in any manner to require the license of a petroleum deepwater port facility to provide supply services to vessels which may unload at or otherwise use the facility or to provide for the passage of persons through the facility for transportation between ports for shore leave, or for immigration.

SEADOCK,
Houston, Tex., August 3, 1973.

HON. MORRIS UDALL,
Chairman, Environmental Subcommittee, Committee on Interior and Insular Affairs, House of Representatives, Washington, D.C.

DEAR MR. UDALL: In the course of my June 6 testimony regarding deepwater tanker unloading facilities, I was asked to furnish for the Record three pieces of information.

The first of these, an analysis of H.R. 7501, was sent to you last week. I am enclosing the answers to the other two questions.

One of these—see Pages 97-98 of transcript—concerned the volume of crude oil that might be expected to flow from the SEADOCK facility to refineries other than those of the present SEADOCK participants located on the Texas and Louisiana coasts.

In this connection, I am also enclosing an article from the February 6, 1973, *Tulsa World* which describes the preliminary planning for a new pipeline to move imported oil from the Gulf Coast to Oklahoma and other inland refineries.

The final request—see Page 96 of transcript—concerned the plans of SEADOCK for spill prevention and control. A detailed description of our plans is enclosed.

If you have any questions about these submissions, please contact me or Mr. Terry Rice in the Washington Office of Continental Oil Company.

Sincerely yours,

ROBERT CHITWOOD.

VOLUMES FLOWING THROUGH SEADOCK TO THE MIDWEST

It is estimated that approximately 600,000 barrels per day will be moving from the Seadock onshore facilities to refineries other than those of the present participants located along the upper Texas and western Louisiana Gulf Coast area by the tenth year of operation. That would represent 15% to 20% of the volume forecast for the SEADOCK system. A substantial portion of that total will be destined for the Mid-Continent Region of Kansas and Oklahoma.

The availability of crude oil to Gulf Coast refineries through the Seadock system will allow New Mexico and West Texas crudes now being refined on the Gulf Coast to be diverted through existing pipelines to the Mid-Continent. The extent of such diversions is difficult to determine but may total as much as an additional 500,000 barrels daily.

Therefore, crude entering the United States through the facilities of SEADOCK will directly or indirectly (through diversion) benefit the interior region by an estimated 1 million barrels or more daily by 1985. This will represent about 30% of the total volume forecast for SEADOCK in 1985.

PLAN FOR GULF COAST-OKLAHOMA BIG-INCH OIL LINE PROGRESSING

(By Riley W. Wilson, *World Oil Editor*)

Plans for a big-inch crude oil line from the Gulf Coast to the Mid-Continent region—one that could feed imported oil to Oklahoma refineries—have progressed into a second phase.

A dozen companies are involved in preliminary studies of such a line, presently called Arrowhead.

It would relieve the severe shortage of crude oil in Oklahoma, Kansas and other inland areas.

Following initial surveys, the companies have launched an engineering and cost study of routes and other alternatives.

It will be completed in 6 to 8 weeks, when decisions will be made on whether to proceed further.

The engineering-cost findings are not designed for a "go-no go" decision, but could have that effect, a member of the Arrowhead steering committee said.

The crude shortage situation "gets worse every month" and some of the companies may wish to proceed with the pipeline immediately, he added.

One of the factors being considered in the current Phase II study involves tanker terminals on the Gulf Coast.

Several supertanker sites have been proposed, but all are being held up by ecological and other considerations.

Because of the crude shortage, a determination may be made to proceed with the line before the exact terminal sites are selected.

Cost estimates will be made to determine the effects of such action in case anticipated terminal sites are changed, it is understood.

Size of the proposed line has not yet been determined, but Arrowhead companies believe it must be at least 24 inches in diameter in order to be economic. It would be as large as 30 inches.

Capacity of such a system would be between 200,000 and 400,000 barrels daily.

Companies currently in the Arrowhead study group are Kerr-McGee Corp., Apco Oil Corp., OKC Refining Co., Midland Cooperatives, Cooperative Refinery Association, Derby Refining Co., Sun Oil Co., Lion Oil Co., Phillips Petroleum Co., Vickers Petroleum Co., American Petrofina Co., NCRA Inc.

All have refineries in Oklahoma, Kansas or Arkansas.

SEADOCK—SPILL PREVENTION AND CONTROL

INTRODUCTION

The proposed SEADOCK facilities include offshore crude oil unloading terminals, a pipeline system with marine and onshore segments for moving the oil to shore, offshore pumping and operating platforms and an onshore storage terminal.

SEADOCK will be designed, operated and maintained in a manner to minimize the possibility of oil spills. Comprehensive facilities will be included to prevent oil spills and to quickly detect and limit the extent of any spills which do occur. Operating and maintenance procedures will be established to insure continued safe operations.

SEADOCK will employ techniques which have been proven in the industry and which are in full compliance with applicable industry standards and governmental regulations.

A partial listing of Federal and State regulations and industry codes, which apply to offshore and onshore liquid pipelines, is included as an appendix.

DESIGN

SEADOCK will utilize the highest quality of materials, rigid specifications and careful inspection and quality control procedures. These design considerations will provide maximum protection for the environment, insure reliable operation and minimize the high cost of repair of marine facilities.

Design features required to prevent or minimize the possibility of major oil spills include those related to (1) safe operation of tanker unloading, (2) prevention and control of line breaks in major pipeline systems and (3) prevention and containment of spills from onshore storage tanks.

Tanker Unloading

SEADOCK tanker unloading facilities will be designed with emphasis on safe movements and mooring of tankers and prevention of oil spills during tanker unloading.

Application will be made to appropriate governmental authorities to establish new dedicated approach and departure sea fairways of adequate width and separated by a clear buffer zone. Application will also be made to establish anchorage areas, located in water depths equal to or greater than that of the mooring area and away from all pipelines. The SEADOCK fairways and anchorages will be marked by marker buoys.

The single point moorings (SPM's) will be located in water depths sufficient to provide a safe minimum under-keel clearance over any obstruction in the approach area and within the turning circle. Tentative recommendations are for a clearance of 12 feet for vessels up to a maximum draft of 75 feet and for a clearance of 15 feet for vessels up to a maximum draft of 95 feet. Final clearance recommendations will be based on further studies of meteorological/oceanographic data and on research studies of vessel motion.

For adequate maneuvering clearance for tankers, a minimum spacing of 8,000 feet will be provided between SPM's and platforms, and 5,000 feet between SPM's.

SPM's, SPM hoses and offshore platforms will be equipped with navigational aids (signal lights, fog horns and hose winker lights) in accordance with U.S. Coast Guard regulations. In addition to the required navigational aids, radar transponders will be installed on the SPM's and platforms and radar units will be installed at each platform complex control center.

Design of all hoses will be in accordance with industry codes which specify a maximum working pressure as a fraction of the minimum burst pressure allowing an ample safety margin. The hoses for SEADOCK will be selected with a working pressure equal to or greater than the maximum pressure which can be developed by the tanker pumping system. SEADOCK will require that all tankers unloading at the terminal be equipped with a relief by-pass system or other effective controls to limit the maximum tanker developed pressure to the working pressure of the hoses.

All floating hoses will be equipped with valves located at the free end of the hose adjacent to the flange for connection to the tanker manifold.

Pumping Equipment and Pipelines

Proper design of piping systems, operating and protective controls, corrosion protection and protection against external damage will minimize the possibility of a line break and limit the extent of an oil spill should a break occur.

SEADOCK piping systems will be designed and constructed in accordance with applicable codes and regulations which limit their maximum pressure to a safe limit and avoid failures from overpressure. The regulations specify the maximum allowable operating and surge pressure limits in accordance with the pipe strength and appropriate safety factors.

Operating controls will be provided to insure normal operation within the design operating pressure limits. The primary operating pressure control at pumping stations will be a pressure control instrument sensing station discharge pressure and regulating the speed of turbine driven pumps. A secondary or backup operating pressure control system will be provided through the SEADOCK central control computer located at the Freeport onshore storage terminal. The computer will monitor the delivery pressure of each pipeline system and upon detection of a rise in delivery pressure exceeding a preset limit, the computer will automatically reduce the operating pressure at the pumping station by a step reduction in turbine drive speed.

A system of local direct wired valve interlocks and interlocks functioning through the central computer will be provided to prevent accidental line blockage from incorrect valve operation.

Overpressure protective controls will be included to insure that the allowable surge pressure limit is not exceeded should the operating controls malfunction or in case of an incorrect operating procedure. For maximum reliability, protective controls will be installed locally (not dependent on communications or central control) and will be made as simple and fail safe as technology permits. Redundant systems will be used with each system having separate instrumentation and functioning through separate control circuitry. Over-pressure protective controls for pumping stations will consist of pressure switches sensing pump station discharge pressure. Should the discharge pressure reach the first level of protection, the controls will cause a rapid slowdown of turbine drive speed. Pressure switches set at the second level of protection will shutdown all operating units.

Line relief systems consisting of relief valves, dedicated relief lines and relief tankage will be provided at the onshore storage terminal to prevent excessive incoming line pressure. The relief valves will automatically open at a preset pressure and limit the pressure rise from accidental line blockage or other causes to a safe value. Thermal relief systems will be provided to prevent excessive pressure build-up in closed off piping sections from thermal expansion of the crude oil.

Final selection and settings of overpressure controls will be based on a comprehensive engineering study of potential maximum surge pressures throughout the system.

SEADOCK equipment and piping systems will be protected against external corrosion. Although marine pipeline systems operate in one of the most corrosive of natural environments, few marine pipeline failures have been caused by corrosion. This favorable experience is a result of the special designs that have been used to mitigate against corrosion for most marine pipelines. Corrosion protection for marine systems, as well as onshore systems, is well understood and

the materials and techniques required for adequate maintenance against corrosion are available.

Corrosion protection of SEADOCK piping systems will be accomplished by proper material design and selection, by external coatings and by applying cathodic protection.

SEADOCK will select appropriate and reliable external coating systems for marine and onshore pipelines from among those types which have proven satisfactory in similar service. Available types range from thin film epoxy coatings to thick mastic systems composed of an aggregate bound together with an insulating asphalt. Where additional weight is required for negative buoyancy (offshore lines and water crossings) and for protection against mechanical damage, a concrete coating reinforced with wire mesh will be applied over the corrosion coating.

Cathodic protection systems will be used to supplement the protection provided by coatings. Cathodic protection will be applied to marine and onshore pipelines by the use of impressed current systems which utilize an external direct current power source and an anode or ground bed. Additional or backup protection will be provided for marine pipelines by the use of sacrificial anodes. The sacrificial anode system, consisting of zinc bracelets placed around the pipeline at regular intervals, will provide protection during construction and during periods when the impressed current system may be out of service.

SEADOCK offshore and onshore pipelines will be buried for protection against mechanical damage. Minimum cover for offshore lines will be three feet in open areas with additional depth provided at SPM and platform areas, fairway crossings and at shore approaches. Minimum cover for onshore lines will be three feet in open country and deeper at major stream crossings.

Storage Facility

Onshore storage tanks will be designed and constructed to insure maximum structural integrity and to minimize the possibility of failure. Tanks will be of all welded construction. Floating roofs will be used to minimize vapor release and to reduce corrosion problems. Foundation design will be based on extensive soil analysis tests and will include adequate safety margins. Appropriate external and internal tank coatings supplemented by cathodic protection will be used to prevent corrosion of the tank shell, roof and bottom.

Tanks will be located inside diked areas with the dike sized to contain the entire contents of the largest single tank within the dike.

Drainage of rainwater from the tank roofs will be directed to a suitable water treatment facility constructed and operated in accordance with applicable water quality standards. Rainwater from the diked area will be retained by a valve which is normally left closed and will be released either through the water treatment facility or directly to the plant clean water discharge system after analysis has established that the run-off water meets water quality standards.

Tanks will be equipped with a liquid level gauging system with readout locally at the tank side and in the SEADOCK control center. High liquid level alarms to prevent tank overflow will be included.

Prior to placing in service, tanks will be subjected to a thorough testing program including hydrostatic testing by filling with water.

Prevention of Minor Spills

SEADOCK design will also be directed to the prevention and control of minor spills and to the prevention of oil contamination of run-off water.

Offshore platforms will incorporate curbs and drains for all deck areas under pumping equipment and piping manifolds. Rainwater and any oil spillage will be drained to an oil-water sump where it will be collected and either pumped into a pipeline or pumped to an oil-water separator and water treatment facilities before discharge. Oil drainage from pump seals and oil drained from equipment and piping for maintenance purposes will be piped to an oil sump which will be pumped to a pipeline. Sumps will be equipped with level controls for automatic pump operation and with high level alarms to prevent overflow.

The onshore terminal will be equipped with similar facilities for pumping and manifold areas. Facilities will also be provided at the onshore terminal, for control of area run-off water to insure compliance with water quality standards.

OPERATION

Operating facilities and procedures for SEADOCK will be designed and established to maximize the safety of tanker unloading and pipeline operations.

SEADOCK will be highly automated with centralized computer assisted control and extensive local automatic controls and protective systems. Highly trained personnel will be assigned for operation of the system.

Operation of the SEADOCK system will be directed from a control center located at the Freeport onshore terminal. A computer based supervisory control system operating over SEADOCK communication circuits will be provided for remote control and monitoring from the control center of each SEADOCK operated facility. The supervisory control system will employ dual computers, cathode ray tube displays and other proven "state of the art" techniques.

The control center will be staffed by one or more shift dispatchers who will be responsible for complete operation of the pipeline system.

A full complement of operational computer programs will be provided to assist the dispatcher in safe operation of the system. The computer will monitor equipment status and critical operating variables and alert the dispatcher to any unauthorized change or deviation from normal. Other computer programs will relieve the dispatcher of routine calculations and operating functions and permit his attention to overall safety and efficiency of operation.

Extensive communications facilities will be provided to assure safe operations; both under normal and emergency conditions. A combination of privately owned microwave and leased circuits will link the Freeport control center to each SEADOCK facility for supervisory control and for voice. Radio systems will be provided for voice communications with SEADOCK sea, air and land mobile units and for medium and short range voice communications with tankers. Redundancy will be included in the design of the communication system to enhance continuity and avoid a total outage from a single failure.

Under normal conditions, the shift dispatcher will control the principle pipeline operating functions directly from the control center. Auxiliary operating functions incidental to main line operations will be performed by local personnel. Local personnel will also investigate and correct equipment problems and be available for back-up assistance to the dispatcher if required.

Marine operations, (mooring of tankers, connection of hoses, etc.) will be handled by offshore crews under local platform based supervision.

Marine operations

Operating procedures for marine operations will be established by SEADOCK in accordance with applicable provisions of the International Oil Terminal and Tanker Safety Guide, U. S. Coast Guard Regulations, and other applicable Federal regulations. A SEADOCK Terminal Procedures Manual, outlining required safety regulations and other terminal information, will be prepared and made available to all tankers calling at the terminal. Any tanker failing to comply fully with all required safety features will not be permitted to offload at the terminal.

SEADOCK will require that schedules for all vessels using the facility be furnished by the company owning the oil being transported. This will enable SEADOCK to coordinate incoming arrivals and to operate the terminal in an orderly manner.

Ships approaching the unloading area will be required to make radio contact with the onshore control center which will direct all movements into and away from the facility. Ships will be required to contact the control center 72 hours prior to arrival and again 24 hours and 12 hours prior to arrival.

Communications with tankers, other than in the immediate terminal area, will be conducted from the Freeport control center over a SEADOCK privately owned voice radio system operating in the International Marine medium frequency (MF) band. This will avoid the congestion of public radio systems and insure reliable medium range communications. Once inside the immediate terminal area (20 or 30 miles), communications will be established in the International Marine very high frequency (VHF) band. SEADOCK communications with launches, helicopters and Mooring Masters onboard tankers will be over a private ultra high frequency (UHF) radio system. Communications capability in the VHF and UHF bands will be provided from each platform area and from the Freeport control center. The multiple radio systems will enhance reliability by providing an alternate communications path should one system be out of service.

The use of scheduling control and reliable communications systems, SEADOCK navigational aids and platform based radar units coupled with the sophisticated radar and guidance system on board the ships, will increase the safety of tanker movements.

Upon arrival in the vicinity of the terminal area, ships will be directed to proceed to a buoy or given anchorage instructions. Before proceeding to the mooring area, SEADOCK will dispatch a Mooring Master and other trained personnel to board the tanker and to direct all mooring operations and subsequent unloading operations. The Mooring Masters will be fully qualified individuals holding masters licenses. SEADOCK launches will assist in the mooring and hose handling operations.

All hose handling procedures including connecting to the tanker manifold and disconnecting will be conducted in accordance with strict operating procedures and under the direct supervision of SEADOCK personnel to avoid potential oil spills. Hoses and hook-up equipment will be inspected prior to the mooring of each tanker. When not in service, the hose and valve will be closed and a blind flange attached. The blind will not be removed until the hose is in place over the oil catch pan onboard the tanker and will be reinstalled before the hose is lowered into the water after unloading is completed.

SPILL PREVENTION AND CONTROL

After the mooring and hose connection is completed, the Mooring Master onboard the tanker will request permission from the Freeport control center to commence pumping operations. The control center will be responsible for correct valve line-up to onshore tankage, for control of platform pumping and for monitoring the safety of all pipeline operations.

At the start of pumping operations, pressure will be increased slowly to insure integrity of hoses and connections. Inspection and surveillance by on-site personnel and monitoring at the onshore control center will be maintained continuously during the discharge operation. Upon completion of unloading or at the outset of impending severe weather, all operations will be shutdown and the system secured. When all valves are closed and the system secured, the hoses will be disconnected and lowered into the water, the mooring lines released and the tanker will back away from the buoy and depart the terminal area.

Established operating procedures will restrict operations in severe weather or high seas. Tentative restrictions are a maximum of six to eight-foot significant seas for mooring operations. Unloading operations will cease if seas built to greater than twelve feet and tankers will leave the berth if seas continue to build to greater than fifteen feet.

Pipeline Operations

Facilities will be provided and operating procedures established for monitoring the integrity of each pipeline segment in the SEADOCK system and for rapid shutdown and isolation of the affected segment should a line break be indicated. Line break detection and control will be based on the most accurate and reliable proven techniques available to the industry.

The dispatcher at the Freeport control center will have the primary responsibility for monitoring line integrity. Local observations, as required, will be made by on-site personnel who will be in close communications contact with the dispatcher.

Each pipeline segment will be monitored for line integrity when shut down as well as when operating. Operation of the pipeline systems will be intermittent corresponding to tanker unloading. To permit monitoring during shutdown periods, pipelines will be shutdown in a manner to insure a residual pressure from line pack.

SEADOCK will use the following methods for line break detection:

1. Monitoring of line pressures and flow rates.
2. Checking the line balance—comparing input and output volumes.
3. Observation by on-site personnel.
4. Periodic patrols of the pipeline route.

A system for continuous monitoring of line pressures and flow rates has the fastest response for detection of a line break. A break results in a sudden deviation from the established trend of the pressure and/or flow rate readings. The monitoring system will include computer generated deviation alarms and observation by the dispatcher of recorded readings.

Means to check the line balance by comparing input and output volumes provides a second method of leak detection. The line balance check is made at intervals in contrast to the continuous monitoring of pressures and flow rates. Thus, this method includes a possible time lag between the occurrence and detec-

tion of a break. However, attainable accuracy is better and small leaks can be detected. Line balance checks will be made by the computer with manual review and back-up.

Pipelines not in operation will be checked by continuous computer monitoring of shut-in pressure and line temperature.

Periodic air patrols will be conducted for detection of any possible small leaks not detected by other methods. The air patrols will also warn of any impending danger to the pipelines from construction activity or other encroachment by third parties.

Should a line break or possible line break be indicated, the SEADOCK dispatcher will initiate an immediate shutdown of the affected pipeline system. Facilities will be included at the control center for remote shutdown of all SEADOCK pumps. Tanker pumps will be shutdown by ship personnel at the direction of the SEADOCK dispatcher.

After the pipeline system has been shutdown following an indicated line break, line valves will be closed on each side of the break to limit the potential oil spill. Critical line valves, including a valve at each pumping station, at the onshore terminal and at other selected locations, will be closed by remote control from the control center. Less critical valves will be closed locally by personnel dispatched to the valve site.

SEADOCK offshore and onshore facilities and pipelines will be designed to withstand high winds and waves which may be experienced during storm conditions. However, prior to arrival of a severe storm or hurricane a number of precautions will be taken to protect personnel, the environment and the SEADOCK facilities. All tanker unloading operations will be suspended and the pipeline systems will be shutdown. Critical pipeline valves will be closed. Fuel supplies will be shut off. SPM hoses will be secured. Personnel will be evacuated.

After the storm has passed, an orderly procedure will be followed to restore operations. All facilities and equipment will be inspected for potential damage and needed repairs made. The pipeline routes will be patrolled. Communications will be restored. Operations will be resumed gradually with close monitoring of operating variables and with observation by on-site personnel of operating equipment and systems.

MAINTENANCE

SEADOCK will establish a comprehensive preventive maintenance program with regularly scheduled inspections and repair and replacements as needed to insure continued safe operation of all facilities. Emphasis will be placed on equipment and control facilities to prevent and control oil spills and on other safety related items.

An effective maintenance program requires well trained maintenance personnel, a set of established procedures for inspections, testing and repair and a complete and efficient record keeping system.

SEADOCK personnel will direct and be responsible for all maintenance activities. SEADOCK staff will include appropriate maintenance supervisors and personnel trained and skilled in the various required specialties (pipeline, corrosion prevention, mechanical, electrical, communications, etc.). SEADOCK staff will be supplemented by carefully selected outside contract maintenance services as required. Contract personnel will be fully instructed regarding SEADOCK requirements and procedure for safe and effective maintenance operations and contract activities will be constantly observed and inspected by SEADOCK personnel to insure compliance.

SEADOCK maintenance policy will be covered by a set of maintenance manuals prepared by SEADOCK staff. The manuals will specify required inspections and procedures and will be in full accordance with applicable governmental regulations.

Spill Prevention and Control

A maintenance record keeping system will be developed covering required reports and office and field records of all inspection and maintenance activities. Reports and records will be designed for efficient completion by maintenance personnel and effective measures will be established to insure that all required reports are filed and records completed.

APPENDIX

Partial listing of federal and state regulations and industry codes which apply to the design, construction and operation of offshore and onshore liquid pipelines.

A. FEDERAL REGULATIONS

Title 49 Code of Federal Regulations, Part 195—Transportation of Liquids by Pipelines (Department of Transportation)

Title 33 Code of Federal Regulations, Part 126—Handling of Explosives or Other Dangerous Cargoes Within or Contiguous to Waterfront Facilities (United States Coast Guard, Department of Transportation)

Title 33 Code of Federal Regulations, Part 153—Control of Pollution by Oil and Hazardous Substances, Discharge Removal (United States Coast Guard, Department of Transportation)

Title 33 Code of Federal Regulations, Part 154—Large Oil Transfer Facilities (United States Coast Guard, Department of Transportation)

Title 33 Code of Federal Regulations, Part 155—Vessel Design and Operations (United States Coast Guard, Department of Transportation)

Title 33 Code of Federal Regulations, Part 156—Oil Transfer Operations (United States Coast Guard, Department of Transportation)

Title 33 Code of Federal Regulations, Part 209—Administrative Procedure—Permits for Discharges or Deposits into Navigable Waters (Department of Defense, Army Corps of Engineers) Being superseded by Parts 124 and 125 of Title 40, Code of Federal Regulations

Title 30 Code of Federal Regulations, Part 250—Oil and Gas and Sulphur Operations in the Outer Continental Shelf (United States Geological Survey, Department of the Interior)

Outer Continental Shelf Orders

Number 7—Pollution and Waste Disposal (United States Geological Survey, Department of the Interior)

Number 8—Approval Procedures for Installation and Operation of Platforms, Fixed and Mobile Structures, and Artificial Islands (United States Geological Survey, Department of the Interior)

Number 9—Approval Procedure for Oil and Gas Pipelines (United States Geological Survey, Department of the Interior)

Title 43 Code of Federal Regulations, Part 2880 (Subpart 2883)—Regulations Pertaining to Pipelines on the Outer Continental Shelf (Bureau of Land Management, Department of the Interior)

Title 40 Protection of Environment—Chapter I, Environmental Protection Agency—Reorganization and Republication (Environmental Protection Agency)

Title 40 Code of Federal Regulations, Part 110—Discharge of Oil (Water Quality Office, Department of the Interior) (Formerly 18CFR610)

Title 40 Code of Federal Regulations, Part 115—State Certification of Activities Requiring a Federal License or Permit (Formerly 18CFR615) (Environmental Protection Agency)

Title 40 Code of Federal Regulations, Part 124—State Program Elements Necessary for Participation in the National Pollutant Discharge Elimination System (Environmental Protection Agency)

Title 40 Code of Federal Regulations, Part 125—National Pollutant Discharge Elimination System (Environmental Protection Agency)

National Oil and Hazardous Substances Pollution Contingency Plan (Council on Environmental Quality)

Title 29 Code of Federal Regulations, Part 1910—Occupational Safety and Health Standards (Occupational Safety and Health Administration, Department of Labor)

Title 29 Code of Federal Regulations, Part 1926 (Formerly 29CFR1518)—Safety and Health Regulations for Construction (Occupational Safety and Health Administration, Department of Labor) (Adopted by Reference in 29CFE1910.12)

B. STATE OF TEXAS REGULATIONS (WITH GENERAL DISCUSSION OF PROVISIONS)

Railroad Commission Oil and Gas Division Regulation Number 20-59, 200 of May 1, 1969

Conservation regulations for wells in Texas Offshore Waters and in adjacent Estuarine Zones. All gathering pipelines designed to transport oil field fluids from a well or platform to a point of sale must be equipped with automatically controlled shut-off valves at critical points in the pipeline system.

Memorandum to All Oil and Gas Operators, and All Pipeline or Other Carriers of Crude Oil, Gas Well Liquids or Associated Products—Statewide Rules 20 and 71, dated February 11, 1970

Emergency reporting procedures as well as regular monthly reports for all fires, leaks, spills or breaks of facilities that cause a loss of more than five barrels of crude oil, gas well liquids or associated products.

Rules and Regulations Governing Drilling and Producing Operations in Coastal Water (General Land Office), dated December 7, 1971

Spills, pipeline leaks and any other pollution in Coastal waters must be reported to the commissioner within twenty-four hours of discovery. New pipelines must be laid at least 24" below the bottom of the Gulf and only electronically tested new or reconditioned pipe may be used. All oil lines shall be tested to 500 pounds per square inch water pressure before use. When a peak occurs in a pipeline or flow line carrying oil or distillate, the flow will be stopped at once.

C. INDUSTRY STANDARDS

The following industry standards are included by reference within the provisions of federal regulations including Title 49, Part 195.

1. American Petroleum Institute (API)
 - (a) API Standard 6D—"API Specification for Steel Gate, Plug, Ball, and Check Valves for Pipeline Service"
 - (b) API Standard 1104—"Standard for Welding Pipe Lines and Related Facilities"
 - (c) API Specification 5L—"API Specification for Line Pipe"
 - (d) API Specification 5LS—"API Specification for Spiral-Weld Line Pipe"
 - (e) API Specification 5LX—"API Specification for High-Test Line Pipe"
2. ASME Code—American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Rules for Construction of Unfired Pressure Vessels
3. Manufacturers Standardization Society of the Valve and Fitting Industry
 - (a) MSS Standard Practice, SP 48—"Steel Butt-Welding Fittings (26 inch and larger) "
 - (b) MSS Standard Practice, SP 63—"High Strength Wrought Welding Fittings"
4. American National Standards Institute
 - (a) ANSI B16.9 "Wrought Steel Butt-Welding Fittings"
 - (b) ANSI B31.4 "Liquid Petroleum Transportation Piping Systems"
5. American Society for Testing and Materials
 - (a) ASTM Specification A53 "Standard Specification for Welded and Seamless Steel Pipe"
 - (b) ASTM Specification A106 "Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service"
 - (c) ASTM Specification A134 "Standard Specification for Electric-Fusion (ARC)—Welded Steel Plate Pipe, Sizes 16 Inches and Over"
 - (d) ASTM Specification A135 "Standard Specification for Electronic Resistance-Welded Steel Pipe"
 - (e) ASTM Specification A139 "Standard Specification for Electric-Fusion (ARC)—Welded Steel Pipe, Sizes Four Inches and Over"
 - (f) ASTM Specification A155 "Standard Specification for Electric-Fusion-Welded Steel Pipe for High Temperature Service"
 - (g) ASTM Specification A211 "Standard Specification for Spiral-Welded Steel or Iron Pipe"
 - (h) ASTM Specification A333 "Standard Specification for Seamless and Welded Steel Pipe for Low Temperature Service"
 - (i) ASTM Specification A381 "Standard Specification for Metal Arc-Welded Steel Pipe for High Pressure Transmission Service"

Mr. SEIBERLING. When the pipe that is buried under the ocean isn't pumping oil, will it have to support the entire pressure of the water above, or would you pump water through it or something to equalize the pressure?

Mr. READ. There will always be oil in the pipe buried beneath the sea.

Mr. SEIBERLING. Well, there will not be until you start operation.

Mr. READ. Right, but there is sufficient structural strength in the pipe that will withstand any external pressures from it.

Mr. SEIBERLING. Will the pressure on the inside equalize the pressure on the outside?

Mr. READ. The pumping pressure in the pipe will be higher in the inside than on the outside.

Mr. UDALL. Thank you, gentlemen.

The subcommittee stands adjourned.

[Whereupon, at 1:20 p.m., the subcommittee was adjourned.]

DEEPWATER PORT FACILITIES

FRIDAY, JUNE 29, 1973

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON THE ENVIRONMENT
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:50 a.m. in room 1324, Longworth House Office Building, Hon. Morris K. Udall, chairman of the subcommittee, presiding.

Mr. UDALL. The Subcommittee on the Environment will now be in session for further consideration of H.R. 7501 dealing with the authority of the Secretary of the Interior to regulate the construction and operation of deepwater port facilities.

The first scheduled witness this morning is our distinguished colleague from the State of Texas, Hon. Bob Eckhardt.

Bob, would you take the witness stand. It is a pleasure to have you here before the subcommittee this morning.

STATEMENT OF HON. BOB ECKHARDT, A REPRESENTATIVE IN CONGRESS FROM THE EIGHTH CONGRESSIONAL DISTRICT OF THE STATE OF TEXAS

Mr. ECKHARDT. Thank you, Mr. Chairman.

This committee and this subcommittee should be complimented for dealing with an extremely important issue that calls for, I think, quick action.

As a Representative of the District in Texas which includes the Port of Houston and nearly all of the Houston ship channel, around which has developed the greatest petrochemical complex in the United States and probably the world, I have a deep interest in the establishment of a deepwater port in Texas and the means to support such a program.

Let me say here I am not looking at this matter provincially. I think the question of deepwater ports should not be a competition between States.

The Merchant Marine Subcommittee of the Merchant Marines and Fisheries Committee on which I sit has heard testimony from the Louisiana people who make an extremely good case for a deepwater port there. I do not think there is a competition on whether it should be in Texas or Louisiana; probably there should be one at both places. And of course, also there was a very interesting presentation from the people from Mississippi and Alabama with respect to something like an energy corridor.

So the questions here should not be considered provincially; they are national in scope and interest. At the same time, as one who has been involved in environmental affairs for two decades and during that time developed the deepest concern for the ecological values of our coastal zone, I also am concerned about any possible degradation of our oceans and our estuarine systems.

First I should like to delineate the interests involved. They are these: (1) the interest in creating the port capacity to handle super tankers; (2) the interest of other industries involved in the vicinity of the proposed super ports which are vulnerable to improper development of the offshore port facilities and their connecting links to tanks, refineries, and the like; and (3) the public interest in environmental values.

First I want to discuss the interest in commerce and energy courses. The first interest as it relates to my district and my area is obvious; there must be deepwater facilities in the gulf area which can take care of the super tankers if the refineries are to continue to thrive and afford the major energy source for this Nation.

Projections always vary, but a reasonable one is that the United States will be importing at least one-half of its domestic demand for oil in 1985. Most of that imported oil will be coming from the Middle East and Africa and will be brought into east coast and gulf coast ports.

Of course, long-range energy proposals may call for energy conservation and the development of alternative sources of energy. However, it seems unlikely that the volume of oil imports can be held constant or even reduced substantially before 1985. Therefore, given the U.S. needs for imported oil, super ports appear to be the soundest alternative both economically and environmentally.

It is unrealistic to continue to receive oil direct from overseas sources in small tankers, given the favorable economics of deepwater ports. According to LOOP, Inc. the present cost of bringing oil to east and gulf coast ports from the Persian Gulf in tankers of 47,000 dwt is approximately \$13 a ton. By contrast, 250,000 dwt tankers can transport crude oil to Louisiana for about \$5.70 per ton; and that cost drops to \$5.15 a ton in 500,000 dwt tankers. In other words, the utilization of super ports can result in a significant reduction of the price of oil.

In addition, the interest in commerce and energy sources is obvious as it relates to my district and my area. There must be deepwater facilities in the gulf area which can handle the super tankers if the refineries are to continue to thrive and to afford a major energy source for this Nation.

The major refinery capacity of the United States is in the gulf coast. In January 1971 approximately 59 percent of the total crude oil refining capacity of the coastal United States was located in the gulf coast.

Within this refining area there are two concentrations of refining operations: that which centers around Baton Rouge, extending along the coastal regions of Louisiana, Mississippi, and Alabama, comprising about 37 percent of the whole gulf coast production; and that which centers around Houston, extending southward and eastward along most of the Texas gulf, comprising 63 percent of the whole.

Obviously, the continuance of a strong energy supply in the United States to continue operation, at least in the present century, and the

continued operation of the gulf coast refineries will be heavily dependent upon the use of super tankers.

Now, I want to talk a little about the interest of the various industries in the gulf coast. First, of course, the oil industry has strongly supported the establishment of deepwater ports. It is evident that these super ports would be beneficial to the oil industry because of the substantial reduction of transportation costs which they would provide.

The super ports would also increase competitiveness of the oil industry in world markets. But there is another extremely important industry that sometimes is somewhat of a stepchild in our consideration of these matters; that is the commercial fishing industry.

The maintenance of a viable commercial fishing industry in the United States will be heavily influenced by the development of super ports. Therefore, the burden should be placed on the developers of the super ports to both protect the established financial interests of the commercial fishermen and the future value of the fisheries' resources to our children and grandchildren.

An example of the value of the shrimp fisheries in the gulf coast is useful at this point. The production of shrimp in the Gulf of Mexico in 1971 accounted for 24 percent of the total world production. In 1971 the boatside value of total gulf production landed in American ports was \$136,150,000 worth, calculated on an average value of about 95 cents per pound.

Let me emphasize that this evaluation is based at boatside, that is, the actual value to the fisherman. Based on a conservative figure of quadruple the boatside value, by the time the shrimp reach the ultimate consumer you can see that this never-ending renewable resource is worth \$654 million.

Thus, from a calculation of the money that the industry yields, the capital value of the Texas shrimp-producing area alone is calculated at \$13 billion. Since Louisiana has equally productive waters, the capital value of the gulf for shrimp production, including production in additional States, is more than \$26 billion.

And then, of course, there are recreational and tourist industry interests to consider. Beaches in the coastal area of the United States provide value to not only the users of the beach, but also the numerous hotels and restaurants and related facilities which are located in the vicinity of these beaches.

In the United States, both the population and the recreational demands of this population are skyrocketing. And it is projected that the value of these precious resources will also greatly increase in the future.

The public interest in environmental values is, of course, another concern, aside from the commercial interest in maintaining these environmental values which also affect commercial concerns.

The environmental effects or threats of deepwater port development can be divided into two broad categories: (1) the primary effects of the construction of the port, and oil spills once the port becomes operational; and (2) the secondary effects of industrialization and development on the shore which would be induced by the deepwater location of a new port.

Any superport legislation should insure that both primary and secondary environmental effects are considered in the decisionmaking process.

I have been glad to see in the hearings before the Subcommittee on Merchant Marine and Fisheries, which is considering this matter at this same time, that there has been deep concern on the part of both Texas and Louisiana about these matters, and I think the same is true of the other States.

A consideration of the long-term value of the ocean resources must take priority over the short-term value of importing extraordinary energy resources. I am not saying that these two cannot be reconciled. I am simply saying that they must be reconciled before an ultimate certifying authority can proceed to permit development of the superports, as I see it.

Now, with that background of the interests involved, I would like to discuss the question of financing the construction and operation of the deepwater ports. There are, I think, three possibilities: first, a consortium of private industry motivated by commercial concerns. The first example of this is Seadock, which is more or less related to projected developments around Freeport, which is the place in Texas close enough to the major refining capacity of the State where the deepwater comes closest inland. As you know, that is just a little below Galveston and on the mainland.

Mr. UDALL. We had testimony from officials from there.

Mr. ECKHARDT. But of course, it would be offshore from Freeport. Seadock is comprised of 11 oil companies and one petrochemical company. Seadock will be financed by private industry, and no Federal subsidy will be required. Seadock believes that industry has a technical expertise and financial ability to design, build, and operate the Seadock terminal.

The second example is LOOP, Inc., Louisiana Offshore Oil Port, Inc. Thirteen companies are stockholders in LOOP, Inc., which is formed to design, finance, construct, and operate a common carrier deepwater port.

Presently a consortium of private industry appears to be the most immediately practical method of building and operating a deepwater port.

The second possibility would be some manner of State authority. The people from Mississippi seem to imply such a structure, particularly in view of their urging that concern be had for the economy of the region in deciding locations of a deepwater port.

They envisage this somewhat in the same way we conceived, during the thirties, of the TVA, and I assume from their discussion that they are thinking in terms of primarily a State or regional entity. Such would seem to imply something in the nature of a State operation probable with Federal aid, and I assume with some private financing as well.

They conceive of a sort of energy corridor and claim that their area is closest to the point where there is the greatest demand for the product, pointing out certain waterways, and combinations of waterway and pipeline facilities.

The third possibility would be a Federal corporation motivated by the national interest and supported by national resources, possibly also

with some industry money. Perhaps something like Comsat would be feasible.

But at any rate, these are three possibilities; and I am not here to testify for any one of the three. As a matter of fact, I think you have used wisely, in your bill definitions that would embrace any one of the three when you describe the certifying agency.

There are certain pros and cons with respect to public concern or public operation. The profits of a Government-owned deepwater port would accrue to the public. The Government-owned deepwater port could serve as a yardstick in evaluating the cost of construction and operation of other deepwater ports. There I might draw an analogy to TVA and the Columbia River Authority.

Of course, private industry claims that its cost will be reduced through the use of supertankers and superports. However, we must always watch these things with a jaundiced eye as to whether or not the savings will accrue to the consumer. Sometimes it is rather difficult to determine precisely what these savings are, what the profits are unless you have something to compare it with.

So, I think that there is considerable argument for developing the superports not all along the same lines and not all in the framework of total industry owned or industry consortium operations like Seadock and LOOP.

Now, I don't say this in derogation of either of those. It might well be that the ultimate pattern of development would be similar in proportion to the development of the production of electric power, most of it in private hands but with enough of it in governmental hands to afford, as I say, a yardstick.

And, of course, there are arguments that bear strongly in favor of the private consortium, particularly in light of the present sense of wanting to move forward quickly.

Deepwater port facilities require a tremendous investment. For example, the total investment for the Seadock system is projected to be about \$545 million, including the marine portion, the segment extending from the buoys to the onshore terminal, the Freeport terminal, and the distribution systems to the refinery.

Some of the major costs of the finished petroleum product are not accounted for in the cost of operating a deepwater port. For example, transportation costs and refinery costs are not included, and therefore, the use of a publicly owned deepwater port as a yardstick would be limited.

In general, the legislation should not specify the method of financing the deepwater ports. Standards specified by legislation should be applicable to any of the three organizational structures, as is true in the case of H.R. 7501 and H.R. 5091.

Of course, as you well know, H.R. 7501 in section 102(d) defines citizen of the United States as "any citizen of the United States, any State or political subdivision of the State, or any private, public, or municipal corporation created by or under the laws of the United States or any State," which seems to me to embrace all of these possible choices.

Section 103(b) specifies that the Secretary is authorized to issue to any citizen of the United States a license to construct or operate a deepwater port facility if three major conditional criteria are met. And it seems to me again that this fills out the requirement that I have set as a good goal.

H.R. 5091 in section 402(c) defines a person as "any private person, individual association, corporation, or entity, or any officer, employee,

agent, department, agency, or instrumentality of the Federal Government of any State or local unit of government. And section 406(c) defines or says a person must receive certification prior to the construction or operation of a deepwater port."

I think that also embraces the concerns that I mentioned here.

H.R. 5898 does not define a person, and H.R. 2020 contains no comment on the issue of organizational structure.

Now, I would like to discuss a little bit the question of the Federal administrative agency issues. Certainly, one unified agency should control the licensing process. I think one should look to the testimony before Interstate and Foreign Commerce concerning the question of power plant siting to draw an analogy.

There has been a very strong interest on the part of industry toward having some single agency that could make an ultimate determination. I think the concerns for industry are legitimate in this regard, and I think the interest with respect to the locations of power plants are not altogether different from those concerned with the location of the super port.

However, this certification process should be coordinated with existing Federal statutes and regulations, especially environmental laws and regulations, and in my opinion, should not override the general coverage, the general protection, and the minimal protections with respect to certain provisions of those Federal laws.

In that respect I might be somewhat at odds with industry. I hope not. But some of the testimony on the powerplant siting question would indicate a desire to permit a centralized certifying agency to override basic general environmental standards. I do not think that should be permitted.

Second, attention should be directed to the question of the proper Federal agency to administer the licensing process. Presently, the two major agencies being considered by Congress are the Interior Department and the Commerce Department.

First, as to the advantages of the Interior Department. This Department presently has the fundamental Federal responsibility in the area of energy policy, including the supervision of the oil import program and the administration of all major emergency fuel supply programs.

Second, the Interior Department has expertise in supervising the construction operation of drilling platforms on the Outer Continental Shelf and is expected to be the administrator of any Federal land use planning programs.

Of course, some of the questions regarding drilling would undoubtedly afford some degree of expertise in the handling of the connections and pipelines and valves that might be used in connection with the superport.

However, on the other hand, the Commerce Department presently has a major responsibility for evaluating the effect of offshore structures on the marine environment, for research in marine pollution, and for studying ocean dynamics. And of course, the National Oceanic and Atmospheric Administration, NOAA, which has within it the National Marine Fisheries Services is under that Department.

I believe that testimony at various congressional committee levels on this jurisdictional question is certainly desirable, and that these discussions should be coordinated to arrive at an informed and wise

decision. Frankly, I do not know what that is yet. I think we all need to hear this.

Perhaps what ought to be done is to create some kind of certifying authority which can be a relative one-stop certifying authority made up of representatives of the concerned agencies but not dependent on those agencies; drawing the expertise from the agencies but being itself the agency with final determinative authority with respect to the certification process. As I say, reserving the proposition that the general environmental Federal statutes would not be waivable by such agency.

The Federal administrative agency should assume that the operation of the deepwater ports will not tend to create a monopoly, and legislation should provide that the superport be a common carrier.

Now, I asked the Louisiana, Texas, and the Mississippi and Alabama witnesses before our committee if they did not agree that there should be Federal authority through whatever agency is created to require that the operations of any superport be in the nature of that of a common carrier; that is, required to serve all proper commerce and not subject to any kind of limitation placed upon it by its owners regardless of what its ownership was.

They all agree that that can be federally required and that such a standard should be a Federal standard. And they feel that it is good policy. Of course, the other thing that I think the Federal agency should do is to set environmental standards, or at least set environmental yardsticks which would bring into play existing environmental standards.

And it seemed to me that all of those who testified did not disagree with that proposition. They thought also that their peculiar concerns should be taken into account. For instance, the State of Louisiana witnesses were extremely sensitive to the question of environmental interest, because, of course, they have an extremely large fishery, and, as they pointed out, an extremely delicate estuarine balance on that shoreline. And there is considerable difference between States in areas as to these problems. These are regional facilities and there is a high degree of expertise in various States conservation agencies that certainly should be used and certainly should be applied, I think, to the question of protection of the environment of those States.

So they were very insistent that they have a considerable say in the subject matter, and I agree that they are right in that proposition.

Now, the concept of the common carrier seems to be supported, as I say, by the various industries; and I will mention some of these specifically. Seadock has testified that their proposed superport would be a common carrier and provide a service to all who need to use it, both owners and nonowners alike.

It proposes to publish and file rules and regulations common to all of its shippers. Its operations, including carrier charges, would be regulated by the ICC. In addition, membership of Seadock is open.

LOOP, Inc. has announced its intention to operate as a common carrier.

Now, I want to refer briefly to how the bills treat this concept of the common carrier. I think H.R. 7501 probably treats it in the most complete way. There, the Secretary of the Interior is authorized to include any conditions in the license which are necessary to carry out the act.

This may include, and this is quoted from it:

Conditions designed to insure that the operation of the deepwater port facility will not substantially lessen competition or tend to create a monopoly. Such conditions shall include a requirement of nondiscriminatory access at reasonable rates.

H.R. 5898, which is in the Merchant Marine and Fisheries Committee, makes no specific statement. It merely says that "Permits may be issued under such conditions as Secretary of Commerce shall describe."

H.R. 5091, also in Merchant Marine and Fisheries, only makes a general statement regarding certification. "Certification shall relate to site selection, method, and type construction, and operation of the structure."

And H.R. 2020, which is referred to Public Works, does not deal with this issue at all.

Regulation of a common carrier may help to avoid a situation such as that which existed in our Houston grain elevator, in which a public facility was leased out to a single private concern. Subsequently, certain court action has resulted in the private concern being called on to make it open to all comers.

Now, in conclusion, in my concluding portion of my statement, I want to discuss a little further the role of the States. And first, how different bills treat the State role.

H.R. 7501, in section 103(e), requires the Secretary of the Interior to consult with the Governor of any State off whose coast the facilities proposed would be located and insure that the operation of the facility and directly related land-based activities would be consistent with State law use program.

H.R. 5091, referred to Merchant Marine and Fisheries, section 403, instructs the Secretary of Commerce to establish and apply criteria for reviewing and devaluating offshore port plans. In establishing the criteria, the Secretary of Commerce is to consult with State and local authorities.

H.R. 5898, referred to Merchant Marine and Fisheries, does not mention what, if any, role the State is to play. And H.R. 2020, referred to Public Works, would prohibit the construction of offshore ports in States where the State by law prohibits construction of the port.

I think this deserves some comment, with respect to the interests of the States to be considered in formulating legislation. First, the protection of the State's coastline from misuse and despoilation is important. The coastline is important for recreation and economic benefits to the State, for attracting tourist, ecology, and esthetics. The State naturally has a concern there.

Second, the State has economic interests in protecting existing industries which could be adversely affected by construction of ports, as I mentioned before.

And third, there are land site effects of ports in which States may have interest, including the population likely to be increased by the port, employment increased; residential and industrial land use will be affected. There would be increased problems of sewage disposal and increases in water pollution level.

All these matters have been brought out by witnesses from Delaware principally, and I think they speak pretty generally for a good number of the Atlantic States. They are very concerned about adverse effects on the land and population development, and I think properly so.

For a State such as Mississippi, construction of a superport could greatly help the economy, as I referred to before; but it should be noted in the testimony of the Mississippi representatives, there was no mention of training programs for unskilled laborers. The per capita income of Mississippi could be raised merely by the importation of highly paid engineers and technicians, which would not help them very much.

The next important point is that existing State laws could affect offshore ports. The Delaware Coastal Zone Act regulates use of sub-aqueous lands and of industrial and offshore terminal operations. Many States regulate pipeline location and construction methods. Mississippi has wetlands protection laws to provide regulation and control of activities conducted in the wetlands and waterbottoms of the State. And there are, I think, similar regulations in nearly all of the coastal States. I know there are in Texas.

Now, in our discussion of this question of whether or not a State ought to be able to veto a superport location, before Merchant Marines and Fisheries, I got more or less this reaction from particularly the Louisiana witness, a very able representative of his State and an advocate of the superport. Let's see, that was Mr. Mills, of Louisiana, who testified before our committee, and I thought he came out with about the best answer. That is, that the State should be in a position to more or less initiate the application for a superport off its shores.

Now, that does not mean that the superport should necessarily be in its waters. There may be two States with interest in a superport. The fact that it technically falls in the waters of one State or another I do not think should be the final deciding issue.

He did not think that there should be the right of any one State, merely because it was affected, to veto the location of a port. Actually, the two States might be very concerned with the problem, and the fortuitous fact that the location would fall in the waters of the one State or the other should not be finally determinative. But, of course, the right of initiation would prevent the imposition of a superport, for instance, on the Atlantic seaboard where a number of States in the entire area do not want it at all. Yet, it would not afford that kind of automatic veto right which might tend to subvert the interest of another State and the general Federal public interest. I think this is an extremely important point that all the committees concerned with the deep port question should dig into very deeply.

Now, this has not been a very well organized presentation, and I do not have anything written at this time. But with the permission of the committee, I will look over my notes and try to put it in a form that might be useful. And I thank you for your patience in listening to me today.

Mr. UDALL. Without objection, you certainly have that permission. And I want to thank you for your detailed and incisive analysis of some of the main problems that confront us.

I was interested to hear you say that you had not finally formed your own judgment on the question of who should administer this program.

Unfortunately, the energy jurisdiction in the Congress is fractured and spread among several committees, and there has been a great deal of vying to see which committees will handle various parts of the energy program.

I had hoped somehow we would not end up on the floor with an amendment to someone's bill which another committee was trying to get to retain jurisdiction, but maybe that kind of confrontation is inevitable.

I do appreciate your coming to our committee today and giving us the kind of analysis you have. I think you have touched on all or most of the main problems that are involved.

Mr. Vigorito.

Mr. VIGORITO. I just wish to thank the Congressman for well-presented remarks, and I surely agree with you. I am in favor of superports. I think the environmental impact can be satisfactorily handled, and I do not think we have an alternative other than superports.

That is all.

Mr. UDALL. Mr. Sebelius.

Mr. SEBELIUS. Well, I appreciate that the gentleman made a fine presentation. You may not have had it written down, but you sure had it prepared in your mind, and I compliment you on it.

Mr. ECKHARDT. Thank you very much.

Mr. UDALL. Mr. Jones.

Mr. JONES. I have no questions.

Mr. UDALL. Mr. Martin.

Mr. MARTIN. I have one question.

Mr. Eckhardt, is there available for us any extensive discussion of this last question that you raised? I am referring to the veto by adjoining States who might be in a position of vetoing, not only because of environmental damage predicted for their shoreline, but also because they might have some other way that they would like to bring the oil in.

Mr. ECKHARDT. I have asked every witness who appeared before our committee about that, so we have, if you will look at our report—these questions have been asked of the representatives of Delaware; I think of Texas; I know of Louisiana; and I think of Mississippi; perhaps of Alabama.

Mr. MARTIN. Is that now available, a report of those hearings?

Mr. ECKHARDT. Yes. It is available. Generally speaking, I would say the Delaware man would lean more toward the veto authority. The authority to initiate but not to veto was recognized most or in the clearest enunciation by Mr. Mills from Louisiana, and I would particularly recommend your consideration of our colloquy on that subject before our committee.

Mr. MARTIN. Thank you, sir.

Mr. UDALL. Would the gentleman yield?

Mr. MARTIN. Yes, sir, Mr. Chairman.

Mr. UDALL. On that point, I am told that a Public Works Subcommittee—headed by Congressman Howard of New Jersey where this is a burning issue—is about to move on a bill that would give the Governor of the State an absolute veto.

Mr. ECKHARDT. That is what their bill provides.

Mr. MARTIN. In the adjoining State as well?

Mr. UDALL. Yes.

Mr. ECKHARDT. I think that would be a very tragic situation, because it would give one State the opportunity to negate national policy. You have got exactly the same question as we had on the floor the other day with respect to the Atomic Energy Commission's authority.

You recall that the New York Members, a good number of the New York Members, wanted to give a State an opportunity to put into effect stricter standards than the Atomic Energy Commission did; and of course by so doing, they might well veto the location of certain power production plants within a given State.

And we had exactly the same question come up in the powerplant siting bill. Suppose, for instance, New Hampshire wants to maintain a pristine pure environment, but it is necessary to develop a plant there to supply another State nearby. Or a more extreme case would be New Jersey with respect to New York.

These are entirely hypothetical questions, but, of course, you can easily see that it is an important question and a very dangerous one.

Mr. UDALL. The question the gentleman raises here is correctly raised, because it is a very vital one. For example, New Jersey may have the one really desirable site for a superport to have it in the Middle Atlantic region, yet a decision by that Governor would affect oil supplies and conditions in West Virginia, Pennsylvania, and a whole large area of the United States.

And I am inclined to agree with my colleague from Texas, it would be very unwise to delegate to one State the right to make a decision that has regional and national consequences.

Mr. MARTIN. And in fact, some of the testimony we received here was by Representatives who were opposing the concept of an offshore terminal and most of their discussion had to do with the need to instead dredge harbors in their own districts. I do not know what their motives would be, but it seems there might be some connection there.

Mr. UDALL. I would like to question Mr. Eckhardt on that point. We had a presentation by one of your colleagues from Texas, Congressman Brooks, who in a very vehement way advocated the spending of \$1 billion or so deepening the harbor at Galveston so the supertankers could come in there.

You have had a lot of experience with the Houston ship channel and pollution problems and spills. Is that a feasible alternative, to deepen harbors?

Mr. ECKHARDT. Well, no one can really say, because the Dutch have developed a much cheaper method of dredging. I do not think we ought to cross that bridge in this legislation. I think this legislation should afford either means.

We cannot decide on developing technological questions here in Congress, but we can device certain standards with respect to either a deep dredge port or an offshore port.

It is my personal opinion that at the present time the technology in deep dredging is not sufficient to afford this in time to solve our problems; but I have heard arguments on the other side that sound quite logical. I just do not think we have to decide that, and I do not think we ought to get hooked on a position so strongly.

Mr. UDALL. That is a sensible point of view.

Mr. ECKHARDT. We ought to consider the technological concerns.

Mr. UDALL. Mr. Martin.

Mr. MARTIN. I completely agree with that, and my own point is we ought to be completely reluctant to give any authority to the adjoining State to veto, because of the prospect of that kind of competition.

Mr. ECKHARDT. Yes. Let me suggest this. I think that what we developed in the discussion with Mr. Mills is a very good compromise on this; and that is, if you do not find any State in the area that wants to initiate a desire for an offshore port, you ought to not institute it from a Federal level, unless of course it happens to be just one point that so strongly cries for the development of a superport in order to serve a total area of the United States, that the Federal concern must override even the lack of State interest.

But I would say generally, if you provide that the certifying initiative be commenced by the State before you consider a superport, you satisfy these regional fears of foisting a superport off on a State. And at the same time, we do not run into the danger of the dog-in-the-manager syndrome that has been described here.

Mr. JONES. Would the gentleman yield?

Mr. UDALL. Mr. Jones.

Mr. JONES. May I ask a question? How many House Committees are claiming jurisdiction over this subject matter or are presently studying the same—

Mr. UDALL. Well, as Mr. Eckhardt pointed out, there are basically three House committees. In the Senate they have had some negotiations in some of these areas with a little more success.

The Public Works Committee, which has jurisdiction over Corps of Engineers' projects and dredging and these things, has a bill that we mentioned. The Merchant Marine and Fisheries has a bill that Congressman Eckhardt has referred to in some degree, which places the licensing authority in the Secretary of Commerce. And then we have the administration's bill which recommends that the licensing authority be placed in the hands of the Secretary of the Interior.

And all of the committees have been holding some hearings, and at some point there is going to be a shootout in the House chambers.

Mr. ECKHARDT. Would the chairman yield?

Mr. UDALL. Yes, of course.

Mr. ECKHARDT. I think there is also a potential jurisdiction in the Interstate and Foreign Commerce Committee.

Mr. UDALL. Yes, I agree with that.

Mr. MARTIN. I have no further questions.

Mr. UDALL. We have another of our colleagues to hear from this morning, plus a film if we get to it. The House goes in at 11 today.

We will next hear from the Honorable David Treen, our colleague from the State of Louisiana.

Mr. Treen, we are happy to have you here this morning. Proceed with your testimony.

STATEMENT OF HON. DAVID C. TREEN, A REPRESENTATIVE IN
CONGRESS FROM THE THIRD CONGRESSIONAL DISTRICT OF THE
STATE OF LOUISIANA

Mr. TREEN. Thank you, Mr. Chairman.

I appreciate the opportunity to come before the committee. And in view of the fact that we are going into session at 11, and I know you want to see this film by Shell Oil, which will take about 20 minutes, I will be briefer than I had intended to be. And I know you will welcome that.

I am interested in the development of a superport for many reasons. One of the primary reasons is that my congressional district in Louisiana is located on the coast, and off that coast is one of the sites that has been considered one of the most ideally suited for a deepwater facility, and particularly, a deepwater oil import facility. My remarks, therefore, will be directed strictly to that type of facility and not a superport in the sense of a port that would handle other types of commodities.

This site off the coast of Louisiana is about 21 miles off the mouth of Bayou Lafourche. It is located in 100 to 120 feet of water. This site has been studied by the Corps of Engineers, as I think this committee knows, and found (as I just mentioned) to be ideally suited for the location of a superport. And, I might add, this site has also been evaluated by industry. You have, for example, had testimony from LOOP, Inc., and their president, and some officials of LOOP are here today. They have looked at this site and have moved ahead. In fact, they have already budgeted \$31½ million for the Bayou Lafourche site and have already spent a great deal of that money in the preliminary plans for this facility. This facility would ultimately involve five single point moorings and would bring the oil in by pipeline submerged beneath the floor of the Gulf of Mexico to a tank farm located in the parish of Lafourche. The oil then would move up by pipeline to the town of St. James near the Mississippi River. From thence, it would serve the refineries throughout the Mississippi Valley as far north as Michigan by means of the Capline pipeline which starts at St. James, La.

Now, I have cosponsored H.R. 7501, the bill which this committee is considering. It offers, in my opinion, the best approach to the superport question. This may be somewhat embarrassing, my being a member of the Merchant Marine and Fisheries Committee, to come before you and say I think the bill in this committee is a better approach than that before the Merchant Marine and Fisheries Committee; but I do indeed. It is well thought out; it is comprehensive. I think it offers the best opportunity for early action.

My purpose here is really not to get into a lot of technical details and discuss the oil needs of this country. We have been over that time and again, and I certainly hope that the oil needs of the country

have been well recognized by now. My purpose, firstly, is to come here and assure this committee and to assure the Congress, that this facility which LOOP, an acronym for Louisiana Offshore Oil Port, Inc., proposes to build is a facility that is much desired by the people of south Louisiana, and to indicate that there is no appreciable opposition to this. In fact, I know of no opposition whatsoever, but I use the term appreciable because, of course, there may be some that I do not know of.

And, secondly, to urge this committee to act with all dispatch.

First of all, with respect to the desire for the superport, the enthusiasm for this facility is very high throughout the third Congressional District. In fact, both congressional candidates in the last election campaigned on the basis of hoping to move this project along and to bring the port to Louisiana's Third District. It was universally recognized as something that would help not only the District I represent but the entire State of Louisiana as well. As a result, it is greatly desired. I know this because of my travels through the district in which I meet with persons of all economic interests; and I know it from the fact that I have received absolutely no expression of opposition. Although I have been fairly prominent in pushing this project, I have not received one letter, not one communication of any kind from any person anywhere in Louisiana in opposition to the project.

The reasons for the support for this facility are many. There is, of course, the obvious economic impact which would be very favorable to Louisiana. Equally important, however, and I believe this is the reason that there is a lack of opposition to the deepwater facility, is the experience that we in Louisiana have had with offshore structures. For 26 years we have had offshore drilling platforms. You have seen ads by various of the major oil companies indicating how well the fishing industry gets along with the oil industry and how compatible those two are. That is not just public relations talk. It is a fact. I know that from my own experience.

We have had experience with hundreds of offshore platforms similar to the kind that would be built by LOOP under its proposal.

With respect to offshore pipelines buried underneath the floor of the gulf, our gulf is laced with these pipelines. Tank farms, another part of this proposed facility, is something we have had extensive experience with, without any difficulty. And then, of course, onshore pipelines, thousands of miles of onshore pipelines in Louisiana that have not caused any problem.

Let me further emphasize that the fishing industry of Louisiana, and particularly the fishing industry of the Third District, is extremely important in terms of the number of people employed and its economic impact, and it is extremely important to me politically. And, I have sponsored legislation before the Merchant Marine and Fisheries Committee to strengthen the fishing industry. So I would not be here telling you that the oil and fishing industries were compatible if it were not true. The fishing industry would be the one I think one would expect to offer the greatest potential for opposition. But the fishing industry is not opposed to this project in any way. And I would not take this stand if I were not sure of that position.

The statistics on fishing catch in the gulf serve to illustrate this point. While the catch elsewhere, on the Pacific and Atlantic Coasts,

has been stable, and in some instances declined, in the gulf it has been up over the past few years.

An illustration of how the fishing industry and the oil industry work together and how compatible they are is the fact that in Morgan City, one of the towns in the Third District along the coast of Louisiana, there is a festival every year which is a joint petroleum and shrimp festival, and it illustrates very well, I believe, the compatibility of these two industries.

So the desire, the enthusiasm is there, and of course the need is there.

LOOP, as I have indicated, has already gone to tremendous expense. They have leased land for the tank farm. The LOOP facility, incidentally, when it is completed, would bring in an excess of 4 million barrels of crude oil a day out of a total of approximately 15 million barrels a day that we expect to have to import for the year 1985. So that is a sizable percentage.

I think that Seadock off the coast of Texas and LOOP off the coast of Louisiana, those two facilities alone, would provide the import facilities for approximately half of the Nation's crude needs.

And, as has been pointed out in testimony before the Committee on Merchant Marine and Fisheries, of which I am a member, many other decisions of the petroleum industry are being held up pending this decision. The expansion of refineries, the construction of new refineries, these things are really being delayed to a large extent because we do not know the fate of this particular legislation.

And I think it is amazing, when you consider that there are approximately 100 of these all over the world already in operation (many in Japan and in other places in the world), that we have not moved faster on this issue.

Some of you may be interested in knowing that we are subsidizing, through our ship subsidy program, 10 tankers in the 200,000 to 265,000 ton range, which cannot use any existing port in the United States. We are subsidizing them through our maritime subsidy program.

So, in conclusion, I strongly urge that we treat this matter as an emergency. I do not think it is necessary to get hung up, and I hope we will not, on this question of what agency will be the licensing agency. It does not make any particular difference to me, although I do think the Interior Department has a lot of expertise because of its familiarity with offshore oil operations. But H.R. 7501, as this committee knows, provides for consultation with all other agencies in section 104.

Section 104(b) requires that the Secretary of the Interior consult with all interested and affected Federal agencies. In section 104(c) the bill provides that the application with the Secretary shall constitute an application for all Federal authorizations required for construction and operation. And, later on in that section it is provided that the license will not issue until the Secretary has been notified by such agencies that the application meets the requirements of the laws which they administer. And then, of course, it provides for joint hearings and provides in section 105(c) that any interested person may require a hearing. So it seems to me all we are talking about is a "window" agency, the Department of the Interior, to issue the license, but all other agencies can have their impact. And, as I interpret this

bill, it virtually gives veto power by any agency with respect to the issuance of a license.

So I hope that we will not get hung up and have this legislation delayed because of competition among agencies for the licensing authority. At least the administration is in harmony, from everything I can tell, on this bill and on the provision that the Secretary of Interior be the licensing authority.

So again, I urge speed. I think that the date has long since passed that we should have moved along with licensing authority.

Thank you, Mr. Chairman. With that, I will be pleased to answer any questions, but I know you want to get to this film before we go into session. Someone may also call a quorum shortly.

Mr. UDALL. I thank you for your fine testimony. I have no questions. I do have two comments.

One is that everybody is asking what can be done about the energy crisis, and while there may not be much that ordinary citizens can do, there are some things that this committee having special responsibilities can do, and one is to make some decisions on legislation of this kind.

I have been anxious to get a decision on this bill. I have been short of available hearing days, but I am hopeful next month just as soon as we hear Secretary Morton and we get the Interior Department's and the administration's position on the record, we can begin to mark up this bill.

The magnitude of what we are talking about came into focus a moment ago when you said this one port would handle 4 million barrels a day. This port can be built more quickly than the Alaskan pipeline.

We have been having endless testimony on the Alaskan pipeline which would take 3 years or so to get into production. It will not even be delivering its full complement for a time after that, and even when it is, when the Alaskan pipeline is running full, it is 2 million barrels a day. So this one deep port, this operation off the coast of Louisiana, could deliver twice the volume of the oil of the Alaskan pipeline. And I think we should bear that in mind in determining whether to get moving on this legislation.

I thank you for coming this morning.

Are there any questions?

[No response.]

Mr. MARTIN. Let me ask you one question. Dave, is this correct, there is no port in your area in Louisiana that would be suitable for dredging to the kind of depth that would be required?

Mr. TREEN. No; but that is a matter of opinion. I think the Corps of Engineers will sustain that, and I think they have in testimony before the Committee on Merchant Marine and Fisheries that dredging is just not feasible.

There had been one suggestion that the superport be built near the mouth of the Mississippi, but that would require dredging, and because of the unstable conditions on the floor of the gulf, it would not be feasible.

But I think the corps in ample testimony has indicated it does not feel that that is feasible. This particular site is in about 100 to

120 feet of water—you would have no dredging problem whatsoever—and about 21 miles off the coast.

Mr. UDALL. Thank you very much Mr. Treen. We have in the room William Read, who is president of LOOP and who testified previously on this legislation; Ron Dudley of Shell; and Jack White of Marathon. Gentlemen, if one of you will take charge and show us the film, we will be grateful.

Mr. DUDLEY. Mr. Chairman, for your benefit and for other members of the committee, we have a summary of the film; and we would like to give it to you.

Mr. UDALL. Fine. We would like to have it for our files or our record, as it may be appropriate.

Mr. DUDLEY. Also, I would like to point out that this movie was produced in 1970, and there are some statistics used in the number of SBM's around the world, and also I have an attachment to the summary, a point outline which will show the numbers of facilities throughout the world.

Mr. UDALL. You update the figures in there?

Mr. DUDLEY. Yes. So in case of brevity, we would go ahead and show the film right now.

Mr. UDALL. Fine.

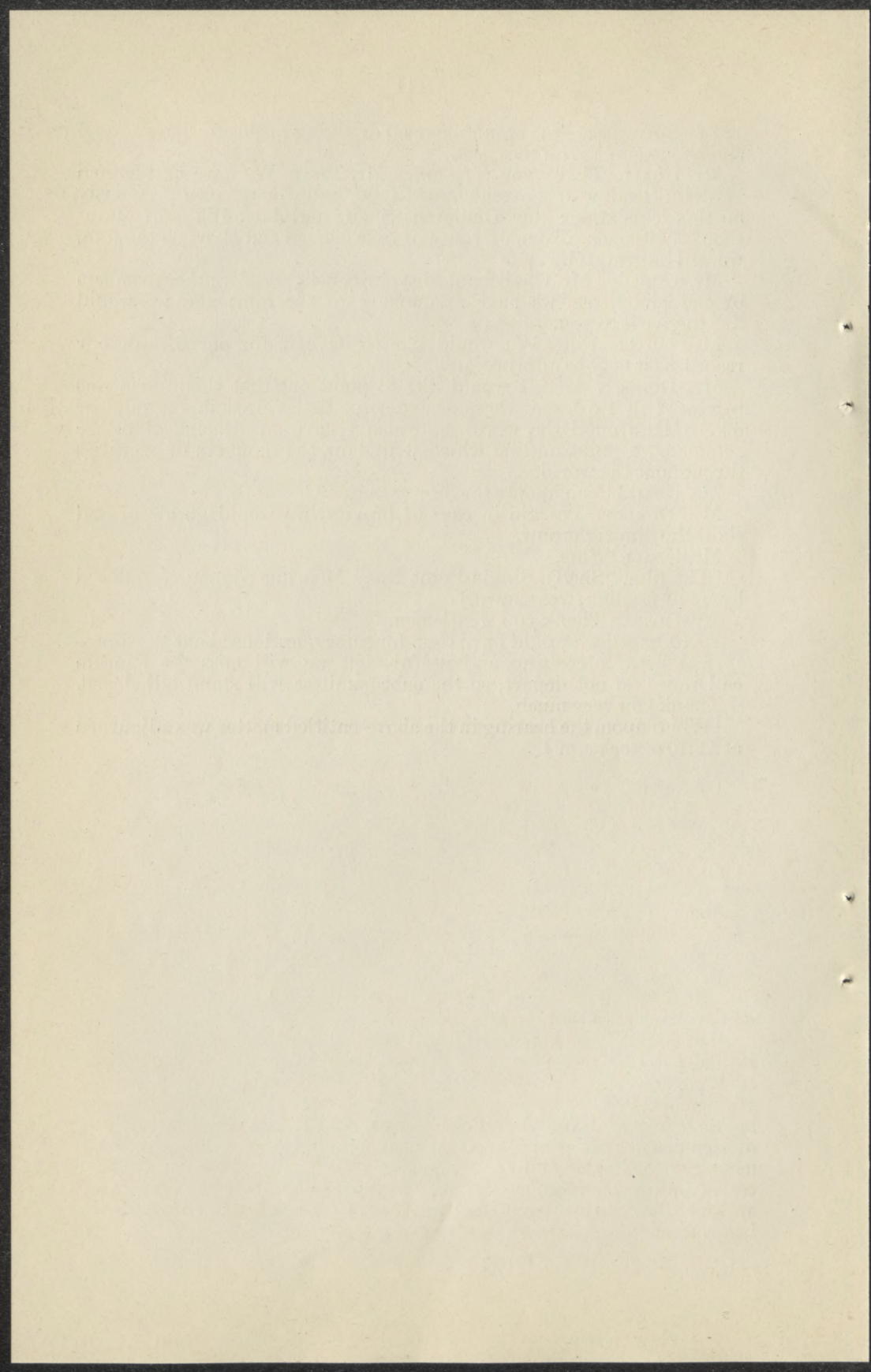
[The film, "Shell's Single Point Buoy Mooring System," produced by Shell-London, was shown.]

Mr. UDALL. Thank you, gentlemen.

I had hoped we would have time for some questions about the film—it was both interesting and useful—but we will miss the quorum call if we do not depart, so the subcommittee will stand adjourned.

Thank you very much.

[Whereupon, the hearing in the above-entitled matter was adjourned at 11:10 o'clock a.m.]



DEEPWATER PORT FACILITIES

FRIDAY, AUGUST 3, 1973

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON THE ENVIRONMENT,
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 1324, Longworth House Office Building, Hon. Morris K. Udall, chairman of the subcommittee, presiding.

Mr. UDALL. The Subcommittee on the Environment will be in session.

This morning's session was called for the purpose of hearing the Honorable Rogers C. B. Morton, Secretary of the Interior, in connection with the legislation, H.R. 7501, a bill by Mr. Saylor, Mr. Haley, Mr. Mosher, Mr. Camp, Mr. Treen, and myself to amend the Outer Continental Shelf Lands Act and to authorize the Secretary of the Interior to regulate the construction and operation of deepwater port facilities.

Mr. Secretary, this is one of a half dozen really major pieces of legislation that this committee is considering this year, and we know the concern with the environment with which you have been identified, and our confronting of the energy situation coming into play, and together I hope the Congress can make intelligent and wise decisions with your help on all of these matters. You may have read in the morning's paper that we made one of these decisions last night in passage of the Alaskan pipeline bill.

Mr. DELLENBACK. Are you going to use those adjectives, Mr. Chairman?

Mr. UDALL. No. There will be different interpretations about how wise that particular decision was in all respects, but it was fought with honor on all sides, and I hope we have all learned some lessons on it.

I was reflecting on the way home last night on how the democratic process works. I think the American people want the Alaska pipeline constructed, and while I have some misgivings about the features of the bill, I would certainly say that majority sentiment in the country was carried out in that case.

I am going to do something right here now that has just suddenly struck me. The Secretary is concerned, as all of us are, about energy conservation, and I prodded him the other day about moving to the smaller automobile. I do not think that we can exhort the public and not do things that are symbolic ourselves. And I have had any number of comments from people in these hearings that here is the Environment Subcommittee and energy conservation is one of our great concerns, and in this room every day, we close the blinds, letting out that ancient illumination from the sun. We rely instead on 60 or 80 light bulbs. Perhaps we can set a better example.

So, following your example with the automobile, and practicing some of the things that I have been preaching, I am going to instruct the staff to open the drapes and to turn off all of these lights for our hearing this morning.

Mr. DELLENBACK. Mr. Chairman?

Mr. UDALL. And when this subcommittee occupies the room hereafter, that will be our practice.

Mr. Dellenback.

Mr. DELLENBACK. Mr. Chairman, may I express my pleasure that Members on the other side of the aisle are now going to have light shining in their eyes, which I assume will have some discomfort attached to it, and some of us who have sat on this side for many years have had to look at those Indian pictures. I wonder whether it would be possible to reach somehow into the National Gallery and get some rotation of pictures.

Mr. UDALL. You know, really, we have become so accustomed to cheap and abundant energy, in this building, which has pretty good lighting, really, you can go down here on a bright sunlit day, and every corridor is lighted every few feet with what must be several 100-watt bulbs. I have been in the Rayburn garage at 2 in the morning with hundreds of lights burning, and maybe this morning we can set an example.

Mr. SEIBERLING. And the escalators running at 1 in the morning.

Mr. UDALL. Yes, the escalators in every building running all night long.

Incidentally, we do have an energy research and conservation research bill before us which we hope to get to this year and work on.

Mr. DELLENBACK. Mr. Chairman?

Mr. UDALL. Mr. Dellenback.

Mr. DELLENBACK. Very seriously, I want to say that I am pleased that if you have been in the Rayburn garage recently, you will find that they are dimming the lights, and during the course of the day, they have gotten away from their complete illumination. And whether it is mechanical breakdown or cutting off for electrical purposes, the escalators are not running between the Longworth and the Rayburn Buildings. So, maybe we are now demonstrating that we are doing something.

Mr. UDALL. I would think that you could save 20 or 25 percent on the electric bill to the Capitol and this entire area if somebody really worked at it, without inconveniencing anyone or making it any more difficult to read the fine print in any of the meritorious legislation.

Mr. SEIBERLING. Mr. Chairman?

Mr. UDALL. Mr. Seiberling.

Mr. SEIBERLING. Mr. Chairman, while we are on this subject, and while we have our distinguished, wise visitor here, I would like to ask another question. We all, I think, came to the consensus that we need to open up the North Slope oil as fast as we can, and while we have had differences as to the way we should go about it, I think we were all united in that objective. But, I must say I have an uneasy feeling about the fact that we are rushing with haste to burn up as fast as possible our last remaining petroleum reserves, and about what we are going to do for petrochemicals, and lubricants and fuels that are needed to fly airplanes and so forth, where no other fuel seems practical a genera-

tion hence. And I have the feeling that in establishing our priorities in energy research, particularly for solar energy and that sort of thing, we are still not reflecting our new perspective. And I just wonder if the distinguished Secretary would make a comment on that.

Mr. UDALL. Well, let us reserve this for the question period, and then the gentleman will be entitled to his time as he sees fit.

Mr. SEIBERLING. I am not sure that this is relevant to this particular hearing.

Mr. UDALL. Well, the gentleman will be the judge as to the relevance of his own question at that point. The House is going in at 11, and I had promised the Secretary that we would not hold him long, so unless someone else has a friendly observation or two, let us move along.

Mr. VIGORITO. Mr. Chairman?

Mr. UDALL. Mr. Vigorito.

Mr. VIGORITO. I will not lecture to the Secretary, and I am not here on energy, but I happen to have in my pocket the Energy Conservation Act of 1973. And I think we have to take a lot more steps than merely turning out a few light bulbs and shutting off unused escalators at 1 o'clock in the morning, and I am not going to take the time now to go into it. But, I am going to see that you get a copy of this and I hope that eventually this will come into play. It has to because it is going to be economics at work, and there is no better way of getting things done than when economics are the subject matter, and you make the costs so overwhelming that it goes in the direction that you hope it could go.

Thank you, Mr. Chairman.

Mr. UDALL. Now, if we can get some of this legislation moving, then we will turn our attention to energy research and conservation and some of the other subjects pressing before us.

Mr. Secretary, we are happy to have you, and you may proceed.

STATEMENT OF HON. ROGERS C. B. MORTON, SECRETARY OF THE INTERIOR, ACCOMPANIED BY JARED CARTER AND JACK ALLEN

Secretary MORTON. Thank you very much, Mr. Chairman, and members of the committee.

I thought I would read my statement. I believe it would be easier and more understandable than an effort to summarize it.

We appreciate the opportunity to testify before you on the subject of deepwater ports. Legislation on this subject was proposed in the President's energy message and is before this committee as H.R. 7501.

The importance of this subject relates, of course, to the project which we are facing of short-term fuel shortages and to the fact that one necessary step to avert this shortage will be to increase fuel imports. I want to stress, however, before going further, that we consider another necessary step to be conservation of energy. The Department of the Interior and the entire administration are giving conservation top priority.

But even if we can substantially reduce the use of energy, the Nation will still have urgent needs for more fuels than we are now producing. Notwithstanding our efforts to develop alternative fuel sources oil will be the swing fuel for the next 15-20 years, at least, and we

forecast a supply demand gap of at least 15 million barrels of oil per day by 1985.

Most of the oil needed to fill this supply-demand gap will be imported from Africa and the Middle East in tankers too large to enter U.S. ports. The safest and most economical way to handle this imported oil is to construct facilities which will enable us to offload these large tankers in deep water. In many places, along our coasts, the water depth necessary for these tankers lies beyond the 3-mile territorial limit. H.R. 7501 is necessary to authorize the construction of deepwater ports in international waters, and to regulate their operation.

As I see the present situation, we have three principal choices: (1) do nothing, which I believe would be economically and environmentally unsound; (2) stimulate dredging of some principal ports of entry to accommodate the larger vessel, which I believe would also be economically and environmentally unsound; or (3) permit the licensing of deepwater terminal facilities.

Following my statement there are some tables and figures which highlight the facts I have summarized. I want to emphasize some of the points that support H.R. 7501.

If we do nothing, the following things can be expected to happen: A significant amount of refining capacity will shift to areas which can handle supertankers. The freight savings in dollars per ton between a 65,000 deadweight ton (DWT) vessel and 500,000 DWT vessel is \$4.60 per ton on long hauls from the Middle East. With these kinds of savings, the larger tankers will be built and used. If we do not have facilities to handle them, the oil we import will undoubtedly be carried by deepdraft tanker to refineries or transshipment terminals in the Caribbean or Canada and shipped to our ports in small tankers. This will aggravate the balance-of-payments impact of these imports and will increase our dependence on the decisions of foreign governments in respect to adequate supplies of energy.

Small tanker traffic will increase considerably and so will the hazards of pollution from tanker accidents including collisions and groundings. The risk of groundings is virtually eliminated by using deepwater ports, but will increase each year without them, as more and more small tankers crowd into existing ports.

Much of the tanker traffic will consist of petroleum products from offshore refineries, rather than crude oil. Research has indicated that some refined products are more toxic than crude oil; and that others, when discharged into cold seawater, resist breakup and dispersion. This may compound the environmental problems facing us.

The second option is no better. The amount of dredging which would be required to permit supertankers requiring 100 feet of water to enter ports near our refineries is great and the dollars cost would be excessive. Moreover, the environmental costs would be prohibitive. The material I have attached shows that the seabed surrounding the Atlantic and Gulf Coast ports slopes off rather gradually. The Port of Houston, for example, is 110 miles away from water 100 feet deep.

All of this leads us to believe that deepwater ports make sense at any level of oil importation. At the level we are projecting in the years ahead, they are imperative.

Present law provides no clear authority to license and regulate deepwater ports beyond the 3-mile limit. The principal purpose of the administration's bill is to fill the void.

We believe that the proper basis for this Federal jurisdiction beyond the 3-mile limit is the principle in international law that all nations can make reasonable use of the high seas. We consider deepwater ports if properly regulated to be a reasonable use. One of the conditions of the license would be to insure that the operation of the facility does not violate that principle.

The development and operation of deepwater ports involve a whole range of issues of international concern including energy resource supply, environmental quality, economic viability, navigational safety, national security and international law. Because Federal responsibility over these issues is widely dispersed, the administration recognizes the need to coordinate the activities of appropriate agencies as they relate to the development and operation of deepwater ports, through one central lead agency.

The Department of the Interior has been designated the lead agency to coordinate and supervise the development of deepwater ports because of its long experience with OCS lease sales, environmental protection, and energy in general.

Moreover, the Department has had experience in developing and coordinating land and water resource development plans through such organizations as the National Water Resources Council, interstate compacts and river basin commissions; and under the administration's proposed land use bill, we would have the primary responsibility for working with the States in their efforts to develop acceptable land use plans.

The administration bill spells out Interior's relationship with State governments when granting a deepwater port license. The Secretary of the Interior is required to consult with the Governor to insure and I emphasize the word insure, that the deepwater facility and its related land-based facilities are consistent with the States' land use planning program and plans.

I know there are bills in the Congress which provide for an explicit State veto over the exercise of Federal authority to license deepwater facilities off their coasts. We do not believe an explicit State veto is required. Any deepwater facility will only be as useful as its connection to land-based facilities. Under present law, the States have a veto power by simply not issuing permits for onshore construction. In short, we do not intend to preempt the States authority to plan and regulate land and water resources within their jurisdiction. We also do not favor language that would force a State to deal with the many legitimate and complex questions presented by the location of a deepwater port off their coast by an up or down political decision in the State on the entire project. We prefer to encourage the States to resolve these questions within the context of a land use planning program. If the proposed development is not compatible with a State's land use plan, it will not be licensed.

With the responsibility for approving State land use programs vested in the Department of the Interior under the administration's proposed land use bill, we believe we will be in good position to further coordinate deepwater port licensing with the State land use plans.

Under the provisions of our bill, the Secretary of the Interior is granted the licensing authority, but the regulatory system which will be developed to govern deepwater port facilities is basically the same as applies under present law to structures within the 3-mile limit. The

role of the Interior Department would be to work with all involved Federal agencies to assure that existing Federal requirements are met and that we have a set of integrated regulations which have no loopholes. The authority that the Corps of Engineers, EPA, the Coast Guard, and the ICC, Office of Pipeline Safety, NOAA, and the Federal Power Commission, in the case of gas, presently have over port operations within our territory, or over various aspects of OCS oil and gas platform and pipeline construction and regulation, would be extended to deepwater ports.

Deepwater port facilities can vary in design from an artificial island complete with storage facilities to a simple mooring buoy. There are over 100 single-port mooring installations in use around the world. We believe these types of systems will be the prevalent type used in this country. Table 11 in the material I have submitted outlines the numbers and kinds of buoys in use within the 3-mile limit on our west coast. One facility at El Segundo, Calif., dates back to 1933. These operations have not caused significant or serious environmental problems.

The U.S. military forces have been using buoy unloading systems around the world for many years in such places as Japan, the Philippines, Taiwan, Okinawa, and South Vietnam. Some of these military installations can handle tankers of 100,000 deadweight tons. These systems have also had a good environmental record.

Two specific locations for deepwater ports have been given extensive study by industry: The LOOP project off the coast of Louisiana, and Seadock off of Freeport, Tex. A third, Ameriport, is at an early planning stage. It would be located off the Alabama-Mississippi coast.

There are no known industry plans for the east coast beyond the 3-mile limit although some government studies have used the east coast in analyzing the economics of deepwater ports.

Finally, I want to mention the potential economic benefits which will result from the construction and use of deepwater ports. The draft environmental impact statement submitted with our bill contains an attachment on the economics of U.S. deepwater ports. This report was the result of an extensive interagency study directed by the Council of Economic Advisers.

It is not often that we get an opportunity to propose legislation which will provide for environmental protection, help meet our energy requirements, and yield an economic benefit. I don't want to be understood to say that development of a deepwater port cannot have potentially adverse effects upon shoreline development. But, under our bill the State will have the ability to assure that these developments are consistent with its land use plan. If Congress will also pass the National Land Use Policy Act, we will go a long way toward assuring that the States develop overall land use plans that will regulate to their benefit and satisfaction the kind of downstream industrial development that follows a deepwater port facility.

I hope that the committee, Mr. Chairman, sees the same values that I do, and I would be very happy to answer any questions that you might have on this legislation or any other subjects brought up by members in the earlier discussion.

STATISTICAL APPENDIX ON DEEPWATER PORTS AND OIL TANKERS

TABLE 1.—U.S. PETROLEUM DEMAND BY PAD DISTRICTS

[In thousands of barrels per day]

	1970	1975	1980	1985
District I (east coast)	5,894	7,535	9,240	10,812
District II (mid-west)	4,110	4,890	6,087	7,037
District III (gulf coast)	2,369	2,910	3,628	4,364
District IV (Rocky Mountain)	397	470	610	720
District V (west coast)	1,952	2,595	3,225	3,952
Total	14,722	18,400	22,790	26,885

TABLE 2.—U.S. PETROLEUM SUPPLY-DEMAND AND SOURCE OF OIL IMPORTS

[In thousands of barrels per day]

	1970	1975	1980	1985
Domestic demand	14,728	18,400	22,790	26,885
U.S. production	11,328	10,800	10,500	9,725
North Slope crude			1,500	2,000
Total imports	3,418	7,600	10,790	15,160
Source of imports:				
From Canada (pipeline)	766	1,300	1,800	2,200
Total waterborne imports	2,652	6,300	8,990	12,960
From Western Hemisphere	2,091	3,200	3,280	4,106
From Europe	177	200	300	400
Total in small tanker	2,268	3,400	3,580	4,506
From Middle East	185	2,325	4,610	7,354
From Southeast Asia	72	175	100	100
From Africa	127	400	700	1,000
Possible for large tankers	384	2,900	5,410	8,454

TABLE 3.—WORLD TANKER FLEET

Year	Vessel size in thousands of deadweight tons						Total	
	10-60	60-80	80-100	100-150	150-200	200-250	Over 250	Dead-weight tons (million)
1963	2,608	23	15	4				2,650
1964	2,588	38	26	4				2,656
1965	2,574	77	48	5				2,704
1966	2,567	136	65	14				2,792
1967	2,544	198	86	34	1	1		2,864
1968	2,510	229	110	59	8	2		2,918
1969	2,479	244	142	83	16	16	2	2,982
1970	2,426	243	157	96	31	54	9	3,016
1971	2,406	245	163	112	35	113	18	3,092

TABLE 4.—WORLD RECORD TANKER

Name	Deadweight	Built	Launched
Sinclair	56,089	Japan	1956.
Universe Leader	85,515	do	1957.
Universe Appollo	104,520	do	1959.
Nissho Maru	130,250	do	1962.
Tokyo Maru	157,290	do	1966.
Idemitsu Maru	206,000	do	1966.
Universe Ireland	326,000	do	1968.
Nisseki Maru	372,700	do	1971.
Globtik Tokyo	477,000	do	1973.

SUPER TANKERS ON ORDER IN UNITED STATES

Corporate name	Deadweight	Being built at	Delivery date
Langfitt Ship Co.-----	225,000	Brooklyn, N.Y.-----	August 1973.
Tyler Tanker Corp.-----	225,000	do-----	May 1974.
Polk Tanker Co.-----	225,000	do-----	January 1975.
Fillmore Tanker Corp.-----	225,000	do-----	July 1976.
Joint ownership ¹ -----	265,000	Sparrows Point, Md.-----	March 1975.
Do-----	265,000	do-----	August 1975.
Do-----	265,000	do-----	January 1976.
Gulf Oil Co.-----	265,000	do-----	October 1976.
Do-----	265,000	do-----	April 1977.

¹ Maritime Fruit Co., Boston Tankers.

TABLE 5.—U.S. TANKER PORTS

Port:	Maximum vessel size (dead-weight tons)
Alaska—Nisiki-----	60,000
California—Long Beach-----	100,000
California—Los Angeles-----	100,000
California—Port San Louis Obispo-----	20,000
California—San Diego-----	35,000
California—San Francisco-----	35,000
Florida—Jacksonville-----	30,000
Florida—Miami-----	20,000
Florida—Port Everglades-----	35,000
Hawaii—Honolulu-----	35,000
Louisiana—Baton Rouge-----	45,000
Louisiana—New Orleans-----	45,000
Maine—Portland-----	80,000
Maryland—Baltimore-----	55,000
Massachusetts—Boston-----	50,000
New Jersey—Newark-----	25,000
New York-----	55,000
Texas—Baytown-----	30,000
Texas—Beaumont-----	80,000
Texas—Brownsville-----	35,000
Texas—Corpus Christi-----	50,000
Texas—Freeport-----	30,000
Texas—Houston-----	55,000
Texas—Port Arthur-----	55,000
Texas—Texas City-----	45,000
Virginia—Hampton Roads-----	50,000
Washington—Seattle-----	45,000

Source: International Petroleum Encyclopedia, 1972 Edition.

TABLE 6.—FREIGHT COST IN DOLLARS PER TON

Ship size in deadweight tons	Round-trip distances in miles		
	Venezuela 4,000	North Africa 8,000	Middle East 24,000
65,000-----	\$1.90	\$3.50	\$9.05
250,000-----	1.40	2.50	6.55
326,000-----	1.25	2.30	6.15
500,000-----	1.00	1.90	5.45

TABLE 7.—ESTIMATED ANNUAL OIL POLLUTION OF THE OCEANS¹

	Metric tons	Percent
Marine operations:		
Tankers:		
LOT tank cleaning operations.....	265,000	5.41
Non-LOT tank cleaning operations.....	702,000	14.34
Discharge due to bilge pumping, leaks, and bunkering spills.....	100,000	2.04
Vessel casualties.....	250,000	5.11
Terminal operations.....	70,000	1.42
Tank barges:		
Discharge due to leaks.....	20,000	.41
Barge casualties.....	32,000	.65
Terminal operations.....	18,000	.38
All other vessels:		
Discharge due to bilge pumping, leaks, and bunkering spills.....	600,000	12.25
Vessel casualties.....	250,000	5.11
Nonmarine operations (offshore operations):		
Refineries and petrochemical plants.....	300,000	6.12
Industrial machinery.....	750,000	15.31
Highway motor vehicles.....	1,440,000	29.41
Total.....	4,897,000	100.00

¹ The final total does not include oil contributed by recreational boats, hydrocarbon fallout, and natural seepage.

Source: Tankers and the U.S. Energy Situation—an Economic and Environmental Analysis. Joseph D. Porricelli and Virgil F. Keith.

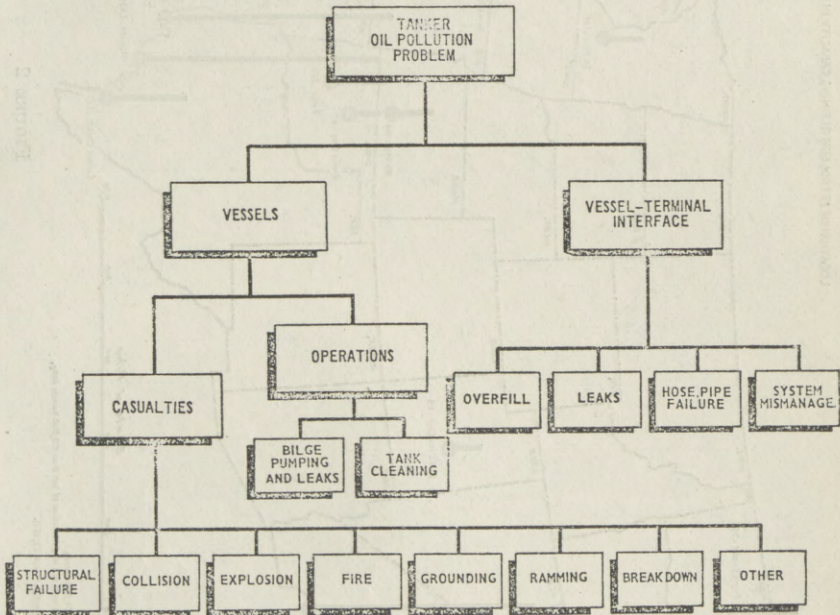
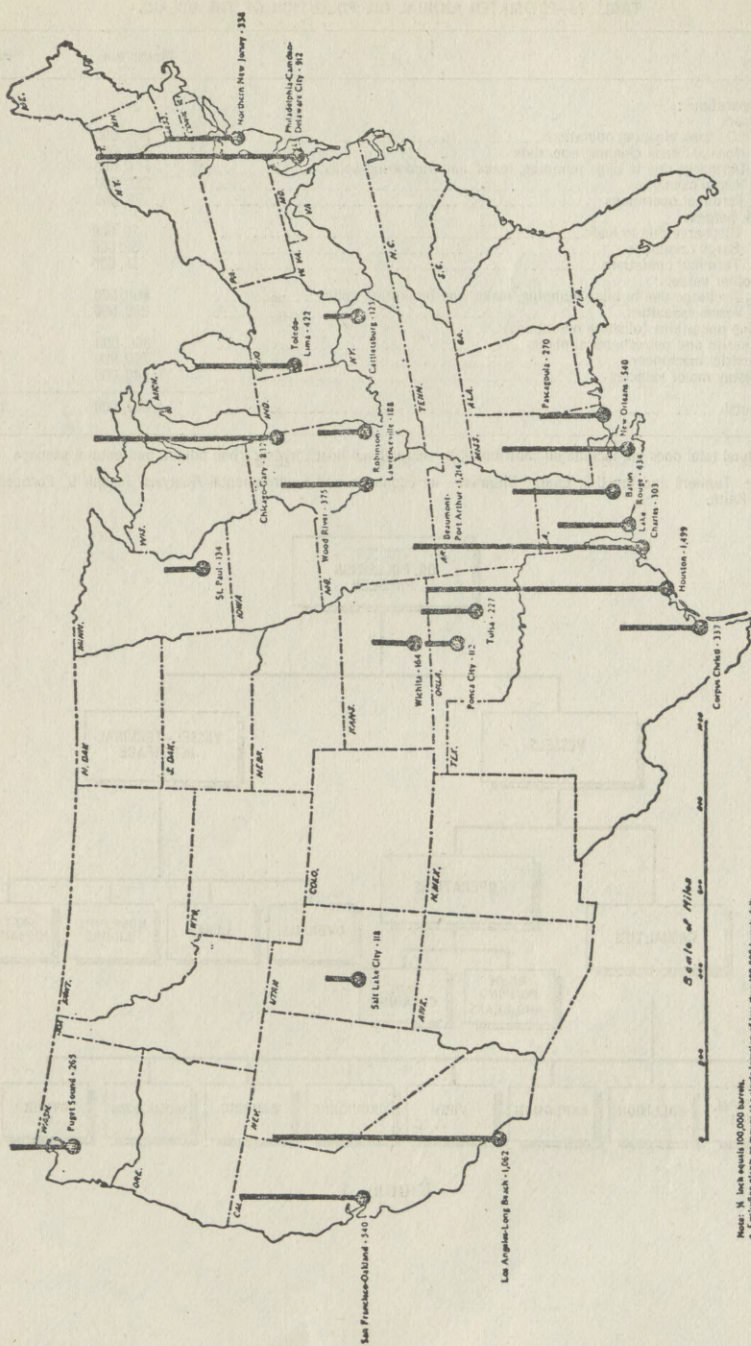
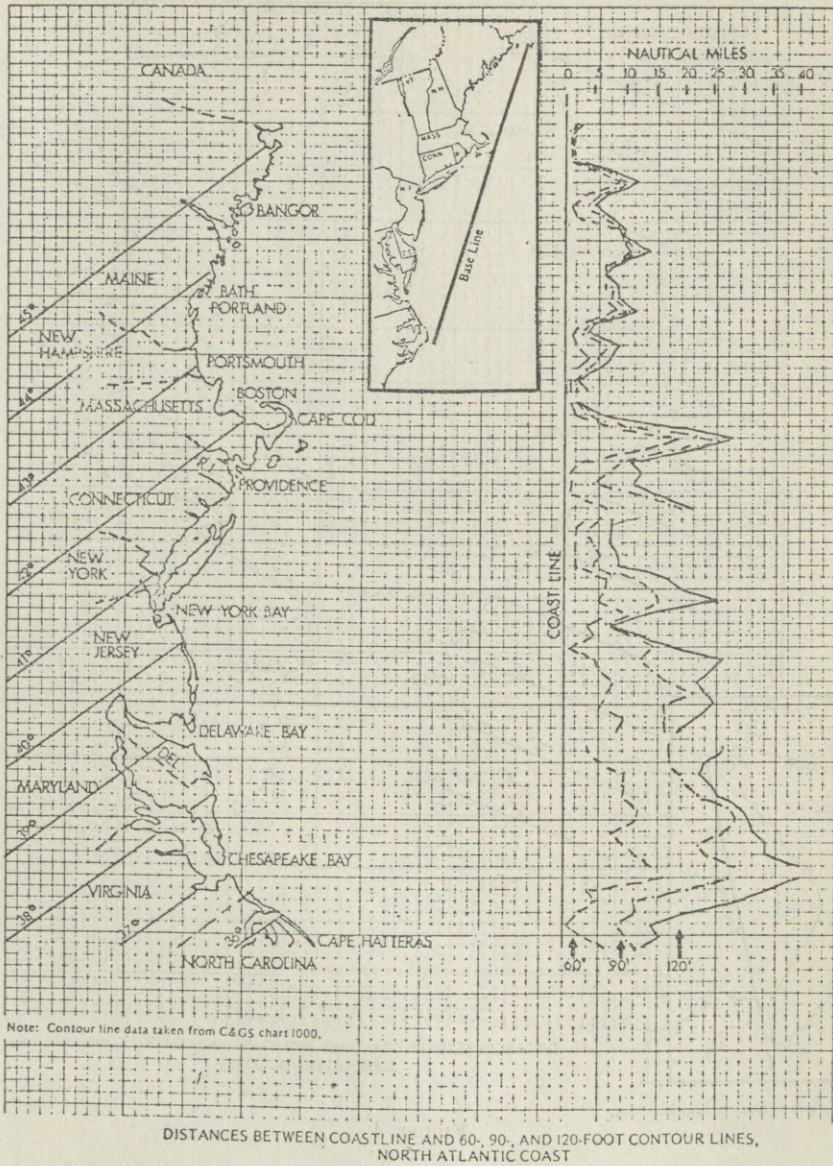


FIGURE 1

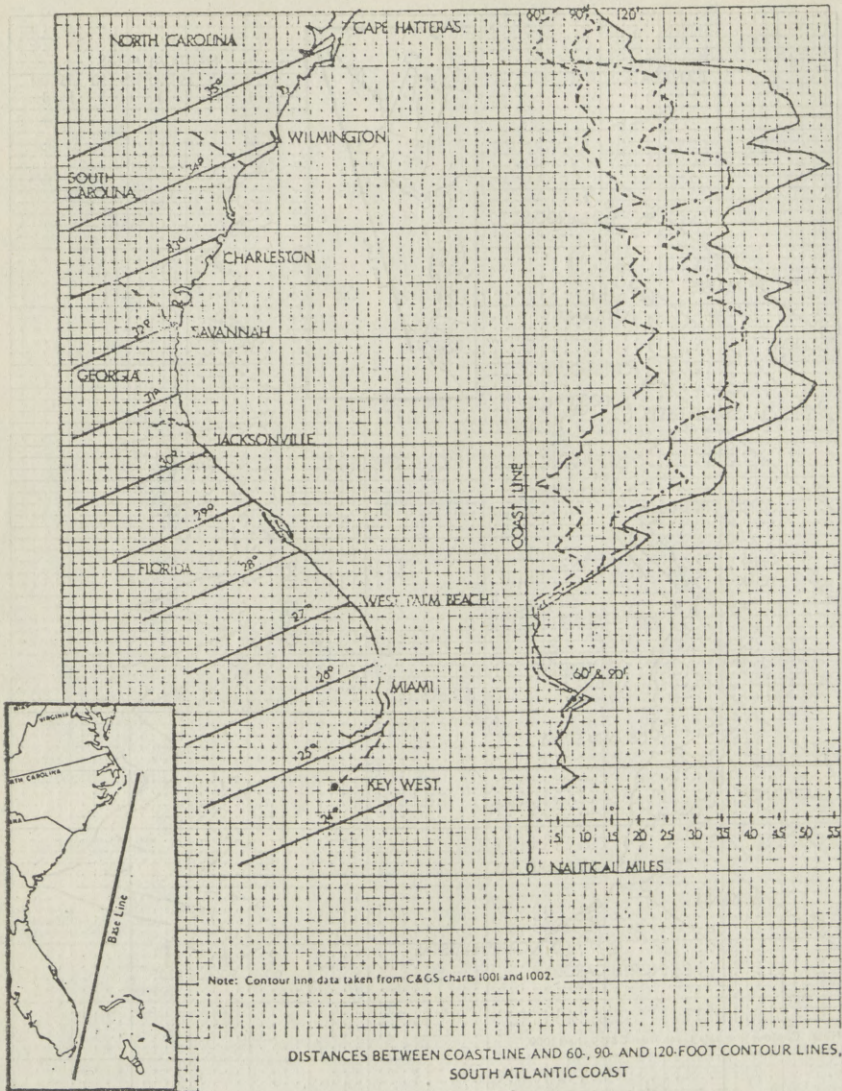
LOCATION OF PETROLEUM REFINING CAPACITY IN ONE THOUSAND BARRELS DAILY^a





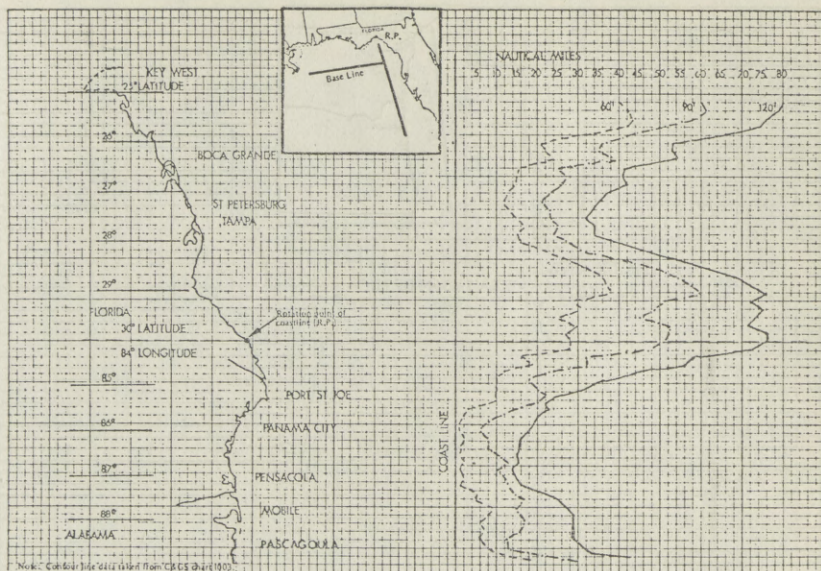
Robert R. Nathan Associates, Inc.

FIGURE 3



Robert R. Nathan Associates, Inc.

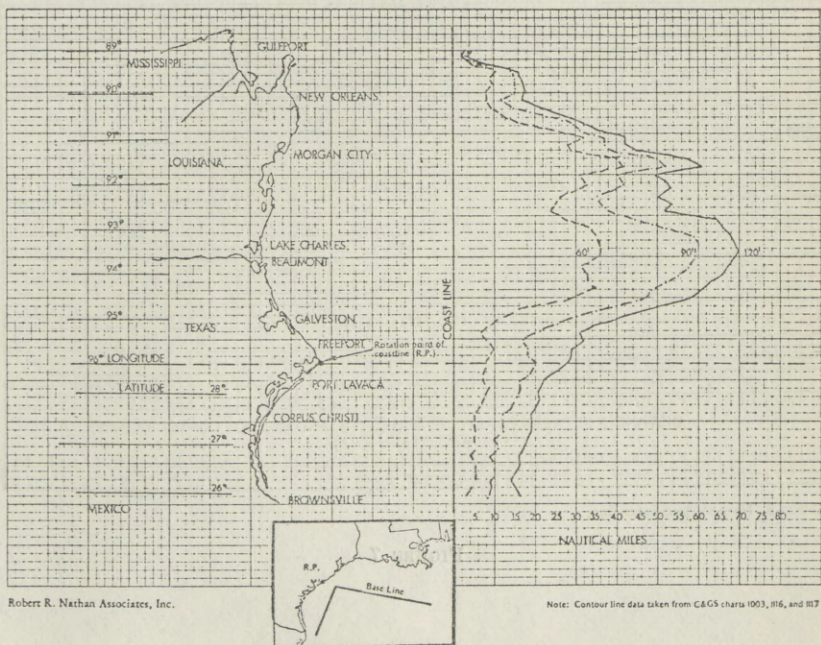
FIGURE 4



DISTANCES BETWEEN COASTLINE AND 60, 90, AND 120 FOOT CONTOUR LINES, EASTERN GULF COAST

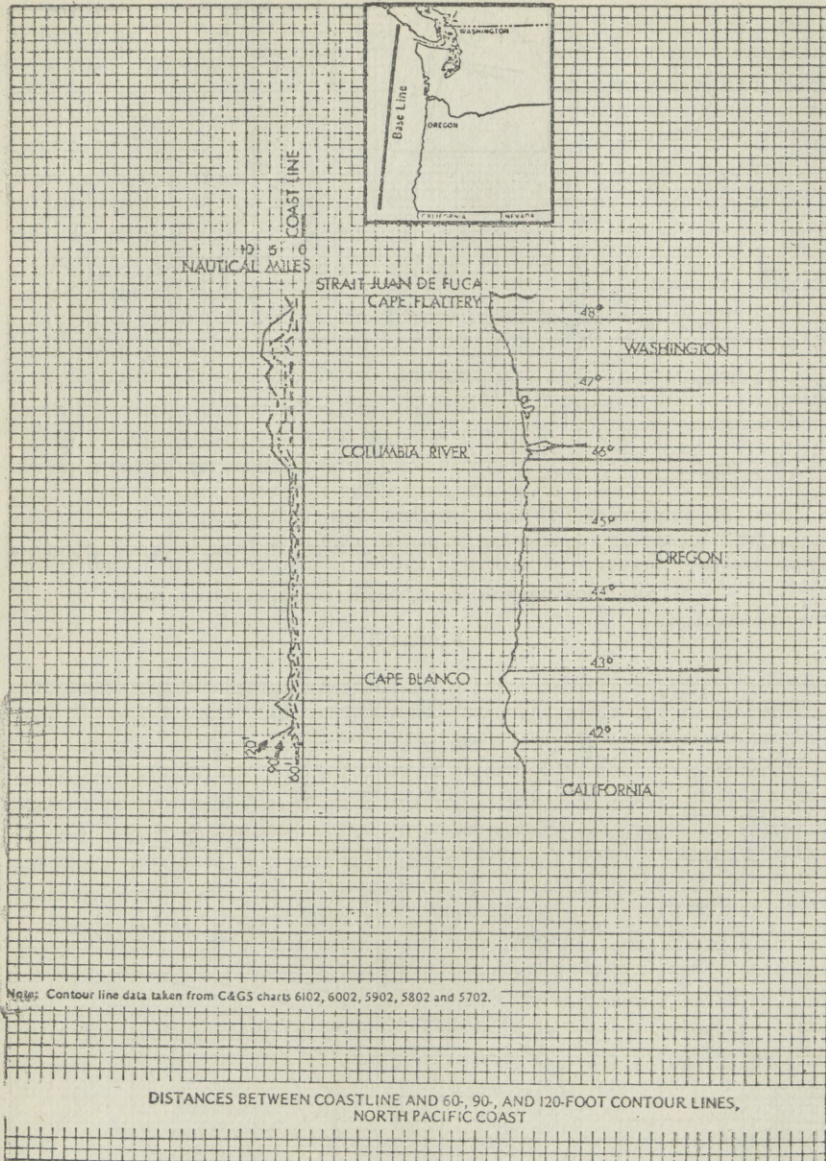
Robert R. Nathan Associates, Inc.

FIGURE 5



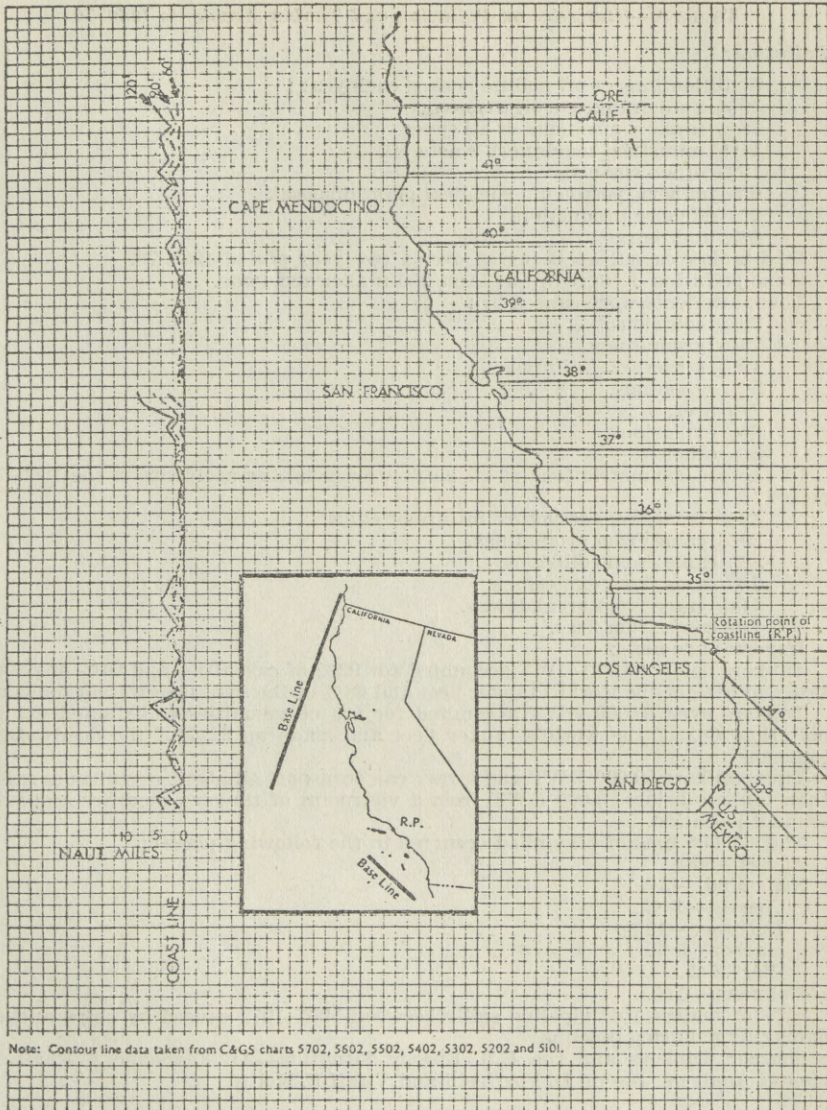
DISTANCES BETWEEN COASTLINE AND 60, 90, AND 120 FOOT CONTOUR LINES, WESTERN GULF COAST

FIGURE 6



Robert R. Nathan Associates, Inc.

FIGURE 7



DISTANCES BETWEEN COASTLINE AND 60-, 90-, AND 120-FOOT CONTOUR LINES,
SOUTH PACIFIC COAST

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FIGURE 8

TABLE 8.—*Statistics on Pollution and Tanker Accidents 1960-70**Pollution:*

5 million tons of oil pollute oceans each year :

- 29% auto crankcase oil disposal.
- 28% tankers accidents of all types.
- 15% industrial machinery waste oil.
- 17% other vessels.
- 6% refinery/petroleum chemical plant disposal.
- 2% offshore production.
- 2% tank barges.

1416 tanker casualties occurred over a two year period 1969-70.

Some pollution occurred in at least 269 tanker accidents.

These accidents were caused by :

- 30% collisions.
- 26% groundings.
- 19% structural failures.
- 9% rammings.
- 7% fires.
- 6% explosions.
- 3% other.

Of the 430,000 metric tons of oil outflow from tanker accidents in the 1969-70 period :

- 49% came from structure failure of ships.
- 29% came from groundings.
- 8% came from collisions.
- 7% came from explosions.
- 14% came from breakdowns.
- 1% came from fires.

Important to note :

Tankers below 80,000 DWT accounted for 92% of casualties and 94% of pollution and 94% of the world's tanker fleet and 68% of the total deadweight tonnage.

Tankers over 80,000 DWT accounted for 8% of casualties contributed 6% of pollution, 6% of the world's tanker fleet and made up 32% of the deadweight tonnage.

Thus, tankers 80,000 DWT and larger can transport oil about seven times safer than tankers below 80,000 DWT from a viewpoint of tanker casualties and subsequent pollution.

The 430,000 tons of oil spilled occurred in the following places :

- At Sea—56%.
- Near land—43%.
- Coastal—14%.
- Entrance—19%.
- Harbor—5%.
- Pier—5%.
- Unknown—1%.

95% of underwater pipeline spills between 1967-1972 caused by ships anchor damaging unburied pipeline.

Source: Tankers and the U.S. Energy Situation—An Economic & Environmental Analysis. Joseph D. Porricelli and Virgil F. Keith.

TABLE 9.—ESTIMATED COST OF DREDGING 90-FOOT CHANNEL TO EXISTING PORTS

Port	Approximate distance to be dredged (statute miles)	Volume to be dredged (million cubic yards)	Cost ¹ (millions)
Boston	12	150	(²)
New York	22	220	\$3,520
Philadelphia	100	1,660	(⁴)
Baltimore	230	2,900	\$3,200
Norfolk	55	650	\$900
Charleston	43	560	750
Tampa	65	1,280	(⁶)
Mobile	51	470	970
Galveston	55	500	500
Corpus Christi	39	710	710
Los Angeles	5	40	60
San Francisco	13	130	150

¹ Costs are to dredge 1,300-foot-wide channel 90-feet deep and does not include docks, slips, turning basins, etc.

² Bedrock below 60 feet. Estimate \$80,000,000 to dredge to 60 feet (60 million yards³).

³ Bedrock below 38 feet in part costing \$15 per cubic yard to remove.

⁴ Rock bottom in river and relocation of New Jersey Turnpike bridge would cost billions of dollars.

⁵ Relocation of tunnel and bridge not considered but probable.

⁶ Hard limestone below 30 feet also bridge interference.

Source: Reference for all data except that for Galveston: Offshore Terminal Systems Concepts, U.S. Department of Commerce, prepared by Soros Associates.

TABLE 10.—SUMMARY OF INSTALLED OR PLANNED SINGLE POINT MOORING INSTALLATIONS

Number and year installed	Country	Port	Owner	Designer	Maximum vessel size
1. 1959 ¹	Sweden	Dolaro	Swedish Navy	IMODCO	3,000
2. 1960	Malaysia (Sarawak)	Miri	Shell	SBM	45,000
3. 1961 ²	Italy	Ravena	SAROM	IMODCO	75,000
4. 1961	Japan	Niiagata	Shell	SBM	65,000
5. 1961	Spanish Sahara	El Aaiun	CEPSA	IMODCO	5,000
6. 1962	Germany	Cuxhaven	West German Navy	IMODCO	2,500
7. 1962 ¹	Italy	Fiumicino	Purifina	IMODCO	65,000
8. 1962 ³	Libya	Brega	Esso	Esso, F. R. Harris	100,000
9. 1963 ⁴	Japan	Oita	Kyushu Oil	IMODCO	100,000
10. 1963	Malaysia	Port Dickson	Shell, Esso	SBM	90,000
11. 1963	Spanish Guinea	Bata	CEPSA	IMODCO	20,000
12. 1964 ⁵	Italy	Fiumicino	Purifina	Dalmine	100,000
13. 1964	Japan	Yokkaichi	Shell	Mitsubishi	120,000
14. 1964	do	do	do	Mitsubishi	200,000
15. 1964	Malaysia	Miri	do	SBM	45,000
16. 1964 ⁶	do	do	do	SBM	65,000
17. 1965 ⁷	England	Nore Estuary	British Petroleum	B. P. Harlan Wolff	100,000
18. 1965	Gabon	Gamba	Shell	SBM	100,000
19. 1965	Japan	Chiba	Maruzen Oil	IMODCO	120,000
20. 1965 ⁸	Libya	Es Sider	Oasis Oil	SBM	100,000
21. 1965 ⁹	Qatar	Halul	Shell	SBM	200,000
22. 1966	Korea	Ulsan	Gulf	IMODCO	75,000
23. 1966	Oman	Mina Al Fahal	Shell	SBM	225,000
24. 1966	do	do	do	SBM	225,000
25. 1967	Bangladesh	Chittagong	Chittagong Port Authority	IMODCO	45,000
26. 1967	Japan	Koshiba	U.S. Navy	IMODCO	100,000
27. 1967	Kuwait	Ras Al Kaffje	Arabian Oil	McDermott	150,000
28. 1967 ¹⁰	Nigeria	Apapa	Nidogas	IMODCO	4,500

TABLE 10.—SUMMARY OF INSTALLED OR PLANNED SINGLE POINT MOORING INSTALLATIONS—Continued

Number and year installed	Country	Port	Owner	Designer	Maximum vessel size
29. 1967 ¹¹	Oman	Mina Al Fahal	Shell	SBM	100,000
30. 1967	Philippines	Subic Bay	U.S. Navy	IMODCO	108,000
31. 1967	Spain	Huelva	Gulf	SBM	100,000
32. 1967 ¹²	Taiwan	Tai-Chung	U.S. Army	IMODCO	50,000
33. 1967 ¹³	United States (Louisiana)	Gulf Coast	Kerr-McGee	McDermott	8,000
34. 1968	Angola	Cabinda	Gulf	SBM	100,000
35. 1968	Egypt	Ras-el-Shaiq	WEPCO	SBM	100,000
36. 1968	Japan	Hakozaki	U.S. Navy	IMODCO	100,000
37. 1968	do	Kawasaki	Showa-Mitsubishi Oil	Mitsubishi	250,000
38. 1968	do	Hakodate	Asia Oil	IMODCO	35,000
39. 1968	do	Yokkaichi	Daikyo Oil	Mitsubishi	200,000
40. 1968	Korea	Yosu	Honam Oil, Caltex	IMODCO	100,000
41. 1968	do	Ulsan	Korea Oil	IMODCO	200,000
42. 1968	Libya	Zuetina	Occidental	SBM	100,000
43. 1968	Nigeria	Excravos	Gulf	IMODCO	100,000
44. 1968	Taiwan	Kaohsiung	Chinese Petroleum	IMODCO	100,000
45. 1968 ¹	do	Tai-Chung	U.S. Air Force	IMODCO	75,000
46. 1968	Venezuela	Moron	CVP	SBM	100,000
47. 1969	Brazil	Tramandai	Petrobras	SBM	105,000
48. 1969	Japan	Toyama	Japan Sea Oil	IMODCO	150,000
49. 1969	do	Yokohama	Asia Oil	Mitsubishi	200,000
50. 1969 ¹⁴	Libya	Brega	Esso	Esso, Van Houten	300,000
51. 1969	do	Zuetina	Occidental	SBM	150,000
52. 1969	do	do	do	SBM	150,000
53. 1969	Nigeria	Forcados	Shell, B.P.	SBM	240,000
54. 1969	do	do	do	SBM	240,000
55. 1969 ¹⁵	South Vietnam	Tan My	U.S. Navy	McDermott	20,000
56. 1969	United Arab Emirates	Dubai	Continental	SBM	150,000
57. 1970	Argentina	Puerto Rosales	YPF	IMODCO	40,000
58. 1970	Canada	Saint John, N.B.	Irving Oil	SBM	350,000
59. 1970 ¹⁶	Indonesia	Pangkalan Susu	Pertamina	IMODCO	100,000
60. 1970 ¹⁷	Iran	Cyrus Field	IPAC	SBM	130,000
61. 1970	do	Iman Hassan	SIRIP/AGIP	IMODCO	150,000
62. 1970	Israel	Ashkelon	Eilat-Ashkelon Pipeline		65,000
63. 1970	Japan	Atsumi	Chubu Electric	Mitsubishi	200,000
64. 1970	do	Hemeji	Idemitsu Oil	IMODCO	220,000
65. 1970	Japan (Okinawa)	Nakagusuku Bay	Toyo Oil, Caltex	IMODCO	100,000
66. 1970	do	Tengan	U.S. Army	IMODCO	55,000
67. 1970	Japan	Toyama	Nihonkai Oil	IMODCO	100,000
68. 1970	do	Ube	Seibu Oil	Mitsubishi	200,000
69. 1970 ¹⁸	Libya	Es Sider	Oasis Oil	SBM	255,000
70. 1970	do	Ras Lanuf	Mobil	SBM	300,000
71. 1970	Morocco	Mohammedia	RAPC	IMODCO	100,000
72. 1970	Singapore	Singapore	Esso	IMODCO	250,000
73. 1970	South Africa	Durban	Shell	SBM	200,000
74. 1971	Australia	Botany Bay	Maritime Services Board	SBM	120,000
75. 1971	Brazil	Tramandai	Petrobras	SBM	200,000
76. 1971	Brunei	Seria	Shell	SBM	250,000
77. 1971	Chile	Quintero Bay	ENAP	SBM	209,000
78. 1971	Indonesia	Balikpapan	Union Oil	SBM	250,000
79. 1971	do	Java Sea	ARCO	McDermott	45,000
80. 1971	do	do	IIAPCO	IMODCO	55,000
81. 1971	Italy	Porto Torres	Sardoil	SBM	250,000
82. 1971 ¹⁹	Japan (Okinawa)	Nakagusuku Bay	Esso	Esso, Van Houten	250,000
83. 1971 ²⁰	New Zealand	Waipipi Point	Marcona Corp.	IMODCO	75,000
84. 1971	Nigeria	Qus Iboe	Mobil	IMODCO	255,000
85. 1971 ²¹	Norway	North Sea	Phillips	SBM	150,000
86. 1971 ²²	do	do	do	SBM	60,000
87. 1971	Taiwan	Kaohsiung	Chinese Petroleum	SBM	250,000
88. 1971	United Kingdom	Humber River	Continental	SBM	210,000
89. 1972	Dominican Republic	Santo Domingo	Shell	SBM	
90. 1972	United Arab Emirates	Das Island	BP	IMODCO	300,000

TABLE 10.—SUMMARY OF INSTALLED OR PLANNED SINGLE POINT MOORING INSTALLATIONS—Continued

Number and year installed	Country	Port	Owner	Designer	Maximum vessel size
91. 1972	Ecuador	Porto Baleo	Gulf/Texaco	SBM	100,000
92. 1972	do	do	do	SBM	250,000
93. 1972	Indonesia	Java Sea	ARCO	IMODCO	145,000
94. 1972	Kuwait	Ras al Kaftje	Arabian Oil	McDermott	250,000
95. 1972	New Zealand	Tahora	N.Z. Steel Corp.	IMODCO	70,000
96. 1972	Nigeria	Escravos	Gulf	SBM	326,000
97. 1972	Qatar	Halul	Shell	McDermott	300,000
98. 1972	do	Um Said	Qatar Petroleum Co.	IMODCO	300,000
99. 1972	Saudi Arabia	Zuluf	ARAMCO	SBM	250,000
100. 1972	do	do	ARAMCO	SBM	250,000
101. 1972	Tanzania	Dar es Salaam	East African Port Authority.	SBM	100,000
102. 1972	Trinidad	Galoti Pt.	AMOCO	SBM	250,000
103. 1972	United Arab Emirates.	Dubai	Dubai Petroleum	McDermott	300,000
104. 1972	Spain	Amposta	Shell	SBM	60,000
105. 1972 ²³	Italy	Genoa	Port Authority	CIDONIO	500,000
106. 1972	do	North Sea	Gulf	SBM	60,000
107. 1972	Tunisia	Gulf of Gabes	Aquitaine	SBM	50,000
108. 1972	England	North Sea	Shell	SBM	50,000
109. 1972	do	do	do	SBM	50,000

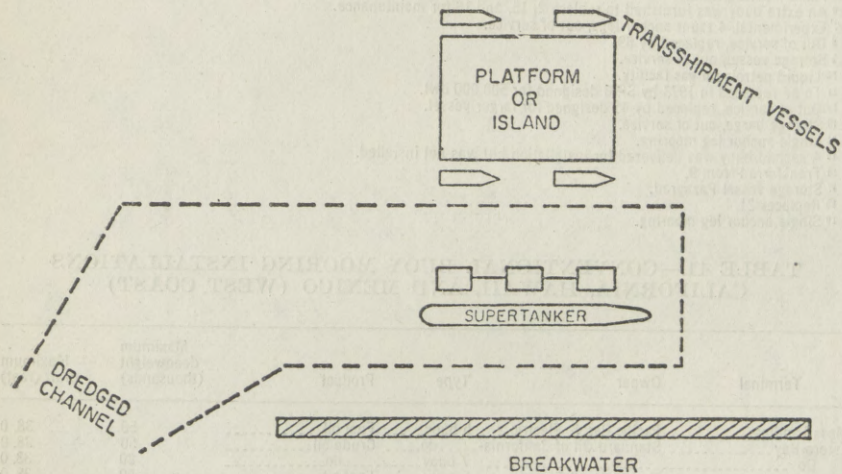
¹ Out of service.² Out of service, now used as part of multi buoy berth.³ Fixed mooring tower, underwater loading arm.⁴ Out of service, transferred to 59.⁵ Fixed mooring tower.⁶ An extra buoy was furnished to replace 2, 15, and 16 for maintenance.⁷ Experimental, 4 taunt anchor legs, out of service.⁸ Out of service, replaced by 69.⁹ Storage vessel, out of service.¹⁰ Liquid petroleum gas facility.¹¹ To be replaced in 1973 by SPM designed for 500,000 dwt.¹² Out of service, replaced by 45 designed for larger vessel.¹³ Storage barge, out of service.¹⁴ Single anchor leg mooring.¹⁵ A second buoy was delivered for installation but was not installed.¹⁶ Transferred from 9.¹⁷ Storage vessel Pazagrad.¹⁸ Replaces 21.¹⁹ Single anchor leg mooring.TABLE 11.—CONVENTIONAL BUOY MOORING INSTALLATIONS
CALIFORNIA, HAWAII, AND MEXICO (WEST COAST)

Terminal	Owner	Type	Product	Maximum deadweight (thousands)	Maximum draft (feet)
Moss Landing	Pacific Gas & Electric	5 buoy	Fuel oil	50	38.0
Estero Bay	Standard Oil of California	do	Crude oil	50	38.0
Do	do	7 buoy	do	80	38.0
Morro Bay	Pacific Gas & Electric	5 buoy	Fuel oil	50	38.0
Do	U.S. Navy	do	Refined	50	38.0
Do	Texaco	do	do	50	38.0
Gaviota	Getty	do	Crude oil	40	36.0
Elwood	Signal	do	do	30	40.0
Mandalay Beach	Southern California Edison.	do	Fuel oil	50	35.0
Carpenteria	Standard Oil of California	7 buoy	Refined crude oil	80	55.0
Ventura	Union	5 buoy	Crude oil	35	35.0
Do	Getty	do	do	40	32.5
El Segundo	Standard Oil of California	do	Refined	50	42.0
Do	do	6 buoy	do	35	27.0
Do	do	7 buoy	Crude oil	130	54.0
Do	do	do	do	130	56.0
Huntington Beach	Gulf	5 buoy	Fuel oil, crude oil	125	42.0
Encina	San Diego Gas & Electric	7 buoy	Fuel oil	80	36.0
Hawaii:					
Barbers Point	Standard Oil of California	do	Fuel oil, crude oil	125	55.0
Do	H.I.R.I.	8 buoy	Refined fuel and crude.	100	75.0
Mexico:					
Rosarita Beach	C.F.E.	5 buoy	Refined fuel oil	40	40.0
Do	C.F.E.	do	Ammonia	40	40.0

CONVENTIONAL BUOY MOORING

The Conventional Buoy Mooring (CBM) is an offshore mooring system using a tanker's two bow anchors together with 5 to 7 permanently anchored mooring buoys to hold a tanker in a relatively fixed position while it is loading or unloading. Transfer of oil is through one or more hoses to an underwater pipeline leading to shore. CBM's are particularly suited to open sea terminals where sea conditions would severely limit the mooring of tankers at a fixed wharf structure. A flat or gently sloping bottom, free of projections and with good natural anchoring conditions are preferred, although CBM's have been located in areas with coral bottoms. Considerable space must be available for multi-berth terminals as a spacing of at least one-half mile is generally desired between berths for maneuvering and locating anchors. The CBM is most practical where only one or two different types of cargos are to be handled.

Because of the tanker's fixed heading, the forces on a moored tanker caused by current, wind and waves can be very high when their directions are at an angle to the heading of the tanker (the heading is usually designed to coincide with prevailing conditions). Since the size of a tanker's mooring lines is limited to what can be practically handled, the size of a tanker which can be routinely moored at a CBM is limited. The limitation at any particular location depends on the magnitude and direction of currents, wind and waves. For conditions offshore southern California, which is well suited for CBM's, the maximum size of tanker which can be moored routinely at a CBM is in the range of 130,000 to 150,000 DWT.



ARTIFICIAL ISLAND TYPE DEEPWATER PORT FACILITY

(from: Texas Supertanker Port Texas A&M Univ., Dec. 72)

FIGURE 9

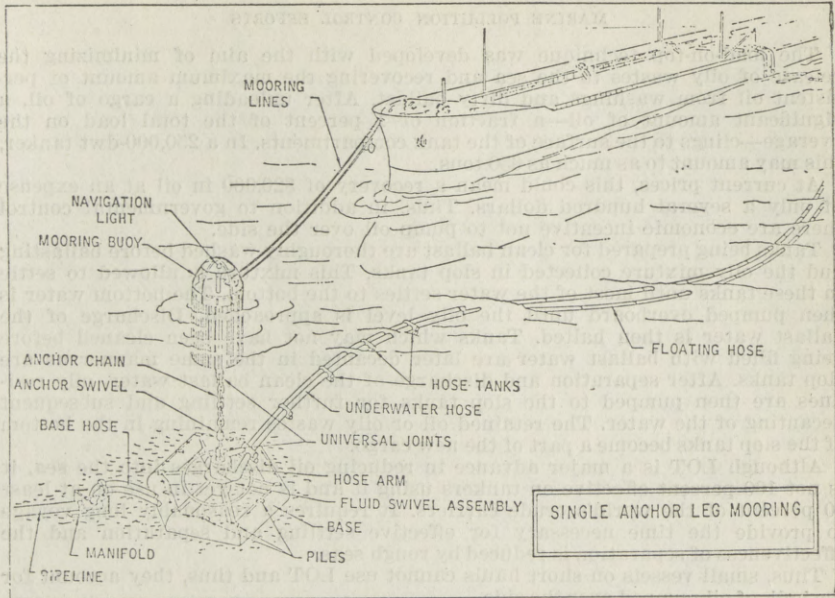


FIGURE 10

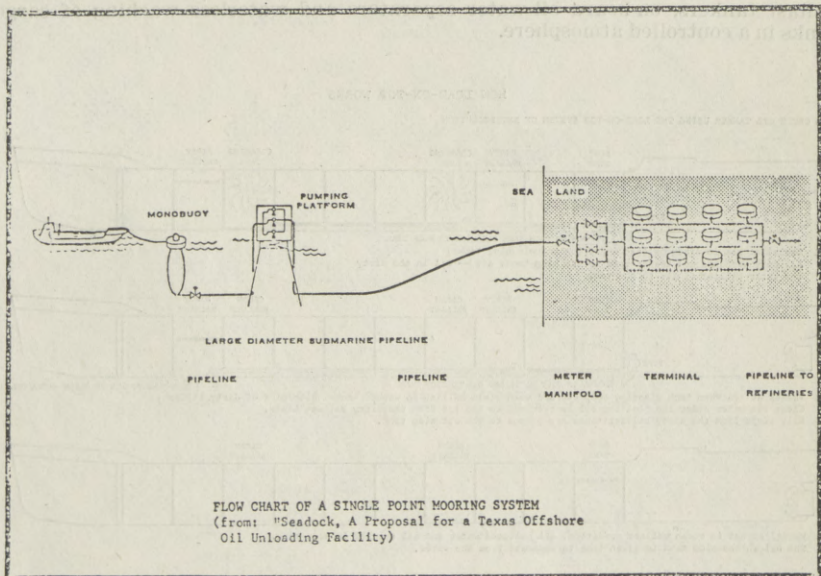


FIGURE 11

MARINE POLLUTION CONTROL EFFORTS

The load-on-top technique was developed with the aim of minimizing the release of oily wastes to the sea and recovering the maximum amount of persistent oil from washings and dirty ballast. After unloading a cargo of oil, a significant amount of oil—a fraction of 1 percent of the total load on the average—clings to the surface of the tank compartments. In a 250,000-dwt tanker, this may amount to as much as 650 tons.

At current prices, this could mean a recovery of \$20,000 in oil at an expense of only a several hundred dollars. Thus, in addition to governmental control there are economic incentive not to pump oil over the side.

Tanks being prepared for clean ballast are thoroughly washed before ballasting and the oily mixture collected in slop tanks. This mixture is allowed to settle in these tanks until most of the water settles to the bottom. The bottom water is then pumped overboard until the oily level is approached. Discharge of the ballast water is then halted. Tanks which may not have been cleaned before being filled with ballast water are later decanted in the same manner as are slop tanks. After separation and discharge of the clean ballast water, oily residues are then pumped to the slop tanks for further settling and subsequent decanting of the water. The retained oil or oily wastes remaining in the bottom of the slop tanks become a part of the new cargo.

Although LOT is a major advance in reducing oil discharges into the sea, it is not 100 percent effective on tankers using it and is not yet in use on at least 20 percent of the world's crude carriers. It requires a reasonably long voyage to provide the time necessary for effective settling and separation and the effectiveness of separation is reduced by rough seas.

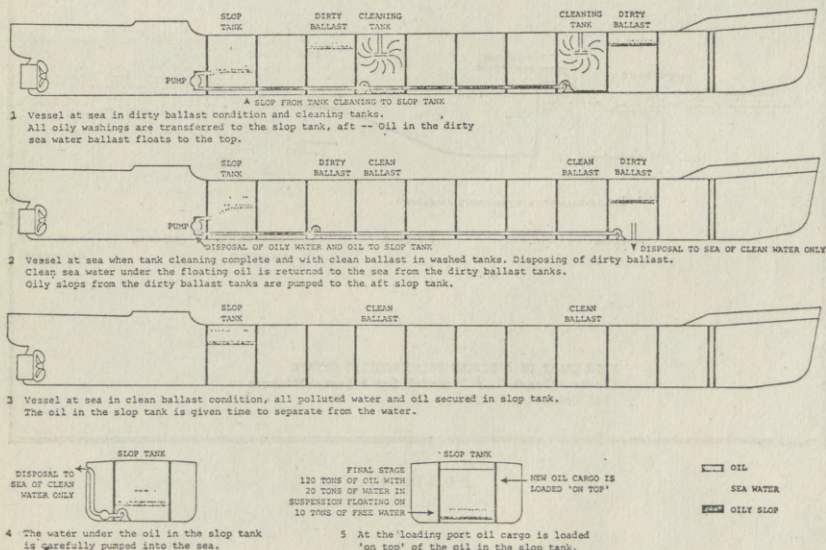
Thus, small vessels on short hauls cannot use LOT and thus, they account for the bulk of oil pumped over the side.

Further, is difficult to determine with precision the oil-water interface during decanting, resulting at times in some oil discharge before pumping is halted.

Other alternatives for reducing oil discharges from normal tanker operations include the following: shore ballast reception and treatment facilities, segregated ballast tankers, on-board oil-water separators and waterless washing of cargo tanks in a controlled atmosphere.

HOW LOAD-ON-TOP WORKS

A CRUDE OIL TANKER USING THE LOAD-ON-TOP SYSTEM OF ANTI-POLLUTION



Courtesy of Shell International Petroleum

FIGURE 12

Mr. UDALL. Thank you, Mr. Secretary.

You mentioned in your last full paragraph the National Land Use Policy Act. This subcommittee has been struggling through a number of markup sessions to try to produce a bill for the full committee. We have not done it yet, but we are working very hard, and I think we will have something that the administration, in its general structure, can support. And we have been working closely with your people.

I had rather suspected, I guess based on past experience, that when this legislation was introduced and when we began our hearings, we would have a good deal of opposition to it. But so far, I have been pleased to find that there seems to be very little opposition. I do not know whether this is because the people have not yet focused on it, or because it seems to have considerable merit. Certainly we are not going to stop using oil, and certainly imports of oil are going to continue at least at the present level, and undoubtedly will increase. It seems to me that if we have to choose between a large number of small, older ships coming into our major harbors, and a much smaller number of very large ships anchoring 10 miles out under very carefully controlled conditions, I think that the deepwater port alternative is superior. And I have not seen anything yet in these hearings yet that raises any serious questions in my own mind. And it is my hope that we will be able to move this fall into this legislation, and turn industry loose to begin some construction of whatever ports the Interior Department might license after you go through your environmental impact statement process, and all of the rest. So, I thank you.

Mr. VIGORITO. Yes.

Mr. Secretary, can you tell me on some of these huge supertankers, I think 500,000 deadweight tons, they go that large?

Secretary MORTON. I think this is the top size on the drawing boards today. Japan has built a couple of tankers that approach this size, I think 400,000 deadweight class.

Mr. VIGORITO. Would you happen to know how many barrels of oil they carry? That means more to me if I know how many barrels of oil they carry than how much the ship weighs?

Secretary MORTON. It is $7\frac{1}{2}$ per barrel deadweight ton. So half a million deadweight tons, it would be $3\frac{3}{4}$ million. Is that correct?

Mr. VIGORITO. Yes; $3\frac{1}{2}$ million, give or take a few thousand.

Secretary MORTON. Well, you see the tremendous advantage of this is that if you are going to unload three or four such ships a day, you would be handling today's level of imports in the United States, whereas now we are unloading literally hundreds of ships every day.

Mr. VIGORITO. On your statistics on deepwater ports, oil tankers, I notice on the first page, by 1985 we are going to be importing from overseas a huge amount of oil. The demand is going to be over 26 million barrels per day, and we are going to be importing probably 7 to 10 million barrels per day. And I am sure that every importing country has a chart, statistics just like we have. But, I have yet to see a chart of statistics from the exporting countries as to where they are going to send the oil. Have you been able to see any of that?

Secretary MORTON. Well, I think the where is probably subject to the vagaries of the marketplace. One of the things that we are trying to develop in the executive branch of the Government is a relationship with the other big countries so that to a degree we are correlated with

each other in a common effort, in the same sense that the OPEC countries are related to each other in their export effort, in order to meet this kind of demand. I think this is a realistic demand, and I would like to maybe at some future time correlate that to what there are in the way of opportunities for conservation. But, to meet this demand, we are going to have to encourage the exporting countries to rather substantially increase their daily production. If we went into the marketplace today for this kind of volume, it just would not be available without hurting other countries that are dependent almost entirely on imports, such as Japan.

Mr. VIGORITO. Where as your demand is increasing 4 to 6 or 7 percent a year in oil consumption, I see where Japan and West Europe is doubled that rate. Also, a couple of weeks ago, I believe there was a meeting of—I may not have the title correct—but of the Oil Import Committee in which we participate, and we are going to divide up the oil market. And Japan immediately says, oh, no, you don't. That means that we can't do that, divide what is available for export. They also want to take into consideration the 10 million barrels of oil that we produce a day. We are going to have to divide that up and not just what Saudi Arabia can export, or they probably want a share or something in other fields that we want this, and then disregarding other than our share. I mean, with 6 percent of the world's population expecting to get 40 percent of the world's oil supply, something is going to have to give. And our friends, Japan and West Europe, are going to insist on it also, and not just oil, but we seem to be doing the same thing in other fields that we want this, and then disregarding other countries, like putting an embargo on logs—exporting of logs, putting an embargo on exporting of ferrous scrap, and then we put an embargo on the export of soybean and other feed grain meals.

And then we are now in the process of putting an embargo on copper scrap.

You see, Mr. Secretary, what I am getting at are the huge problems facing this country in addition to oil, and the resources of the world. We cannot continue plundering this planet all by ourselves. Other countries are going to want their share.

Thank you.

Mr. UDALL. The gentleman from Oregon?

Mr. DELLENBACK. Thank you, Mr. Chairman.

Mr. Secretary, may I just use part of my time in connection with one aspect of yesterday's Alaska pipeline wrestle in the House. I do not know whether your staff has yet been able to call to your attention that in our committee, we added to the bill which was before us some provisions which go directly to the ports, or at least on a 6-month basis by the Secretary, to you. Now, we do that not to cripple you in any way in administering this, but to give you a lever and an obligation to continue to watch over the construction and the operation. And then we also wrote in there I think a desirable feature that you have the power to issue cease-and-desist orders in the event that at any time any of the conditions which you attach to the permit are not being adhered to, or in any event, that environmental problems arise which had not originally been contemplated. We did that again, not in any wise to cripple you, because we know of your personal dedication to being sure whatever is being done up there is being done not only in a way

that will expedite getting the resources down to the lower 48, but will do so in the soundest environmental way. So, I just wanted to make a comment on what this committee felt was a very important additional tool that I do not think the Senate has in its bill. But, it will be at your disposal to be sure that the things that I know you want to reach for under the protection of the environment can actually be achieved.

Secretary MORTON. Mr. Dellenback, let me just say we would certainly include the power of cease and desist and to shut the job down in the terms of the permit. This has been our position all along, and certainly would be our position. The oil companies, or rather the Alyeska group, understand this. We have made this very clear from the outset, so that we are glad to have the congressional backing for this authority. We have the authority anyway, and we intend to use it if necessary.

Mr. DELLENBACK. We are pleased to see that.

Secretary MORTON. As far as the reporting is concerned, we intend to monitor that whole project in such a way that you could bleed a report off as to the current status of the project at any times in terms of its compliance with stipulations, progress, and the like.

Mr. DELLENBACK. During the time that recently some members of the committee had the opportunity to go up to Alaska and see the very fine development that is proceeding there, we received some input from some of the people we had a chance to talk to who were both Federal employees, and also who were State employees, who were not in any wise dubting the capacity or the desire of the company which is moving forward to do the job. But, they just said in order to be dead sure that it would be done properly, there must be a constant surveillance and not just a writing essentially into the permit requirements.

Secretary MORTON. We intend to use a third-party contractor and the Corps of Engineers, too, but we expect, if the Congress will give us the money, and this is one of the things that has happened to us recently, is that our surveillance money was cut off by appropriations action in the Congress, and I hope that we can restore this, because I feel that this is probably as important a part of the environment as all of the work that went into the environmental impact statement. This operation probably costs, by the time we finish it, in the order of \$10 to \$12 million, and our appropriations were cut back \$14 million when we asked for this basic surveillance money. Now, to do the job the way I want to do it, and the way you have just outlined that it should be done, it is going to take some money. And the administration is clearly on record as saying we will include this in the budget. But, so far, we have not been able to get it passed through the Congress.

Mr. DELLENBACK. Well, we hope that you will include in your budgetary requests this type of thing to which you are alluding, as I am sure you will, and I am sure the members of this committee will support you as far as we possibly can.

May I ask now, one question on the bill, Mr. Secretary, and I ask you this less in your capacity as the Secretary of the Interior than as in your former capacity as a Member of this Congress. You are aware of the fact that one of the battles we are going to fight up here, one of the concerns that we have up here is which of the congressional committees is going to have a responsibility to move forward. You are

aware of the fact that on the Senate side, I think there has been a joint referral to Interior, and Public Works, and Commerce. And on our side, we have at least three different committees that are wrestling with this. We have Public Works again involved, we have Merchant Marine and Fisheries involved, and we have the Interior and Insular Affairs Committee. Is there any comment that you may care to make on this, because as one member of this committee and of this Congress, I do not want to get into a race of diligence to see whether we can beat somebody else to it, and I am sure the chairman of the subcommittee does not want to do that either. What we want to do is to be dead sure that the Congress fills the function best.

Would you have anything to say on that?

Secretary MORTON. First, as far as jurisdiction is concerned of doing the job, I do not think there is any question about it that we are approaching the threshold of a whole new order of land use planning. If we do not, I think we are in deep trouble. We are in deep trouble environmentally, and I think we are in deep trouble economically, and in deep trouble in terms of our energy problems. To put the jurisdiction of this licensing in another department, say in NOAA, or in the Department of Transportation I think would tend to just simply fragment the very thing that we are trying to consolidate into better management. Now, if you will accept the need for land use plans, then I think you have to accept the relationship between the licensing of deepwater ports and the land use plans of a given State.

Now, the agency that has been selected to coordinate and help the States develop land use planning is the Department of the Interior. If you go another route as far as licensing deepwater ports, you simply widen the gap, you multiply the number of windows of the shopping center where information has to be gotten and decisions have to be made. And I feel very, very strongly that with the Department of Natural Resources, Energy and Natural Resources, also in the offing, it would be a very bad mistake for the Executive not to push awful hard not to have this whole operation in Interior.

Now, as to the jurisdiction of Congress, I certainly do not think that it is my place to say anything more than a broad generality, and that generality is this: That as far as materials and energy is concerned, I see a lot of trouble between now and, say, the year 2020. I see lifestyles that are going to have to change, that are going to be affected by how well we conserve and how well we are able to use our energy resources and mineral resources. And the Congress has got to face up to their jurisdictional problem, in my opinion. We can't keep giving lip service to the conservation of energy, to the development of resources, and not institutionalize ourselves at all levels, Executive and Congress, and may I add with some degree and trepidation, judicial levels too. We must reorganize ourselves and restructure ourselves institutionally to deal with this problem. And in the Congress today, it is not the fight between the jurisdiction of NOAA, and you see that in the bill, which has been introduced in the Senate versus the bill that this committee is considering, the fragmentation of energy across the whole spectrum, and many of the authorizing committees are into it, many of the appropriation committees are into it, and all results in the fact that we are not doing the job that gives the best guarantee to future generations that they will have the energy resources and the material resources to maintain a sophisticated industrial society.

Mr. UDALL. Mr. Dellenback, the House is going in at 11, and it has been my practice, unless the committee makes some other determination in these hearings, that when we have no more time than this, we will follow the 5-minute rule and be rough and ready.

Mr. DELLENBACK. I would support the chairman in not only being rough and ready, but I will yield back the rest of my time.

Mr. UDALL. By way of the comment, the staff is getting the correspondence for me, but some of the committee members might not know that Chairman Haley has been undertaking negotiation under the encouragement by the Speaker, with the chairman of the Public Works Committee and also with the chairman of the Merchant Marine and Fisheries Committee to resolve these jurisdictional difficulties. And I think we really owe it to ourselves and the Congress and the country not to be engaged in petty grumbling over jurisdictional advantage, but try to make some rational decisions, and I am sure that we are going to get our share of the action if we proceed in this fashion. So, I have encouraged the chairman of the full committee to try and resolve some of these things.

The gentleman from Ohio is recognized for 5 minutes.

Mr. SEIBERLING. I yield to the gentleman from Pennsylvania.

Mr. VIGORITO. Thank you very much.

I want to state, Mr. Secretary, I am really happy at the remarks that you just made, that we are going to have to take a serious look at this and do something concrete, and realize the fact that our lifestyle is going to have to change, whether we like it or not. I hope that we are going to like it, and I think we will, because man has a tendency of adapting to his environment and to his resources. It has to be.

Thank you. Thank you.

Mr. SEIBERLING. Well, thank you.

Mr. Secretary, I think that we have had the benefit of an exceptionally fine statement of yours and the Department's views, and I would just like to ask you to elaborate on a couple of directions.

First of all, you have said that under international law, we are entitled to make reasonable use of the high seas, and you consider deepwater ports to be a reasonable use. Are there not, however, many unsettled questions as to the international law status of deepwater ports, and if so, what steps are being taken to resolve them?

Secretary MORTON. When you have an expert you should use him, and Mr. Jared Carter, our Deputy Under Secretary, has spent a good portion of his legal career in this area of international law and law of the sea, and I think that he can probably respond to that much more succinctly than I can.

Mr. CARTER. Thank you, sir.

At the Law of the Sea Conference, which is in preparation now at the international level, one of the items that will be discussed is this deepwater port question, so there can be further refinements on the kinds of agreed rules and regulations that should apply to these facilities.

Our bills calls upon the Secretary of State to proceed with those international negotiations.

Now, in the absence of any international rules that are agreed, the obligation of any State when using the high seas is to use it with reasonable regard to other people's rights to use the high seas. And we

think that by using a part of ocean space for a function that is an integral part of navigation, an integral part of the delivery system for transporting goods, a function the ocean has always served, this is a reasonable use, as long as we do it with reasonable regard for other people's use; that is, setting out navigational standards that are useful, not putting the ports in places that are right in the middle of the best fishing in the area. That is consistent with international law.

Mr. SEIBERLING. Thank you.

My next question relates to the regulation of the supertankers from the standpoint of their design and operation. I understand that one of the reasons that they are so economical is because the amount of power needed to move this kind of tonnage is much less per ton than a smaller tanker. But, by the same token, you have a loss in maneuverability, stoppability and so forth. That is just one example. To what extent does the Interior Department, or some other department in the U.S. Government, have the ability to set standards for the vessels that will be using these superports to make sure that safety and environmental protection are given maximum attention?

Secretary MORTON. What the bill does, Mr. Seiberling, is extend the jurisdiction and regulatory authority that now exists within the 3-mile limit to include these deepwater ports, and the Coast Guard and the other agencies such as Corps of Engineers regulatory authority that now exists over shipping that enters our territorial waters will be covering the ships that use superports. This is one of the things that the bill does, extends that regulatory responsibility and authority.

Mr. SEIBERLING. Well, do you feel that this is going to be adequate?

Secretary MORTON. I certainly do. I think we have moved along a long way. There have been some accidents. We have still got some archaic rules. For example, I think that there are a lot of rust buckets that should not be allowed to come into our estuaries, but that is a whole 'nother battleground.

The investment in these tankers is so great that all the modern technology is included in their design, the handling of the ballast, the instrumentation of their navigational equipment, and all of the rest. And actually, keeping these vessels offshore and out of restricted waters also gives them a leg up as far as their hazards to navigation is concerned. And I think we are going into a whole new era of technical perfection as far as shipping is concerned, though I have got some reservations about the use of convenience flags. I served on the Merchant Marine and Fisheries Committee, and I fought that battle a good many times, but when you get into the supertankers, you are getting into so much money that only the best is good enough. And I think this is a step forward.

Mr. UDALL. The time of the gentleman has expired.

Mr. SEIBERLING. Thank you.

Mr. UDALL. The gentleman from Texas.

Mr. STEELMAN. Thank you, Mr. Chairman.

Mr. Secretary, I want to compliment you on your fine statement and say that I am sorry I came to Congress too late to have had the pleasure of serving with you here on this committee. You have done a fine job, in my judgment, as Secretary.

I do have one specific question. You mention in your presentation the administration's commitment to the conservation of energy. What

specifically is the Department doing, or what specifically is the administration doing on a broad front to conserve energy, in addition to this dig-and-drill thrust that we are taking?

Secretary MORTON. I am not going to try to guild the lily on that at all, Mr. Steelman, because we are not at the point where we can really do very much. Now, we are jawboning the executive departments to try and cut down on their basic energy requirements by a figure of 7 percent. In the Department, we are trying to establish a conservation office under the direction of the President's energy message, to really learn what we can do. I was chagrined at the appropriations for this office, which were very modest, were not included in the recent appropriation. But, I think we can get around that, and I think we can get back to the Congress when we perhaps have our own house a little better in order.

What we really are at the stage of doing is trying to develop the technology and the methodology for the conservation of energy. It is an awful easy thing to be glib about. It is awful easy to say well, everybody has got to stop driving a big car and go to a little car, and everybody has to turn off their air-conditioning, and everybody has to turn their thermostat lower in the winter and higher in the summer so that they burn less energy. But, what we have got to do is learn what the economic impacts are, and what the real opportunities are. And this is what we are trying to establish. We are not going to establish in the Department of the Interior, at least as long as I am Secretary, a public relations office that simply goes around the country and tries to jaw-bone people into doing a better job of energy housekeeping. I think we owe it to the country to try to develop the technical competence to really know how the decisions can be made, when the Congress and the Government faces up to the very hard decisions of how we really cut down the energy use per capita in this country, and we are just bringing on board a very competent, well-trained Director of that Office. And I think within the next 2 weeks, he will be fully on board, and given that very line of development that I—

Mr. STEELMAN. Is the major responsibility within the administration so far as conservation of energy lodged under your Department?

Secretary MORTON. It is, by reason of the President's energy message.

Mr. STEELMAN. All right. How are we going to deal with EPA in this? For example, they obviously have some impact on policy and what measures we take to conserve energy.

Secretary MORTON. I think by developing the facts, and I think EPA has a specific role in terms of environmental management, and we hope to be able to give them the technical information that will grind into their decisionmaking process a full awareness of what the energy impact is on the various decisions that they make. And I think the Congress needs this information because we—if you will go back to the NEPA Act itself, there never was in the whole debate, as I read it—and I was here—any real consideration of what effect NEPA would have on the requirements for energy. And take a 3,500-pound car, a middle-size Chevrolet, for example. Four or five years ago, it got 16 to 17 miles per gallon. Now it gets 10 because we have made that car less productive in terms of miles per gallon in order to meet certain environmental standards. I do not think the technological impact on

the consumption of energy was ever put into the formula when we started developing water standards and air standards. I am in hopes, and I really think we can save a lot of energy without ameliorating and without dissolving, or diluting, rather, the standards that we have set for air and water, but that remains to be seen.

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

Mr. de Lugo.

Mr. DE LUGO. Thank you, Mr. Chairman. I will just take one moment.

First of all, I would like to bring greetings from your friends and admirers in the Virgin Islands, Mr. Secretary. You are aware that in the Virgin Islands, we are refining at the present time, 450,000 barrels per day, and we expect to expand that. We are building another refinery, and the present refinery is expanding, so we are going to be producing about 600,000 barrels per day within a year's time.

I have read and heard talk about a superport in Puerto Rico. Can you tell me, is that a deepwater port, or is your Department aware of the talk of the Government of Puerto Rico about building a superport?

Secretary MORTON. Ron, I am not sure what the draft of that port is planned to be, and I think it is all in the planning stage, and I really do not know enough about it to be able to put anything on the record that would be worthwhile for the committee. But, I will get all of the information that there is, that we have available, and send it to you.

Mr. DE LUGO. Thank you very much. I yield back the balance of my time.

Mr. SEIBERLING. Would the gentleman yield?

Mr. DE LUGO. I would be glad to yield.

Mr. SEIBERLING. I assume that the Secretary's reference to environmental considerations having caused us to cut the miles per gallon that we get from our automobiles doesn't overlook the fact that there are also other reasons why miles per gallon have been cut so substantially, such as air-conditioning, power equipment, and the like.

Mr. MORTON. Oh, absolutely.

Mr. SEIBERLING. And it is also the high horsepower of our cars.

Secretary MORTON. It is just one of the things in the mix. Absolutely, and I am not at this point recommending that we change our standards. I think this would be a step backward, as far as I am concerned. I think we have got to solve this problem and the environmental problem simultaneously.

Mr. SEIBERLING. I thank you.

Mr. UDALL. You will now be treated to a penetrating cross-examination from your old colleague, John P. Saylor, from Pennsylvania.

Secretary MORTON. I know him well.

Mr. SAYLOR. Well, Mr. Charman, I just want to say that I think the Secretary can bare his back, and if he has got any lashes, his wife has probably given him a great deal more than I have.

Secretary MORTON. It is not true.

Mr. SAYLOR. Mr. Secretary, this bill worries me in several ways. It worries me because historically this country of yours and mine has never claimed more than 3 miles jurisdiction. The closest we ever came to doing it was the result of an international court decision many years

ago holding that if there was 12 miles or less from headland to headland, that that would be considered inland waters. This is a landmark decision which was made about 20 years ago, and has changed our thinking as far as a number of our ports on the coast are concerned. But, under what international law do we have the right to go beyond the 3-mile limit in any areas except off the coast of Louisiana and Texas, that have claimed a 12-mile limit for their States? Now, this is the first thing that worries me.

Secretary MORTON. I think this is the thing, and we all have to recognize, and I think again I would like to ask Mr. Jared Carter, whose work in this field has been rather voluminous, and I think it entitles him to really be an expert in the area. So, Jared, I think you ought to say again what you said here before Mr. Saylor came in.

Mr. CARTER. Yes, sir.

Congressman Saylor, our use of the small area necessary for installing a deepwater port facility would not constitute a claim of territorial sea. It would in no way alter the fact that we would claim now a 3-mile territorial sea, and hopefully we have a successful Law of the Sea Conference where we will go to a 12-mile territorial sea. These ports will be beyond even 12 miles in many cases, so the principle that is involved is that every nation has a right to the reasonable use of the high seas. Their obligation is that they not interfere with other folks' use of the high seas.

Mr. SAYLOR. But not to the exclusion of any other nation?

Mr. CARTER. That is correct, sir. Now, it is true that at any point in time, a ship is occupying a part of the ocean, and it is doing so to the practical exclusion of any other ship. The difference between this deepwater port facility and a ship is that port facility is going to be in one place for a long, long while. But, there are other ways that you can have reasonable regard to other nations' uses of the high seas. That is, you take some care in where you place it, you take some care in the way you make it, the kind of regulations regarding navigation in and around the area, so that you do have reasonable regard for other nations' rights to use the high seas. And we are convinced by the appropriate regulation and placement of these facilities, this will be a reasonable use of the high seas.

Mr. SAYLOR. Now, I assume—

Secretary MORTON. Could I add one thing to the answer?

Mr. SAYLOR. Yes.

Secretary MORTON. And that is, in the material that we have included, John, we have included a list of the deepwater ports that other countries have built, about half of which are outside of the 3-mile limit. So—

Mr. SAYLOR. I saw this, but a number of those countries claim more than 3 miles.

Now, assume that your statements are correct, and assume that we have the right to a reasonable use of the high seas. Then what right does the Federal Government have to charge a license for the establishment of a deep-sea port, since it is on the high seas?

Mr. CARTER. Mr. Saylor, the way we get at this practical problem is a two-way approach in the bill. Another rule of international law is that every nation has the right to regulate its citizens, their conduct, to tax them wherever they are, anywhere in the world. We combined

that rule with another right, and that is that we can preclude the importation of commodities into the United States unless they meet the requirements of U.S. law. This bill says that no commodity can be transshipped from a deepwater port facility unless that facility is licensed in accordance with this act. So, if another nation wants to build a port facility and does not comply with this act, it does not do them any good. They cannot ship oil or whatever it is to the United States. In order for a U.S. citizen to get the license, he has to comply with the requirements of the act, and one of the requirements is that he pays a fee which goes into the regulatory system that will be set up under the act.

Mr. SAYLOR. All right. Now, your registry that you have shown here, together with the latest copy of the registry of seagoing vessels, indicates that almost all of them are foreign flags. There are very few tankers, with the exception of some few that might be built for bringing oil from Alaska to the United States that will be American flag ships. Now, under what jurisdiction of the high seas, then, do we have a right to charge a license for these tankers, such as the one that you refer to here, the *Globtic Tokyo*, 477,000 tons deadweight, built in Japan and launched this year?

Mr. CARTER. The approach we take to that is that by using our licensed facility, in order to use it, a ship has to consent to the application of the U.S. rules.

Mr. SAYLOR. All right. Now, then, section 111 of this bill has another provision that worries me. It says: "To the extent consistent with this act, and other Federal laws, the civil and criminal laws, with the exception of the tax laws of the nearest State are declared to be the law of the United States for that facility." Now, are you not by that section extending State jurisdiction beyond the 3-mile limit, which States have no right to do?

Mr. CARTER. No, sir. I forgot the name of the case, but there is an old case involving the Assimilative Crimes Act. The old law said that whenever you have a piece of federally owned property within a State, the law that applies in that federally owned property is the local State law. Well, it is Federal law, it is assimilated and applied, and the practical reason is that you don't want the folks living in that community to be subject to two sets of laws, simply because they are going to go visit some people they know in the Federal jurisdiction. That is what we are doing here. This will be Federal law, applicable in Federal courts, but the content of it will be the law of the nearest State, and that procedure has been upheld in litigation in the Supreme Court.

Mr. SAYLOR. This might be all right for areas where you have a clear case, such as California or the west coast, or even the gulf coast, but what about the New England coast where you have got all of the original States, and they are all small?

Mr. CARTER. Are you referring to the fact that it may be difficult to extend out the borders?

Mr. SAYLOR. That is correct. In other words, if they all ran into straight lines, as they do on the west coast and on the gulf coast, where we use a system of sections, this is fairly easy. But, when you get to a situation like Delaware, Pennsylvania, Massachusetts, Rhode

Island, they all have seacoasts, and it is a little difficult. They are not straight lines.

Mr. CARTER. But there are well-established principles that are sometimes awful hard to apply, for delineating the seaward extension of boundaries between States. There has been a lot of international litigation over this question, and there are well-established principles. They are set down in the law of the sea conventions for extending those boundaries out, and it takes a good geographer with some precise instruments. While the pattern you get is sometimes a kind of a crazy-quilt looking thing, it is an established process that can be instituted, and there are procedures for it.

Mr. SAYLOR. All right. One last question.

On table 7, Mr. Secretary, if that does not scare everybody, it ought to, the estimated annual oil pollution of the ocean. And I notice that it says, and it does not include oil contributed by recreational boats, hydrocarbon fallout and natural seepage, and it amounts to 4,897,000 metric tons. My information that has been given to me is that as a good round figure, there is $7\frac{1}{2}$ barrels of oil in every metric ton, and this indicates there is more than 36,700,000 barrels of seepage into the ocean from the ports that are to be considered in this country. Now, when you start talking about—

Secretary MORTON. This is the world, sir.

Mr. SAYLOR. That is the world?

Well, that is still bad, and it ought to scare somebody, because table 2 indicates that the U.S. production in 1970 was 11,328,000 barrels per day and, by the year 1985, we are going to be down to 9,727,000 barrels per day, or a loss of about 1,600,000 barrels of less production in the next 15 years. And yet you say the growth, the demand is going to go from 14 million plus barrels per day to 26 million barrels per day. And if there is that much seepage, then we had better begin to look at some means of, on a national and international basis, of preserving 36 million barrels of hydrocarbon, because, believe it or not, this space vehicle on which we are riding has a limited supply of that product. And I think you and I in our private discussions have conceded this.

Secretary MORTON. We have discussed that earlier today, sir, and I could not agree with you more. One of the tragedies of this is that about a third, and I think these figures are probably a little conservative, at least 30 percent of this ocean pollution of oil comes from motor vehicles through the normal drainage systems. This is tragic. In the first place, this material that we could recover is valuable material, but we have just never developed a recycling ethic. This is something that Congress and the Executive, we are all going to have to face up to. This is why I think the energy conservation office, as I have tried to outline its functions, is going to be a valuable tool. How can we do it, how much will it cost to do it, where are our best opportunities for doing energy conservation actions that will get both savings in energy and hopefully an enhancement of the environment. And that is exactly the approach that we are taking in trying to develop the technology and the methodology, both politically and technically to do this job, so that the Congress knows what it is doing from a technical standpoint when it changes regulations.

Mr. STEELMAN. Would the gentleman yield?

Mr. UDALL. The gentleman's time has long since expired here. The gentleman from New York, Mr. Bingham.

Mr. BINGHAM. Thank you, Mr. Chairman.

Very nice to see you, Mr. Secretary, and I am sorry that I came in late.

I do not have any questions at this time, but I do appreciate the enormous importance of this issue, and I admire the way that you have approached it. I think that you have taken account of the very great problems that exist, and certainly we are going to have to move in this direction. I am delighted that we are attacking the problem now and not later on a crash basis.

Thank you.

Mr. UDALL. Mr. Martin.

Mr. MARTIN. I thank you, Mr. Chairman.

Mr. Secretary, I would like to, since we are about out of time, explore just a couple of areas with you.

In your statement that you submitted to us, on page 4, I believe, you are discussing the relative merits of dredging existing ports versus the offshore facilities, and we have earlier had testimony which has favored both sides, and generally I think it has been parochial; that is, those who were representing existing port facilities favored dredging of those ports. You make the statement that in addition to the excessive dollar cost of dredging to 90- or to 120-foot depths, that there is also, or that the environmental cost is prohibitive. And then you do not enlarge on that, and I wondered just what you were talking about on the cost, the environmental cost of dredging in the first place, or the problems of having these ships crowd into a deep harbor?

Secretary MORTON. Well, in short, I think you are dealing with vast volumes of material. For example, if you were to put a 100-foot channel into Baltimore, you would probably be dealing with more material than has been dug out of the Panama Canal. And the effect that it would have on the estuarine environment of the Chesapeake Bay would be catastrophic.

Now, there are other ports much closer to this Continental Shelf that would not require these vast amounts of materials. But, take the ports of Boston, New York, Baltimore, Philadelphia, Jacksonville, Savannah, Portland, Maine, name one where you would not have just a gigantic problem in terms of disposing of the spoils, and in terms of the environmental impact on the natural marine life in the area, which is also a basic part of the economy. Even on the west coast, you do not see any harbors that exist that could be brought to 100-foot depths without really making ecological changes in the port environment.

It is true that you can take the spoil and you can build islands, and you can do all kinds of things. But, the investment and the environmental impact compared to a single buoy is, I do not think, comparable.

Mr. MARTIN. Mr. Secretary, let me go back to table 7 that you were discussing with the gentleman from Pennsylvania just a little bit ago. You were discussing the possible need for or the necessity of recycling the waste oil from crank case and highway motor vehicles, which if I understand these tables correctly, amounts to something less than one day out of a year; that is, one day's oil demand, which, of course,

raises some questions as to whether that would be a high priority effort on the part of the country, to move toward recycling crank case oil to produce that small a margin of difference in our oil supply. But, there is another prospective of that, and that is the environmental prospective as to what impact on the ocean you would contribute to this in comparison with natural seepage?

Secretary MORRIS. I do not think we have good enough figures on natural seepage to make a comparison, and I think your point is well taken. This again is why I think we have to go at this thing without the dramatics and the emotional aspects that are inherent in it, and see if we cannot come to a technical baseline or level that will give us the opportunity to make these decisions on a priority basis that really is meaningful.

Mr. MARTIN. Well, it is one thing to say that an oil discharge is going to damage the ecological environs of the ocean, and certainly has a dramatic impact from time to time on beaches, and the history of that, of course, is dramatic. But, it is another thing, and I think it is very important to try to get it into perspective, what proportion is this to the uncontrolled natural seepage of oil anyway, and if it is on the order of several percent, then it is not really that major a factor. If it is on the order of a factor of two or three or four times as great as the natural seepage, then we are contributing very much.

Secretary MORRIS. We do know this, though, Mr. Martin, that the ocean level of pollution that has developed since World War I has been very, very dramatic, and in terms of oil, presence of oil in seaweed, presence of oil in marine life, presence of oil on the beaches compared to what the presence of oil was prior to that, and we also assume that seepage has been going on for literally thousands of years, and yet dramatically, the ocean has become polluted to an alarming extent. A lot of the pollution in the lower Atlantic areas of the United States, in Florida and in the Bahama Islands has been caused, oil pollution has been caused by the ships that were sunk in World War II and are giving up their bowels. But, I think it would be awfully hard to argue against the restriction of oil pollution in the maritime environment in any practical way that we can do it. Even though it might be a small percent, when you are taking a small percent of 4 million metric tons, and when you consider the United States uses about one-third of all of the oil that is used, I am not saying that we contribute one-third of the pollution, but I am saying that if we have an opportunity to prevent crankcase oil from going into the sea, and we can afford to take that opportunity, we ought to do it.

Mr. MARTIN. Thank you, Mr. Chairman.

Mr. STEELMAN. Mr. Chairman, could I ask one final question?

Mr. UDALL. Yes. We will have a second round. Mr. Saylor first, and Mr. Steelman, and any others who might want to ask a question or two.

Mr. SAYLOR. Mr. Secretary, I know that from time to time as Secretary, you have had difficulty with another agency of Government known as the Office of Management and Budget.

Is there any way that you might invite the Director of the Office of Management and Budget to come down to your shop and to find out that your Department is one of two agencies of the Federal Government that produces money for the Federal Treasury in the sale of these natural assets? And somewhere along the line, instead of looking at

your Department as merely a bank account for everybody else, somebody down there should look at your Department as the means of saving the other agencies of Government from some of their own mistakes, if you were but permitted to expend a larger portion of your own money?

Secretary MORTON. Of course, obviously the answer is that I feel that the idea of natural resources management is here. We need all of the help we can get. We have been able to move gradually forward this year in terms of allocations and approvals of the Office of Management and Budget. We have also had a little problem with the Congress, but I think everybody is realizing the necessity for research at a level that we have never dreamed of before in terms of energy development, energy conservation, and energy utilization, compatible with environmental requirements. And I am sure the Director is very much aware of this. In fact, we have had long discussions of this. I think that there seems to be sort of an inherent static position that the Federal impact, the total Federal impact of the Department of Interior is only about 1 percent of the total action. And, in my opinion, this is not high enough, and I think we need help from all aspects, both congressional, Executive, public sector, to change that. Because if we fail in our mission, this civilization I think is a dead pigeon.

Mr. UDALL. We promised to get the Secretary to an 11:50 airplane.

Mr. STEELMAN. Yes, Mr. Chairman.

Mr. Secretary, one final question to follow up on this matter of conservation. What sort of timetable do you have for your Office of Energy Conservation so far as giving the Congress and the executive branch some concrete recommendations as far as policy is concerned?

Secretary MORTON. We are breaking new ground. We have a Director coming on board. I hope he goes through all of the necessary clearance procedures and is actually working, and has sufficient staff within 30 days. I would think that we might be able to be helpful shortly after the recess period. But, this is new ground, and I want to be very careful that we do not start pumping information out that really has not been fully analyzed. And I think it would probably take some 6 months to a year to make the Office really effective.

Mr. UDALL. Thank you, Mr. Secretary. You have been a most useful—

Mr. BINGHAM. Could I ask one question?

Mr. UDALL. Mr. Bingham has a quickie.

Mr. BINGHAM. I take it we are doing some of this, we are talking about getting authority for it right now, are we not, in this country?

Secretary MORTON. Yes, we are. But within the 3-mile limit, Jack.

Mr. BINGHAM. Only within the 3-mile limit?

Secretary MORTON. Yes. These are all, the existing ones are on the west coast. One has been actually in operation since 1933. But, this would be our first venture, if this bill is passed, and the authority is granted, of moving beyond the 3-mile limit.

Mr. BINGHAM. I see.

Mr. UDALL. The subcommittee stands adjourned. Thank you very much.

[Whereupon at 11:15 a.m., the hearing was adjourned, subject to the call of the Chair.]

DEEPWATER PORT FACILITIES

MONDAY, OCTOBER 1, 1973

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON THE ENVIRONMENT
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:55 a.m., in room 1324, Longworth House Office Building, Hon. Morris K. Udall (chairman of the subcommittee) presiding.

Mr. UDALL. The subcommittee will be in session.

Today we will receive further testimony on various bills relating to deepwater ports, H.R. 7501, H.R. 9329, and H.R. 9496. We have scheduled a number of witnesses, with the hope and expectation that we can conclude our hearings on this legislation, and be in a position to move on to possible markup session and action by the subcommittee.

The first witness scheduled today is Mr. Ralph Townsend, from the Defenders of Wildlife.

Mr. Townsend, will you take the witness chair. And we will be pleased to hear from you, sir.

STATEMENT OF RALPH M. TOWNSEND, DEFENDERS OF WILDLIFE

Mr. TOWNSEND. Mr. Chairman, my testimony here will express the readiness of the Defenders of Wildlife to cooperate in every way possible with your committee to effect proper safeguards for the environment in the proposed new facilities for handling supersize oceangoing ships.

We have the nationwide strength and respected standing to be helpful. We are a nonprofit organization. We have rejected advertising in all our publications. Our work is supported by some 40,000 paid-up members. Our resources from dues and donations total some millions of dollars.

Our leadership of officers, directors, and sponsors includes many world-known names of forefront rank in the effort to preserve the essentials of America's environment.

Our executive director is Miss Hazell Harris, founder of the Defenders of Wildlife. Our president is Dr. Richard Pough, author and conservationist leader. He needs no identifying among persons informed in this field. Nor would many others among our directors and sponsors.

We make no claim to the technological knowledge that will be necessary in the solution of problems posed in planning the proposed offshore deepwater accommodations for supersize ships. News media reports state that designs already approved call for oil tankers of

500,000 tons. By approved there, of course, I mean approved by those who intend to purchase them or buy the carriers, such as the Onassis Lines, and so forth, whose business is carrying oil across the oceans. On consulting specialists in this field, I am informed that there is no port in the United States where present shorefront docking facilities could be altered, even at colossal expense, to handle such craft.

Furthermore, it appears that sheltered waters, naturally offering some protection from the open sea, are rarely of a sufficient depth to provide channels for the new monsters.

This means that many coastal areas of the United States, if they are to be served by the supersize tankers, will be obliged to construct facilities for the discharge of cargo in locations hazardously exposed to the variables of winds, tides, and storms.

Added to those liabilities will of course be the unforeseeables of mechanical failures and human error, which invite collisions or other accidents of a kind to cause oil spillage of stupendously disastrous implications.

Difficulties in the harbor at Santa Barbara from a relatively minor leakage of oil provide but the faintest suggestion of what may be expected, if oil cargos of hundreds of thousands of tons are loosed anywhere on the open sea, with still worse results if the catastrophe occurs near land. Where a vast area of shoreline might suffer in this manner from the oil alone, the added hazard of an ocean surface fire along such an extent of coastline loaded with fresh oil reach into possibilities of horror beyond anything in our national history.

We note again that the dangers posed by such contingencies, if they are to be averted or at least minimized, call for primarily technological solutions.

Our business is ecology and conservation.

Sea life as well as land life is our concern. This is so because both these forms affect the quality of human life everywhere in our country. Each day we learn more of the chain reactions by which an affront to our ecology in one area may invite grave consequences and ultimately an impairment of the human environment far away. We urge that you of this committee voice no encouragement for the proposed offshore deepwater port facilities for tankers until fully dependable protections have been evidenced.

Along with this plea for utmost caution by this committee, let us draw some inferences for optimism, derived from the marvelous history of resourcefulness by American industry.

1. When in 1869 America's first transcontinental railway was completed, and at the same time the hazards of runaway cars on steep grades became more than ever an anxiety, the answer soon came. For it was in that same year, 1869, that George Westinghouse perfected his automatic air brake to halt such runaways.

2. When early in the present century trans-Atlantic passenger traffic became big business, Marconi and others produced wireless to promote added safety. From Marconi's start Americans carried on, Lee deForest and many more.

3. When the movement of America's population shifted heavily to urban living and fewer families had gardens, American research developed frozen foods to meet the need.

4. When airline travel became big business, Americans were leaders in development of electronic barometrics and other advances which made that travel satisfactorily safe.

5. When domestic help in America became scarce, American research took the leadership in creating fabrics which needed no ironing and in making available home appliances which enabled a part-time housewife to meet most needs.

And that list of answers with solutions to seeming insolubles could go on and on. Such precedents inspire confidence. Let loose more scientific talent to devise equipment to recover spilled oil on the ocean surface. Let this talent produce safety devices to avert collisions at deep port outstations.

Give American big business more tax credits if so needed to plunge ahead in this urgency. But start them now—at once. If that and related precautions are not taken, what are the alternatives? Can we face the consequences of a half million tons of oil dumped into the Chesapeake? Into Puget Sound? Off New York or San Francisco shorelines?

With appreciation of the opportunity to be heard, respectfully, Ralph Townsend.

Mr. UDALL. Thank you, Mr. Townsend, for a fine statement. We welcome the views of the Defenders of Wildlife here today. I have long been a fan and supporter of the organization, and I commend you for all the good work you have done.

Mr. TOWNSEND. Thank you, sir.

Mr. UDALL. Mr. Ruppe.

Mr. RUPPE. I would like to thank you, Mr. Chairman, for having this witness. I think his testimony is a very worthwhile addition for the record.

Mr. UDALL. The next witness is Mr. Lloyd Irland, representative of the New Orleans Group, Sierra Club.

**STATEMENT OF LLOYD C. IRLAND, SPECIAL CONSULTANT TO THE
ECOLOGY CENTER OF LOUISIANA, REPRESENTATIVE NEW OR-
LEANS GROUP, SIERRA CLUB**

Mr. IRLAND. Good morning, Mr. Chairman, and thank you for giving me the opportunity to be present and represent the group which has asked me to come here today.

I want to applaud this subcommittee for taking its time and for vigorously pursuing an extremely complex and important subject.

My name is Lloyd Irland, of New Haven, Conn. I am speaking for the Ecology Center of Louisiana, and in addition for the Sierra Club New Orleans Group, the National Sierra Club, the St. Charles Environmental Council of St. Charles Parish, La., and the New Orleans Audubon Society. I am special consultant to the Ecology Center of Louisiana. When I was residing in New Orleans I worked on super-port problems for them.

And now I am assistant professor in the School of Forestry and Environmental Studies at Yale University. And of course, what I say here does not represent that institution.

In view of my familiarity with this problem and any geographic location close to Washington, Mr. Vinson in the ecology center asked me to come down here and represent his organization.

I have come here for two reasons, Mr. Chairman. First, to place in the record documentary evidence of the concern over the proposed Louisiana superport that is to be built by people in south Louisiana. I have provided your staff with copies of the documents. I am sorry I was unable to reproduce enough for everyone. I believe the documents will speak for themselves, and I will spend no more of your time on that point.

Second, I came to present my own skeptical views on the economics of superports and to urge you to view the supposed economic benefits of superports with a critical eye.

There are about 10 substantial studies of superport economics widely available. There are at least two very large environmental impact statements, and several studies of oil spill statistics done by the council on environmental quality and by the contractors for the Corps of Engineers.

Mr. UDALL. Let me interrupt you for a moment.

We have had handed to us a 10-page document bearing your name called "Superport, a Skeptical View."

Mr. IRLAND. That is correct.

Mr. UDALL. You are working basically from this in your testimony? Are you going to read it?

Mr. IRLAND. No; I was going to summarize my general views and request that you include that.

Mr. UDALL. Good. Without objection we will reprint the full statement in the record.

Mr. IRLAND. Thank you. That will save you time.

Mr. UDALL. And then you can summarize your views, after which we can ask you any questions we have.

Mr. IRLAND. Thank you.

Your subcommittee should see to it that this mass of information is fully digested and critically examined by your staff before taking major steps on this legislation. And I realize that that is a Herculean task, to say the least.

My written testimony, which you have there, and the attachments, will provide details on my views and data references to substantiate the statements that I make.

The corps studies show, depending on the region, that superport net benefits on transportation savings by the year 2000 will average over that timespan anywhere between \$80 million and \$200 million per year, depending on, as I say, the region in question.

On the west coast under the most unfavorable assumptions, the gross transportation cost savings could exceed \$300 million a year.

In each case the net benefits of these projects on transportation savings amount to only a few pennies per gallon of gasoline that would be produced from the oil imported through those ports.

Putting it in those terms, I think it is reasonable to ask how much environmental and other risks are you prepared to accept to make gasoline a few cents cheaper.

Finally, I would urge you to see to it that our national superport policy does not end up controlling our national energy policy, but rather that our energy policy ends up controlling our superport policy.

Thank you.

[Mr. Irland's statement in full follows:]

STATEMENT OF LLOYD C. IRLAND, SPECIAL CONSULTANT TO THE ECOLOGY CENTER
OF LOUISIANA, INC.

SUPPORT—A SKEPTICAL VIEW *

In recent months, public attention to the proposed Superport for Louisiana has been rising. A Corps of Engineers public meeting has been held. A Louisiana Congressman asserted that everyone in South Louisiana is in favor of Superport, a point which was then vigorously disputed. Finally, the Louisiana Deepdraft Harbor and Terminal Authority (Superport Authority) released a consultant's report which claimed that Superport would bring vast economic benefits to Louisiana.

This statement summarizes some of the facts and issues surrounding Superport from an economic and environmental viewpoint. It consists of three sections—Superport and Louisiana, Superport and the Nation, and Recommendations.

SUPERPORT AND LOUISIANA

Petroleum: Its Importance to Louisiana

In recent years, Louisiana has realized substantial revenues from oil and gas—directly from lease rentals, bonuses, and royalties, and indirectly from taxation:

	<i>Millions</i>
Fiscal year 1969-70:	
Severance tax, oil, gas, and condensate-----	\$247
Lease rentals-----	155
Total -----	401

This comes to about 27% of total state revenue. The Louisiana Petroleum Council concludes that all the taxes and fees through the retail market level comprise 44% of state *tax* revenues. This calculation ignores the tax yield of economic activity in other sectors which is supported by petroleum-related payrolls.

The petroleum and related industries are substantial employers in the state (rounded data for 1969):

	<i>Workers</i>
Production -----	48,000
Refining -----	11,000
Chemicals -----	24,000
Pipelines -----	1,000
Total -----	84,000

Source: Mid-Continent Oil & Gas Association.

These workers receive a total payroll in the millions of dollars. The expenditures made by these workers support the economies of many areas in the state. The high wages paid in oil and related industries help keep wages high in Louisiana's rather anemic non-petroleum industrial sectors.

Like most benefits, these have not been unaccompanied by costs. Pollution of air and water are obvious examples. Further, onshore marshlands have been seriously damaged by oil industry canals and at times by oil spills and leaks from production facilities.

More subtle costs are being paid by the state's citizens as well. The flow of royalty income into an already topheavy income distribution has perverted the state's politics by creating a vocal and well-financed lobby for oil production. The effect of this, for example, on the conservation of the Atchafalaya Basin is difficult to forecast. But it is clear that the Basin Commission was established to protect oil royalty owners in the area and not the Basin itself. Read the list of members if you doubt this.

The flow of severance tax and other petroleum dollars into the state treasury has warped the state's tax system and enabled it to push its costs of government onto residents of other areas. This permits the state to avoid a little longer facing its fundamental financial problems. The return of oil revenues to hard-pressed parish governments creates a short-sighted lobby of financially hard-pressed local

*Testimony presented to the House Interior Committee, Subcommittee on Environment.

governments cheering for rising petroleum output. Is it any wonder that our representatives in Washington take their views seriously?

Superport benefits for Louisiana

The economic impact study done for the Superport Authority (hereafter K-G study) predicted that the facility would bring 112,000 new jobs to the state by 2000. In addition, earnings in the state would be increased by 2.4 million dollars, and capital spending would reach a quarter of a billion dollars yearly in the decade 1990-2000. The national benefits would consist of transport cost savings totalling 510 million dollars yearly by 2000 (Table 1.).

Calculating throughput on the basis of declining Louisiana crude output yielded a benefit-cost ratio of 5.36. Assuming constant crude output gave a ratio of 4.47. These ratios were computed including public costs (which is rarely done) and counting only transport cost savings on crude refined within the state. In addition, only $\frac{1}{3}$ of the construction jobs were credited to Louisiana residents.

The analysts calculated that Superport-related development would generate about \$440 million in annualized capital and operating costs for state and local government, but that this sum would be covered by increased tax collections, with a small margin to spare. Given Louisiana's strange tax system, however, this result is far from guaranteed. Even if total revenues covered total costs, the distribution of the costs and revenues could lead to serious inequities.

Only the boldest of men venture projections of an industry's response to a major technological change for decades into the future. Lacking such boldness, I will point out some of the ways such projections may be confounded.

Ruhr of the south?

The economic benefits projected for Louisiana rest upon an assumed magnetic influence of crude oil for refineries and related industries. The vision of gas flares and refinery lights flickering in the Louisiana night all the way from Baton Rouge to New Orleans, is a grand one, and attractive to some. According to opinion, this vision is either a Promethean zenith of American progress, or an Apocalyptic end to a valuable natural environment. To an economist, however, the vision may be simply a pipe-dream of chamber of commerce and oil industry publicists.

TABLE 1.—SUPERPORT, BENEFITS FOR LOUISIANA PROJECTED BY KAISER/GULF SOUTH STUDY

Item and unit	Year	
	1980	2000
New jobs, refining, chemical, construction (1,000 men).....	13.4	36.2
Induced new jobs (1,000 men).....	22.0	76.2
Total, new jobs (1,000 men).....	35.1	112.4
Increased earnings of Louisiana residents (billion 1973 dollars).....	0.5	2.4
Capital spending, decade ending (billion 1973 dollars).....	1.6	2.4
Crude throughput (million barrels per day).....	2,565	7,102
Crude throughput, to Louisiana refineries (million barrels per day).....	973	2,978
National transportation savings (millions of dollars).....	184	510

Reasons for doubting Louisiana's appeal to industry abound, and are listed in the *Review* submitted with this statement. The most telling statistic, however, is the fact that Louisiana's growth rate of manufacturing jobs for the decades of the fifties and sixties was *dead last* among all southern states. Tenaciously overcoming its many natural advantages—mineral wealth, a world port, bountiful fisheries, productive agricultural lands and forests—Louisiana managed to cling to its narrow agrarian past, and to remain one of the least industrialized states in the South.

Further, if oil really *does* attract refining and industry, why will it not attract them across the seas to the Mid-East? This obvious possibility is ignored by Superport promoters. Arab politicians, unlike their American counterparts, have seen the advantages of ceasing to serve the oil industry and making the industry serve them. They are slowly gaining ownership participation in oil operations on their soil. As years pass, they will gain the financing and the technical capability to refine more and more of their exports. The Persian Gulf today contains more refining capacity than the state of Louisiana.

Partly due to the time of its issuance, the Louisiana Superport study does not discuss the growing body of literature dealing with Superport economics. While this is a common tendency in private consultants reports, it is poor practice in a report of this sort. Studies are now available that deal with the North Atlantic port alternatives, with alternatives on other coasts, and specific proposals in Louisiana and Texas. In addition, studies are available examining the Alaska Pipeline, the impact of offshore oil on communities around the North Sea, and the impact of oil drilling on George's Bank off Massachusetts. This subcommittee should examine these reports carefully and critically, Superport promoters will charge environmentalists with opposing jobs and economic growth for their states. It is important that you understand just how much of their optimism is soundly based, and how much is wishful thinking.

Superport risks

There is disagreement over the ecological risks of a Superport. The vision of ghastly oil spills covering shorelines for miles may be a product of fertile imaginations. There seem to be good reasons for believing that for a given level of crude shipments, supertanker movement will result in fewer spills of all sizes than the use of smaller vessels. The official Corps of Engineers statistics show this. The basis for their results, however, is not yet published and cannot be scrutinized by outside statisticians.

Dr. MacDonald of the Council on Environmental Quality asserts that we simply do not know whether supertankers are in fact safer than smaller ships. Mr. William Futtrell reports that shipping experts consulted on his Bantry Bay trip admitted that supertankers are highly dangerous.

It may be true that shipping our oil in a few big ships instead of many little ones is ecologically wise. But our deepest concerns, in any event, lie elsewhere.

Onshore development

Whether the projected development in Superport's hinterland materializes fully or not, it will alter the natural system of the area. It will do this in several ways. First, facilities will consume land and alter natural flow regime in estuarine headwaters. The lands so consumed provide the water base and the organic food chain basis for the nation's most productive fishery. Second, induced development will consume further land and bring massive transportation development to the area. Superport will be supported by a system of waterways and highways whose cumulative environmental impact will be devastating to the state's most fertile ecosystems. The fortunes that will be made by contractors and real estate owners and developers in this region undoubtedly account for the enthusiasm generated by Superport proposals among the business community.

Finally, the plants processing Superport-delivered crude will pollute the region's air and water. Calculations by the Corps of Engineers yielded the following incremental pollution loads in the year 2000 due to Superport:

Water use (mgd).....	1,604
BOD loads (pounds/year).....	73,000
Air pollution (pounds/year).....	1,700,000

Another calculation yields more detail about air pollution effects. A refinery subject to "rigorous control" yields the following emissions:

[In tons per year]		
Item	Per 100,000 tons crude processed	Louisiana total, 2,000
Hydrocarbons.....	55	86,000
Carbon monoxide.....	95	145,000
Particulates.....	11	17,000

Louisiana total emissions are estimated from the estimated state refinery runs in 2000 given in the Kaiser/GSRI report (Superport crude only). These are not incremental loads, because part of the Louisiana-refined Superport throughput is to replace declining state crude output.

Reasons have been given above for a healthy skepticism about the level of industrial growth that Louisiana might gain from a Superport. If the hoped-for boom in refinery capacity does not materialize in Louisiana, it will occur elsewhere. And so will the emissions.

SUPERPORT AND THE NATION

Transportation Cost Savings

The only economic argument from a national standpoint for using superships and Superports is the potential resource saving on transportation costs. The Congress and the public should be aware, however, that many published estimates of Supership cost savings are exaggerated. Annual cost savings between \$208 and \$510 million have been given (Table 2).

TABLE 2.—ESTIMATED TRANSPORT COST SAVINGS FROM OIL SUPERPORTS

Location	Year	Million per year	Source
Gulf of Mexico.....	NA	\$208-241	Corps, 1973.
Offshore Texas.....	1975-85	360	Texas A. & M. Study, 1972.
Offshore New Jersey.....	1980	217	U.S. Department of Commerce, 1972.
Offshore Louisiana.....	1977	111	Kaiser/GSRI Report, 1973.
	2000	510	Kaiser/GSRI Report, 1973.

These estimates share several shortcomings. For some, no background on methodology was given so their results cannot be evaluated. The following comments, however, can be made.

1. The longrun costs of operating supertankers are unknown. In recent years, insurance rates on superships have risen. Projecting benefits on the basis of current costs, then, may be erroneous. Further, the current tight tanker market may affect the spread between rates on different size ships. If so, then cost savings calculated from quoted rates may not yield accurate predictions.

2. The Texas A&M study overestimated cost savings by comparing rates for a Persian Gulf-Texas voyage in a 250,000 DWT vessel and a 65,000 DWT vessel. This gave a saving of \$2.92 per long-ton. The Louisiana study compared the cost of supership movement to a Bahamas terminal, and a subsequent 65,000 DWT voyage to Louisiana, with supership costs for the whole voyage.

Both studies, however, took the gross spread between supertankers and small vessels. The Corps of Engineers, however, predicts that by the year 2000, the average tanker will only be 94,000 DWT. True cost savings for Superports will be overestimated if any of these small ships unload at Superports.

3. Superport promoters assume that the cost savings will accrue to the U.S. This may occur. But if the OPEC nations can maintain their political cohesion, the gains from supership technology will go to them in the form of higher government revenues or taxes from oil production. The result would be that U.S. oil companies would make vast investments, and incur significant environmental risks, for which the benefit would flow only to the oil-producing nations.

4. Some studies claim a category of "port-related benefits" that over-estimate the induced impacts of highly mechanized handling of bulk cargoes. This was done in the Texas A&M study.

Shifting gears on oil imports

While overseas crude prices were threatened by surpluses and rested roughly \$1.50 below domestic prices on a delivered basis, domestic operators and royalty owners succeeded in promoting an import control program to protect their inefficient wells and to sustain royalty incomes. This program of "industrial work-relief" cost American consumers \$4 to \$5 billion per year in higher oil prices and wasted resources. Today, due to OPEC price increases and high tanker rates, landed prices of Mid-east crude are equal to or above domestic prices of a few years ago. This being the case, the oil interests have permitted the Administration to scrap the Mandatory Import Control Program, since it no longer serves any domestic political interest. At the same time, the international majors have to absorb production from these fields is the U.S. As a result, we are observing brought in enormous reserves in the Mid-east. The only market large enough a rapid shift of gears in our nation's oil import policy.

Only a few years ago, oil industry and Administration spokesmen viewed high oil imports in a manner that can only be described as paranoid. In October 1971, Mr. Hollis Dole, then Assistant Secretary of the Interior, told a Senate Committee "... it is inimical to the national interest of the United States to become beholden to any outside source for ... its supply of liquid fuels." More recently, the National Commission on Materials Policy echoed similar sentiments.

Today, these stern warnings are being ignored. Studies are projecting import dependence rising from the present 25% to as much as 60% in coming decades. No mention is made, however, of the national security dangers thought so serious a few years ago. This cynical turnabout may fool some politicians and publicists, but it does not fool thinking citizens.

Instead of building Superports to permit an unlimited boom in oil imports, it is more relational to first determine an overall oil import policy. This policy must be based upon the following factors:

1. The balance of payments. Much is made of the balance of payments gains from coal exports in superships. Little is said of the impact of oil import-related dollar outflows of up to \$30 billion per year on a gross basis.
2. National security. Security considerations will undoubtedly figure in the final import policy.
3. Environment. Oil imports should be weighed with other options on the basis of environmental values. Oil imports could have ecological advantages, by substituting for strip-mined coal or for nuclear power plants.

RECOMMENDATIONS

I. The National Science Foundation and the Corps of Engineers and Council on Environmental Quality should conduct detailed studies of the environmental impact of existing Superports. This will be difficult since many European ports were built without provisions for environmental monitoring.

II. Congress should make a policy decision on the level of oil imports that should be permitted to enter the U.S. The decision should balance energy needs, environmental costs, balance of payments considerations, and national security needs.

III. Congress should adopt a comprehensive energy and materials policy. This policy would be based upon a full social accounting for the economic, social, environmental, and defense benefits and costs of all alternative energy policies. Solar energy development deserves high priority. Energy pricing policy should not be overlooked.

IV. Congress should remove the *production* emphasis of our natural resource policies. We offer liberal tax and other incentives to find and produce natural resource products, but few incentives to reduce demand or recycle raw materials.

ATTACHMENTS—COPIES SUBMITTED FOR THE COMMITTEE FILES

1. Statement of Mr. J. Ross Vincent to Governor's Council on Environmental Quality, August 30, 1973.
2. Clipping, "Carroll says Superport will raise air pollution." New Orleans Times-Picayune, Jan. 11, 1973.
3. *Opinion* from Executive office, Louisiana Tuberculosis and Respiratory Disease Association, July 20, 1973.
4. Petition by Mr. Charles Torres et al. to District Engineer, U.S. Army Corps of Engineers, New Orleans District.
5. Statement by Dr. Carolyn Morillo, Orleans Audubon Society, at Corps public meeting, May 23, 1973.
6. Superport and Louisiana—A review of the Kaiser/Gulf South study *The Economic Impact of a Louisiana Offshore Oil Port*. By Lloyd C. Irland, Special Consultant, Ecology Center of Louisiana, Inc.

Mr. UDALL. Does this conclude your presentation?

Mr. IRLAND. Yes, sir.

Mr. UDALL. Mr. Irland, the principal bill of the several bills before us, H.R. 7501 is based on an administration recommendation. Basically what this does is empower the Secretary of the Interior to license superports in coastal waters of the United States. It would require that the Secretary, before he could license such a superport, to have public hearings, and he would have to find that the environmental risks were fairly considered and that the environmental damage from a particular port would be no more than the environmental damage if the oil were brought in through more conventional facilities. A long and very expensive environmental impact study and statement would

be required under the existing provisions of law. Is it the position of your organization, that we should have no legislation at all, that we should prohibit these superports, or that we should allow them under certain conditions? I am not sure I understand the basic position that you take on this legislation.

Mr. IRLAND. Mr. Chairman, I did not enunciate a position on this particular bill. I believe that this is very similar to the bill that was in hearing in the Senate several months ago, is that correct, S. 1715?

Mr. UDALL. I think so.

Mr. IRLAND. The Center for Law and Social Policy has made comments that deal directly with the bill, and the Sierra Club has endorsed those comments. And I think that they would be worthy of your consideration in this matter. I don't believe it is the position of our organization that we absolutely oppose the construction of superports. And in the document called "Superport, a Skeptical View," on the last page, 16, there appears recommendations where I elaborate this point. And it says that Congress should make a policy decision on the level of oil imports that should be permitted to enter the United States.

At a previous page, it says that in determining an overall oil import policy consideration of balance of payments, national security considerations, and environmental considerations would have to be weighed. And what I am arguing is that that as a policy step which will determine perhaps the quantity of crude oil that would be admitted into this country at different times in the future and thereby may determine the number of superports that are needed. In other words, let us not license superports to fill the runaway demand for imported crude oil, but let us make the policy decisions on the level of crude imports that are desirable, and then design the appropriate transportation systems, giving appropriate considerations to the factors I mentioned.

Mr. UDALL. I certainly agree with you that we ought to make conscious decisions on the level of imports.

I think it is useless to talk about spending \$30 million a year on oil imports. I suggest that the dollar will be so devalued when we get to that level that we will have a lot of other problems, and that this will never occur. But the argument I hear on this kind of legislation is essentially this: Are we going to have for better or worse a very substantial high level of oil importment over the next couple of decades, while we get through this particular period that we are in? That oil is going to come in in one of two ways, either the conventional kind of tankers going into New York, and Houston, and Galveston in narrow channels, with the water becoming increasingly crowded, or we are going to bring that oil in by the use of supertankers anchored safely offshore. And the argument is made by the environmentalists that with all of those smaller conventional tankers, maybe 8 or 10 crowding each other in harbors, the risk there are a lot greater than one supertanker tied up 20 or 30 miles out to sea. How do you answer these objections?

Mr. IRLAND. I agree that there has been, especially in the recent few months, an accumulation of evidence and statistical data suggesting that it is indeed true that up to the point of discharge of oil the supertanker technology with offshore monobuoys is environment-

ally superior and reduced port congestion, and that these ships can be built with safeguards which cannot be added onto our own obsolete U.S. tanker fleet, which is of an age that is much older on the average than the rest of the world tanker fleet.

At the same time I think that while you can argue that for a given level of crude imports supertanker technology may be superior. The very use and construction of the superport for tanker transportation systems may increase the level of oil imports over the level that would exist if we used the old technology. What I am saying is that the quantity of oil to come into the country is a policy decision that needs to be made. And it is a decision that needs to be made before deciding how many superports or what kind of transportation technology should be adopted.

Mr. UDALL. I see all that. I just wonder if the decision about the level of oil imports is not going to be made based on the supertanker technology, but it is going to be based on the state of the ecology and how many homes are without heating and how many factories shut down because of the lack of fuel. We have seen here in this year instances—and I don't want to overstress what happened—for example, the legislative developments on the Alaska pipeline suggest to me that the people of this country are stirred up and think that factories are going to close down and homes and hospitals are going to have trouble getting oil, and we are going to have gasoline rationing, and that most people in this country are going to accept larger risks than they might have accepted previously in terms of supertankers and a lot of other things.

Mr. IRLAND. Personally I suspect you may be right about that. That is probably true.

Mr. UDALL. I think those of us who want to save the environment and give very high priority to the environmental considerations are going to have to take a hard look at some of the realities here as we get into different oil situation.

The gentleman from Michigan.

Mr. RUPPE. Thank you very much.

In essence, then, it is not your wish today to state a firm policy as regards the supertanker ports. Your suggestion would lead me to believe that you would prefer not to make that decision but simply reach a predetermination as to the level of imports we would choose to make over the next decade or several decades and then go back and make a decision as regards the licensing of the superports themselves?

Mr. IRLAND. That is in essence the position I am bringing to you today, sir. And I feel that this is an extremely complicated matter. And the Congress should exercise due caution and deliberation. And I believe it is doing that. The Senate is carrying through a major energy policy study, and this committee and other committees have been studying legislation of this sort for sometime.

Mr. RUPPE. I think we are bringing into the country now about 5½ million barrels of petroleum a day. And I think it is very likely that will rise to a minimum in a couple of years of 10 million barrels. At the level of perhaps 10 million barrels of import into the United States do you think our conventional tankers, the 80,000-ton tankers that we operate today, can do the job of bringing these products into the United States or do you think that at the time shortly after the 10 million barrel-per-day import level is reached we will have to have superports?

Mr. IRLAND. I would have to beg off on that question, sir, and say that I am not that competent in terms of the technology and economics to answer it directly. But, I would say that the west coast divisional study in the Corps of Engineers did consider it as an alternative to building offshore monobuoys importing with larger tankers, having the tanker load off by lighter at one stop and more to another port, and at that point it would be light enough to get into an existing channel. And there are also methods of building very large tankers with restricted draft by presumably widening the ships. But there are technological and economic difficulties with that.

So there are options within, let's say, a new technology transportation system. And the reason we emphasize energy policy in our approach to this is that there are also options within the energy economy domestically in terms of conserving energy which are all well documented and I don't think it is necessary for me to describe at length.

Mr. RUPPE. You mentioned that petroleum, or more specifically gasoline prices, would be a few pennies higher than they might be if this legislation were passed. Does your documentation indicate the specifics of the few pennies? Is that 2 cents or 5 cents or 8 cents? Can you be specific?

Mr. IRLAND. I have made some handwaving calculations on the basis of general figures. I took the figure that was used of a \$1.40 a barrel transportation savings, but I believe that converts to—it was a \$1.40 a ton transportation savings. And I was told that barrels convert to tons at 7 to 1, and if you divide that out, I figure that a barrel of oil will give you 40 or 50 percent gasoline. And if you round these off, it couldn't be more than a few cents per gallon of gasoline. And one thing that interests me is that in many of those studies it is very hard to extract this sort of viewable, directly tangible numbers, you get so much variation for the entire Nation for this. And it is very hard for you to tell what does that mean in terms of cents per gallon in residual fuel oil which the manufacturer would have to pay and what does that mean in terms of the homeowners' gas bill or in terms of the car drivers' gasoline tab that he picks up at the service station. The figures have not been published and presented that I know of. So I am simply trying to use some conversion factors. And I know there are some people in the room who are better able to give the precise figures.

Mr. RUPPE. Thank you.

Thank you, Mr. Chairman.

Mr. UDALL. Mr. Vigorito.

Mr. VIGORITO. Thank you, Mr. Chairman.

I don't have any questions today, but I would like to make a statement. As I see it, as of now, considering the 7-percent increase in gasoline consumption per year, and with the refineries capacity almost up to a 100 percent, and declining domestic oil production, and an uncertain future in importation of oil at this time, I don't see how we could possibly escape gasoline rationing no later than the summer of 1975. We are not taking any actions that I can see right now to alleviate the situation. And with the gasoline rations, you know, we are going to have priorities, otherwise you can't have rationing because if you have rationing without priorities you are merely spreading the scarcity around.

Thank you, Mr. Chairman.

Mr. UDALL. Thank you.

Mr. Roncalio.

Mr. RONCALIO. I have no questions.

Mr. UDALL. Mr. Bingham.

Mr. BINGHAM. Thank you, Mr. Chairman.

First of all, I would like to say that so far as the recommendations you make on page 15 are concerned, Mr. Irland, I think they are excellent. And I don't think we can quarrel on them. All of them are sound. But they don't deal specifically with this legislation, at least not directly.

I also note something which I think shows a good deal of perspective in your paper. At the bottom of page 9 you say: "Oil imports could have ecological advantages, by substituting for strip-mined coal or for nuclear powerplants. And you recognize there that in all of these things we face ecological problems."

Now, specifically on page 6 I would like to ask you a couple of questions. At the bottom of page 6 you say: "Calculations by the Corps of Engineers yielded the following incremental pollution loads in the year 2000 due to superport." But how much of that is due to superport and how much of that is due to increased imports?

Mr. IRLAND. Well, sir, their calculations were based on the impacts caused by the refining industries which would refine that additional crude oil which would be imported through the superport. As I understand it, they compared the pollution loads that would exist if superport were not constructed and the resulting oil imports contributed with the quantities of pollution that would be produced by the refineries and chemical plants that would refine crude oil imported by superport above what would otherwise exist. And that is why they use the term in incremental. That is a difference due to superport per se.

Mr. BINGHAM. If you had some other way of achieving the same import level you would have the same thing.

Mr. IRLAND. That is right. These are basically secondary impacts of the refining of the chemicals, so if you flew the oil in and refined it you would still have those same impacts.

One of the primary concerns, I might point out, of people in South Louisiana is the environmental impact of this development and its related developments on the South Louisiana coastline, marshland, and fisheries and it is granted by many that as I said before, the technology to the moving bow and the shoreline may be a less polluting technology for a given level of imports. But the concern is over the planning and control of the development that will follow that imported oil. I believe that is the feeling in many other States that it is the refineries and the sports which are a concern of many people and not the spills offshore that might be caused by the tanker.

Mr. BINGHAM. But all of those things seem to me to point to the fact that the issue is really the level of imports and the level of refining capacity rather than superports versus some other means of achieving it.

Mr. IRLAND. That is true. But the point is that it may be that adopting the supership and the superport technology would lead to a higher level of imports than would otherwise apply in that case, that levels of imports ought to be a policy decision taken on the basis of the broad considerations that we have already mentioned, and should

not simply be a matter of saying, well, we have the ability to handle those imports, therefore we should do it.

Mr. BINGHAM. I think there are many other reasons for keeping our imports at a reasonable level. And I would commend you for referring to this statement in 1971 by Mr. Dole, that it is inimical to the national interest of the United States to become beholden to any outside source for its supply of fuel. This is the factor that concerns me very directly. And it is one that has to do with a lot of considerations other than ecological considerations.

Thank you.

Mr. UDALL. Any further questions?

Mr. Roncalio?

Mr. RONCALIO. Thank you, Mr. Chairman.

Is the Ecology Center in Louisiana funded by the major oil companies?

Mr. IRLAND. No, sir; it is not. It is a private nonprofit educational and research organization that raises its scanty revenue from dues-paying members and certain local philanthropists who support it through a small recycling plant that recycles bottles, and so forth. I am sorry there I failed to described that organization.

Mr. UDALL. We thank you very much, Mr. Irland, for your appearance here today.

We are now going to hear from Mr. P. J. Mills, the executive director of the State of Louisiana Deep Draft Harbor and Terminal Authority.

Mr. Mills, I also have on the witness list Mr. Parro. Is he with you?

Mr. MILLS. Yes, Mr. Chairman; he will accompany me.

Mr. UDALL. We will hear the two of you together.

Mr. MILLS. Fine.

STATEMENT OF P. J. MILLS, EXECUTIVE DIRECTOR, STATE OF LOUISIANA DEEP DRAFT HARBOR AND TERMINAL AUTHORITY, ACCOMPANIED BY RANDOLPH H. PARRO, ASSOCIATE DIRECTOR, STATE OF LOUISIANA DEEP DRAFT HARBOR AND TERMINAL AUTHORITY

Mr. MILLS. Mr. Chairman and gentlemen of the committee, I am P. J. Mills, executive director of the Louisiana Deep Draft Harbor and Terminal Authority, which is commonly referred to as the Louisiana Superport Authority.

It is a pleasure for me to represent Gov. Edwin Edwards and present the position of the State of Louisiana with regard to deepwater ports to this committee. We, in Louisiana, have the distinction of having established the first State agency in the United States created for the purpose of planning, promoting, and developing a deepwater port, or "superport" as they have come to be known, off the coast of Louisiana.

I am accompanied here today by Mr. Randolph Parro, associate director of the Louisiana Superport Authority, Mr. Charles Reasonover, of the New Orleans firm of Deutsch, Kerrigan, & Stiles, legal counsel for the authority, and Mr. Roger Wallihan, of Kaiser Engineers, our technical and management consultants. Each of us will be available for questions after my testimony.

I shall concentrate my comments here today on what we feel is the soundest and most equitable approach to the licensing procedure for offshore deep-draft facilities which would be established in the executive branch of the Federal Government by various bills before the Congress.

Much has been said and written in the last year about the energy shortage facing this country and numerous means offered to solve that shortage, some for the short term and some for the long. One of the alternatives, pending development of an alternate and environmentally acceptable energy source to oil and natural gas, is the importation of foreign crude oil primarily from the oil rich Persian Gulf area of the Middle East.

In order to accomplish such importation in the very large crude carriers—VLCC—which are the most economic means of moving vast quantities of liquid cargo, it is necessary for the United States to develop deepwater port facilities offshore from the continental United States.

Louisiana has had a major role in national and international water transportation since long before there was a United States. It continues that role today, particularly through the port of New Orleans which is the second largest port in the United States and third largest in the world. However, even that outstanding facility is unable to handle the new supertankers because of depth limitations in entering the Mississippi River. The same is true at ports all along the east coast and gulf coast of the United States.

Recognizing the coming demand for offshore deepwater ports to accommodate changes in technology, numerous Louisiana citizens called on Governor Edwards to begin planning even before he took office as Governor, for the role Louisiana should play in offshore deepwater facility development.

Consequently, on February 6, 1972, only 5 days after he was elected Governor, he named an ad hoc task force to begin work on a direction our State should take in this vital subject area. An outgrowth of the task force's work was legislation creating the Deep Draft Harbor and Terminal Authority.

That agency was created by the legislature in 1972, and charged with the responsibility for planning, promoting, and developing any offshore deepwater terminal envisioned off the coast of Louisiana. A copy of the act of the 1972 regular session of the Louisiana Legislature is enclosed with the supplementary material accompanying this statement, which we have filed with your committee staff.

From its inception in September of last year, the Louisiana Superport Authority has operated with a plan of action that envisions: (1) an overall deepwater port developed offshore in stages as technology and economics dictate; and (2) an oil terminal developed as the first phase with development and operation resting in the private sector subject to Federal and State regulation.

In line with the latter, a consortium of 14 major oil and pipeline companies have formed a Louisiana corporation known as LOOP, Inc.—Louisiana Offshore Oil Port—for purposes of building and operating an oil terminal off the coast of Louisiana. It is my information, Mr. Chairman, that this group has already testified before this committee.

Mr. UDALL. Yes, sir; several weeks ago.

Mr. MILLS. That consortium has also testified before various committees of the House and Senate and outlined in detail the plan they envision for the Louisiana offshore oil port.

The Louisiana Superport Authority and Louisiana State government have given assistance to the LOOP organization in their planning and will continue to do so. The superport authority has been asked by LOOP to include their plans for oil terminal development, as the first phase of overall superport development off the Louisiana coast.

The Superport Authority Board has that request under advisement at this time, and as more detailed and specific data relating to the facility is delivered and our environmental protection plan developed, the authority will take appropriate action on the request. The fact that LOOP has chosen Louisiana for its proposed development is complementary to our State and to the planning we are doing in the area of offshore port development.

In order to assure those concerned with the environment that we in Louisiana do not pursue the superport goal for economic reasons alone, the legislation creating the superport authority embodied some of the most comprehensive language enacted to date by any State with regard to environmental safeguards.

The act calls for development of an environmental protection plan which is to become an administrative rule of the superport authority to govern environmental factors within the jurisdiction of the State of Louisiana resulting from superport construction and operation. The statute surpasses the requirements of the National Environmental Policy Act (NEPA). It not only requires assessment of actual and potential environmental impacts from such a facility, but also requires a continuous monitoring of environmental stresses from the planning stages to time of operation and beyond.

The plan is designed to minimize actual or potential impact to the environment. However, if any loss does occur one of the principal features of the plan provides for a funding program to compensate the coastal environment.

There is a strong principle in the civil code of Louisiana which requires that when one causes another to suffer a loss, that loss must be compensated by the one who has caused it. That principle is applied once again in this environmental protection plan because we realize too well in Louisiana the value of our unique coastal marshes to our fishing and shellfish industry, to our fur industry and to the millions of sportsmen who gain untold hours of enjoyment from fishing and hunting our coastal areas.—The details of the requirements for the environmental protection plan are included in the statute which has been filed with this statement.

Copies of two studies which have been made on offshore terminal facilities by the Louisiana State University Center for Wetland Resources, are also included as supplements to this statement. One study was made for the Louisiana superport task force and one for the President's Council on Environmental Quality (CEQ).

The implementation of the environmental protection plan called for in the statute creating our superport authority is well underway and the finished plan will be ready for promulgation by the end of Janu-

ary 1974, as required in the statute. Data gathering is being conducted by the Louisiana State University Center for Wetland Resources and Henry J. Kaiser Co. The final data will be adopted as a rule of the superport authority after drafting by the authority's counsel and public hearings on the subject.

In keeping with our belief that economic benefits can be won without sacrificing environmental integrity, we in Louisiana have walked a middle road in the planning associated with this project. We are undertaking one of the most comprehensive environmental planning programs associated with any project to our knowledge, and at the same time we have assessed the potential economic impact of the oil terminal to see that the project will indeed be worth the effort and expenditure that must be made by both the State and private enterprise.

We have made that economic impact assessment and have found that the efforts of the State are well justified. A copy of the economic impact statement on the offshore oil terminal has also been included with the statement filed with the committee.

Section 103(e) of H.R. 7501 now before the committee states that:

The Secretary shall consult with the Governor of any State off whose coasts the facility is proposed to be located to insure that the operation of the facility and directly related land-based activities would be consistent with the State land-use program.

We feel that the intent of this provision is sound and recognizes the vital interests which the coastal States have in any facility that is developed off their individual shores. To my knowledge, however, none of the States which have expressed an interest in offshore facility development off the coast of their individual States have developed comprehensive land-use plans at this time.

Section 103(e), in effect, merely requires consultation by the Secretary of the Interior with the Governor of the affected coastal State to insure that offshore operation is consistent with the State's land-use plan. It is essential that there be more than mere consultation. In the case where a coastal State has not yet developed such a plan, but is desirous of having offshore facilities developed off its coast, considerable problems could arise. Not the least of these problems is the development of offshore facilities which might not be ultimately compatible with the onshore land-use plan developed by the affected State.

With that major concern in mind, we in Louisiana would like to take the thesis that recognizes the concern and interest of affected coastal States one step further. We would propose amending H.R. 7501 in such a way that the legislation would grant to coastal States the right to apply for whatever license is to be issued to the exclusion of all others with respect to the proposed facilities offshore from that particular State. In this way, the affected State may either exercise the right contained in the act by obtaining the license, or not to exercise the right. For those States, such as Louisiana, which would exercise such a right, the provisions currently contained in H.R. 7501 permitting transfer of the license to a third party would be very beneficial.

The LOOP organization, to which I referred earlier, would provide an excellent vehicle to accomplish actual construction and operation of such a facility as an offshore oil terminal, while the State would be assured that onshore planning for industrial development and related

land-use and coastal-zone management would be coordinated with the planning undertaken by the transferee, both onshore and offshore.

While on the subject of onshore planning by the coastal States, I would like to mention that we in Louisiana have, over the past 2 years, been working at the administrative level of State government to develop a program for coastal zone management in Louisiana. By act of the 1971 Louisiana Legislature—act 35 of the 1971 regular session—a Louisiana Advisory Commission on Coastal and Marine Resources was specifically directed to consider all aspects of management of the coastal zone of Louisiana, as defined in the act, and made a final recommendation for action last month. Act 35 and a copy of the 1973 interim report of the Louisiana Advisory Commission on Coastal and Marine Resources, “Wetlands 1973; Toward Coastal Zone Management in Louisiana” are attached to this statement for the record, which has already been filed with the committee. And we will, Mr. Chairman, also file with your committee the completed report of the coastal and marine commission as soon as it is received from the printer.

Mr. UDALL. We would be glad to have it.

Mr. MILLS. The importance of this function of State government, and funding of the programs of the States is, in our opinion, vital to the role of the coastal States in onshore planning for such developments as offshore deepwater facilities. Further effort in this area is important to Louisiana and other coastal States, and the funding of State programs at the Federal level would enable comprehensive coastal zone programs to be undertaken.

In this way, the benefits to be derived from offshore developments, and related onshore activity, would be far more meaningful in that they would be coordinated between the affected States and the plans of those engaged in offshore developments. Accordingly, the national interest would be served, and the demand for imported oil met, while at the same time the peculiar concerns of the individual coastal States would be recognized and guarded.

This proposal follows a positive approach, in that it calls for the States to take positive action to claim the license. It does not put the State in a position of having to veto an action which might have been approved by a Federal agency. It runs counter to our appreciation of the federal system to give the States a “carte blanche,” to veto proposed offshore facilities, when such facilities are proposed in the overall national interest.

However, to give the States the right to act positively, or not to act at all is, it appears to me, a strong manifestation of federalism at its best. For we already know that some States offshore from which facilities would be proposed, would act at once to see them built; others would not act because of the particular interests of that State. But the overall national interest would be served by those States which would act affirmatively, and that interest would be served without demanding in any way the interests of any individual State.

This proposed legislation recognizes the role of the States in the federal system and particularly in this type development. The proposal we make strengthens that role without diminishing the national purpose of the measure. Some say that specific protection for the coastal States is not required, because the States can stop such offshore development if they choose, particularly in the case of offshore oil

terminals, where pipeline rights-of-way are required, and onshore storage terminals are needed.

But for those States wishing to stop such development, it would become necessary to use the hammer, when the proposal we make to the committee today substitutes the more palatable velvet glove of negotiation. We in Louisiana obviously welcome the opportunity to assist in the development of an offshore oil terminal and, later, facilities for other type cargo.

Some other States do not share this interest. Our proposal gives each of us an equal opportunity to pursue our individual destinies. It would appear that the intent of section 103(g) of H.R. 7501 is to permit precisely what we propose here today. That section says:

Licenses issued hereunder may be transferred after the Secretary determines that the transfer meets the requirements of the Act.

In the case of offshore oil terminal facilities, it is fairly well recognized that the private oil companies and consortiums of various companies have proven worldwide their expertise in the building and operation of such facilities. By giving the license to the State offshore from which such a facility is to be built, and continuing the right of transfer as contained in section 103(g), a partnership between the States and the private sector could be developed for the benefit of the private sector, the public and the national interest.

The act as presently drawn envisions the transfer of the license when the transferee meets the requirements of the act. This would mean, in the case of almost any oil terminal development, that in the final sense the transferee would be that group from the private sector which proposes to develop such an offshore facility.

That is certainly the case in Louisiana where the only proposal for development of an offshore oil terminal facility has come from the LOOP organization referred to earlier. The same is true off the coast of our neighboring State of Texas, where a consortium known as Seadock is making a similar proposal to that State.

It seems logical to us in Louisiana that if a license is to be issued by a Federal agency that a State offshore from which the permitted facility is to be located should be considered first. The responsibilities of the States for broad-based planning and representation of the public interest, far exceeds those of the private groups to whom the license would ultimately be issued.

Transcending the proposal for exclusive license for the States in a Federal licensing procedure for offshore facilities is the role of the Federal Government in regulating and administering the licensing procedure. In the case of H.R. 7501 the Interior Department would be the Federal agency charged with issuing licenses for operation of deepwater facilities.

Interior would have original and paramount regulatory powers over both the licensee and any ultimate transferee under the provisions of the act. Thus, if the States were given the license under this legislation, the Federal agency charged with issuing those licenses, and regulating offshore operations could, in effect, use the individual States as agents of the Federal Government to assure protection of the public interest and compliance with all regulations. At the same time, the particular interests of the individual States—whether they exercise the option contained in this proposed amendment or not—would be protected.

Under this proposal, the license which would be issued by the Interior Department would go to the State offshore from which the facil-

ity is to built, and would be granted when the affected State makes application to receive it.

If the State plans to build and operate the facility to be constructed, then all Federal requirements would have to be met by the State. However, if the State transfers rights under its license to another to build and/or operate the facility, then the transferee would be required to meet all Federal requirements imposed under the act.

Many will ask "Why?" to the proposition of an exclusive license to the coastal States. Louisiana asks, "Why not?"

The Federal Government has seen fit, at least through the intent of this legislation, and announced Government policy on the subject, not to finance in whole or in part the construction of offshore facilities. It has, likewise, indicated it does not desire to operate such facilities through any Federal agency. It would then appear that the likely place for primary licensing would be with the affected coastal States.

The justification for this lies in the fact that those States such as Louisiana which have shown an interest in this subject, have moved ahead with the appropriation of State funds to explore the feasibility of such a project. Funds have been expended in Louisiana to assess potential environmental impact and to regulate activities to minimize environmental impact through development of an environmental protection plan.

State funds have been spent to assess the economic impact on the State and generally to promote the concept so that the public can understand the ideas involved and what their State is doing to insure that the impact of such a facility is planned.

Because of the approach that is being taken at the Federal level to the operation of offshore facilities, responsibility rests heavily on the coastal States to do everything possible to have a strong voice in whatever is done off their shores. For what is done off the shores of our State in the development of offshore facilities, greatly affects not only the future economic development of Louisiana, but also contributes to the social and physical needs which must be anticipated if they are to be met.

The natural environment varies from State to State, particularly in the coastal regions of each State. An offshore facility, although possibly located outside the territorial jurisdiction of a coastal State, still contributes heavily to the burden that State must assume in having such a facility off its coast.

For those States wishing to assume that burden, and the attendant costs that go with extensive environmental planning and regulation, there should be more than an intangible ability to deter unfavorable development once it reaches shore. By having the exclusive license as a point of departure, coastal States will be able to coordinate the physical planning of the offshore facility with the planning needs of the State.

Also, the State will be able to have a definite say in who and how, when and where things are done offshore which will greatly affect the State onshore. The States can do these things and meet their challenges without having to resort to the negative approach that stops planned projects. The States can have a hand in the planning and, rather than be stumbling blocks to offshore development, they can be partners in that development.

Louisiana has taken the first step on the long road to development of offshore facilities. In fact, we took that step a full year before the Federal Government began establishing a position on the subject. Other coastal States are moving in a similar direction. Each State has spent, and is spending, State funds to assure the soundness of the development that occurs both on and offshore.

In the absence of stated Federal policy specifically to build and operate such facilities, Louisiana respectfully suggest that the coastal States should be granted the license that would be issued under provisions of this act if adopted. This would afford the States an excellent opportunity to work with private interests to build offshore deepwater facilities, with the States providing environmental safeguards, and private industry, the economic development.

Louisiana stands ready to play its role in assisting in the solving of this national problem. We ask your help in making that possible, and strongly urge that you accept our theory as one which will make offshore development not only possible, but meaningful to the affected coastal States.

I would like to thank you, Mr. Chairman, and members of the committee, for giving us an opportunity to present our views to you this morning. And we would be happy to attempt to answer any questions that you or the members of the committee might have.

Mr. UDALL. Thank you, Mr. Mills, for a very helpful statement. You and Louisiana, I think, have been ahead of most of the rest of the country in studying the problems that these potential deepwater ports hold, and therefore your testimony is especially useful.

Let me ask you about the Louisiana Deep Draft Harbor and Terminal Authority. What is the structure of it, who governs and controls it, how are these people picked, and so on?

Mr. MILLS. This is a State agency, a subdivision of State government created by the State legislature. And it is governed by a nine-member board who are selected on a statewide basis, two from each of our public service commission districts, of which there are three which encompass the entire State, and two who are selected from names submitted by the three existing deepwater ports of New Orleans, Lake Charles, and Baton Rouge, and one who is appointed at large from the State. All appointments are made by the Governor with the limitations previously spelled out.

Mr. UDALL. The authority is financed, I take it, from State revenues?

Mr. MILLS. It has been funded from its inception by direct appropriation of State funds.

Mr. UDALL. Now, as the bill, H.R. 7501, to which you have addressed your testimony, stands, the Secretary of the Interior, after making the requisite studies, could grant a license either to the State or to a private corporation or consortium of oil companies or oil importers, right?

Mr. MILLS. Yes.

Mr. UDALL. And the suggestion you made today is that the coastal States which desire to do so should have a first priority to take that license themselves, with the understanding that if they wish to they could transfer or sublease that license to someone else?

Mr. MILLS. Yes sir; to take it or not to take it. Ours is a compromise between the view of State veto and the view of Federal preemption, if you will, where the States would not be involved at all.

Mr. UDALL. The State would have an option to say, we want any license you grant off the coast of Louisiana to go to this State authority, and then we will decide to whom to transfer it if we set it aside?

Mr. MILLS. That is correct.

Mr. UDALL. It is not the contemplation of the Louisiana Deep Draft Harbor and Terminal Authority that it would build and operate deep-water ports?

Mr. MILLS. Not an oil terminal; no. At some future time if the ecology would dictate the State might enter into some other facilities offshore, but not the oil as such. Specifically when the legislation was drafted there was no LOOP organization, and the State envisioned, as has already come to be the case, that it would be done by the State government itself. Now, it has been pretty clearly spelled out to us that private industry has the expertise and the ability to not only build but operate a facility of this nature, subject to Government regulation, and probably it would be far more feasible in that manner.

Mr. UDALL. Let me ask you a question that occurred to me, listening to your testimony this morning.

Suppose we take your suggestion and give to the State of Louisiana the first option to have one of those licenses and Louisiana says, yes, we want the license. And Louisiana then negotiates with LOOP, and we order transferring that license to LOOP so that LOOP could bring the first huge port of Louisiana. Would the State of Louisiana reserve the right to charge LOOP a fee or a gallon per barrel of oil charge for the exercise of that license?

Mr. MILLS. Our assessment of this, Mr. Chairman, is that it would be very difficult if not impossible to levy such a charge, in view of the interstate commerce clause of the Constitution. I doubt seriously if such a charge would stand up, although the State of Michigan has levied such a charge, which is presently under challenge, but has been upheld by the Michigan Supreme Court. I don't know how it would stand up in Federal court.

Mr. UDALL. I can see the argument being made, if this is permitted, that we are simply giving to Louisiana indirectly the right to tax the oil users of the country for the privilege of bringing oil in through an offshore port adjacent to your State.

Mr. MILLS. I can understand that point being raised. However, as I said, I doubt the feasibility of such a thing, not to preclude some type of charge being imposed, possibly, for the facility, say, if it were financed by public funds held in State ownership for a leaseback, and this type of thing, but a direct per-barrel charge I doubt very seriously would stand up, nor do we have any plans in that regard.

Mr. PARRO. Mr. Chairman, may I add to that. Under our plans as we envision it the Federal agency that is designated by the Congress to issue the Federal license would have an opportunity when the license is issued to look into any agreement between the State and the industry and it would be well to do so, that it could say yes or no to any terms.

Mr. UDALL. Based on your testimony today, I understand the State of Louisiana would have no objection when we get around to writing the bill to putting some guidance in on that point, and perhaps prohibit the State from imposing the kind of per-barrel charge that we have been discussing?

Mr. MILLS. None whatsoever, Mr. Chairman.

Mr. UDALL. To what extent does the authority which you gentlemen represent have the power to make decisions regarding coastal facilities, refineries, and storage facilities, and this kind of thing on-shore? Do you coordinate all of this with the planning and development?

Mr. MILLS. We are, Mr. Chairman. Unfortunately we don't have as much as we see now we should have. And we would attempt to remedy this at the next session of the legislature. But having no precedent to go on when this agency was created, there having been none in the United States before, we did the best we could with what we had. And we see now the necessity possibly for additional legal bases for the requirement of coordination. We feel that the proposed coastal zone legislation which will be submitted to the legislature this coming May will also address that problem as well. Fortunately, however, from a practical standpoint, as the planning which we are doing is underway, the planning in the area of coastal zone management and related areas is also underway in other areas of State government and is being addressed by the administration at this time. So it is not as though we are operating in a vacuum in that regard. There is a close coordination between our function, the State planning office, the commission which made recommendations on coastal zone management, and other related State agencies in this area.

Mr. UDALL. We had a number of competing considerations right here in the Congress. You mentioned the Coastal Zone Management Act. We are trying to get out a Land Use Planning Act which covers all of our States. And I can see interplay here between planning for deepwater ports as they affect the Coastal Zone Management Act, and the general land use planning legislation.

Mr. MILLS. A very definite correlation. And I think in the case of planning for those facilities, if they are in fact to become a reality, I think it is very fortunate or opportune for States such as yours which do not have plans of this nature in effect at the present time. And I think you will agree that most States do not to any great extent have those in the coastal areas. And particularly that these two subjects are being addressed simultaneously because there can be a great deal of correlation at the State level and at the Federal level in whatever planning is done for such offshore activities.

Mr. UDALL. One final matter. Before one of the other House committees, the Committee on Public Works, there is pending legislation which would give to the Governor or the legislature of a coastal State the right to veto any offshore oil port. I take it from what is said in your statement that you would think such a provision would be unwise?

Mr. MILLS. We feel so, both from a philosophical standpoint and from the standpoint of practicability. We feel that an approach similar to what we have presented here—and the Governor presented this same concept to the joint Senate committee in July—would be more feasible and more workable than the veto approach.

Mr. UDALL. You believe that the Federal Government ought to take into account distribution objections that individual States have to the location of these superports, but in the final analysis the Federal Government should have the right to say that the national interests are

overriding and that we are going to have an oil port in a particular place whether the State legislature objects or not?

Mr. MILLS. We feel that is so, Mr. Chairman. After all, this is not a parochial or provincial subject, this is something that is in the national interest, and actually has great international import, and is not something that can be addressed or denied, if the necessity exists on purely that parochial basis.

Mr. UDALL. Mr. Bingham.

Mr. BINGHAM. Thank you, Mr. Chairman.

Just on that point, your proposal, as I understand it, is that the State will be the one to be the exclusive licensee. So if the State does not choose to move to be a licensee, then in effect the State is exercising its veto.

Mr. MILLS. The point Mr. Udall raised, if it is a conclusion whereby the strong objections of the State were considered, the same thing will come into play either in the absence of the veto or the absence of the proposal we suggested. There are some States we feel where even if the Federal Government proposed that such a facility be built and in effect demanded that it be done, or superimposed its will over that of the coastal State, there would still be interterminal legal battles and roadblocks thrown up in the Federal Government affecting the development of the facility in any case.

Mr. BINGHAM. That might be so. But it seems to me that your proposal asks the State actually for more power in the matter simply than to give them a veto power.

Mr. MILLS. Not so, sir, in that final power still rests in the licensing agency in whatever action the State attempts to perform when it receives the license. It has to perform.

Mr. BINGHAM. But it would not have the positive power to go ahead unless the State indicates that it is prepared to be a licensee, to undertake that responsibility?

Mr. MILLS. I think it is understood that if the State moves to receive the license, then it has an obligation, then, to fulfill it and to see that whatever project is proposed to be brought to its logical conclusion.

Mr. BINGHAM. Certainly so. But the situation that I raise, hypothetically perhaps, is that the State doesn't have the interest and the initiative to go ahead and apply for the license, but in the national interest the responsible authorities conclude that it is desirable to have such a port in that area. It seems to me, therefore, that your proposal actually gives the State more responsibility in that situation and more authority than simply to give the State the veto power.

Mr. PARRO. Mr. Congressman, the way we see it, the State by applying for the license would be putting the world on notice that if any development is going to take place of that State, it must be coordinated with the State off whose shore the port would be located. Your question and point is that in the final analysis if no State decided to go ahead with superport construction, then you would have, I think, an overriding national interest to preempt the States and say, we will have a superport in such and such a State. What we are saying is that as long as there are States that are willing to go ahead with superport development, let these States go ahead and take their action, and then you can have a provision in your legislation which would come into play if no State decided to take action where the

Federal Government could preempt and say, we will have a port, and it will be here.

Mr. MILLS. Also, Mr. Bingham, I think, carrying it one step further—let's use Delaware, for example, which has been a very strong proponent of the concept when suggestions were made that it would be a logical place for a location. If in the final drafting of the legislation the provision could be included to provide that if the State did not perform within a feasible period of time, and it was determined by an appropriate Federal agency that it was in the national interest that something be done, then the license would be available to others. This alternative does exist, that the Federal Government would have the last word in this regard.

Mr. BINGHAM. In the case of Louisiana, have you got to the point of knowing how far offshore the site would be?

Mr. MILLS. We have alternative site proposals that have been put forth. The LOOP organization has proposed a site somewhat southwest of the mouth, of Bayou La Fourche, which is about 20 miles offshore. Other sites that have been and are being looked at. This site has been in the course of preliminary study, including the one that was done for CEC. The 21-mile site has been determined, I guess the most acceptable of the several that have been looked at in terms of environmental economics.

Mr. BINGHAM. What would be the mode of transportation for the oil from that port?

Mr. MILLS. It would be by heavy diameter pipe, large diameter pipeline to an onshore facility, and then transshipment by pipeline to other facilities.

Mr. BINGHAM. I notice that you indicate recognition of the fact that a plan would have to provide for a funding program to compensate the coastal environment. Your recognition of that problem is certainly in order. And what strikes me is that even assuming that any accident is unlikely, when the amounts involved might be very, very large indeed, have you studied that problem in terms of the national funding arrangements and what kind of protection would be required?

Mr. MILLS. That is comprehensively underway at the present time, not completed, but a great deal has been done in that area as a part of the overall environment protection plan. Some of the area has not been explored previously to the knowledge of people at LSU who are doing this work for us. And we feel probably we will come up with something quite unique in that area in the requirements for assurity bond as well as for other types of compensation for replacement of damage or stress which is imposed on the coastal area itself.

Mr. BINGHAM. Thank you.

Thank you, Mr. Chairman.

Mr. UDALL. The gentleman from Kansas.

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

Mr. UDALL. Mr. de Lugo.

Mr. DE LUGO. I have no questions.

Mr. UDALL. Anyone else?

If not, gentlemen, we thank you very much for your excellent testimony. And we hope we can come up with some answers to these questions without too much delay. Thank you.

Mr. MILLS. Thank you, sir.

Mr. UDALL. Our next witness is Mr. John King of the Massachusetts Port Authority.

The gentleman from Massachusetts.

Mr. CRONIN. By way of introduction I might point out that Mr. King has the same last name as the executive director of the Massachusetts Port Authority, who had hoped to be here with John King to testify, but who unfortunately was out of the country.

Mr. John King is the project manager of the Massachusetts Port Authority which has had studies going on for sometime.

I, along with members of my committee, look forward to his testimony.

Mr. UDALL. Thank you, Mr. Cronin.

Mr. King, we are happy to hear you.

STATEMENT OF JOHN KING, PROJECT MANAGER, MASSACHUSETTS PORT AUTHORITY

Mr. KING. Mr. Chairman, my name is John King and I am representing the Massachusetts Port Authority.

Let me first state that Massport appreciates the opportunity to present a statement to this committee covering the problem that is common to every U.S. citizen but of more significant concern to some. The problem to which I refer is the lack of a secure supply of petroleum products for not only the people of Massachusetts, but New England, and the attendant environmental and economic impact of present supply methods and alternatives.

Massport has recently completed an assessment of various methods of obtaining a secure supply of petroleum products at reasonable costs to consumers with the least detrimental environmental impact. We have expended \$360,000 on a study that is parochial; the scope was not the east coast, or the New England coast or even the Massachusetts coast, the focal point is the Port of Boston. Massport is presently spending an additional \$65,000 to supplement the study and is awaiting proposals prior to committing considerable additional funds to fine tune this study, so we are confident we know our subject and equally confident that proposed programs will stand up under any logical scrutiny.

I will not encumber you with bland statistics whose significance is lost by virtue of astronomical figures but I will use a few just to set the stage. Eighty-five percent of New England's energy demands are satisfied by petroleum and 40 percent of these products, or 22 million tons per year and rising, come through the Port of Boston. These products are delivered in small tankers numbering up to 700 per year and rising. Boston like many other U.S. ports is precluded or restricted from deepening the channel and therefore, is destined to continue to rely on numerous small outdated ships and a like number of small chronic spills of products of high toxicity. This is not peculiar to Boston. Most of our U.S. ports are so afflicted. What I suspect is peculiar to Boston is that some tankers are forced to ride in at high tide and on the wrong side of "the road" in order to get sufficient depth. The environmental hazard inherent in this dangerous but necessary practice is obvious.

Despite these conditions there are those who decry a concept without benefit of equal or even significant investigation. That is why we are here today, to ask you to consider in your policymaking deliberations what has been determined, and what probably would be applicable in a generic sense to any coastal area of the Nation afflicted with similar energy problems.

Recognizing that man cannot exist without some environmental impact, an offshore deepwater crude oil terminal and associated refineries have been recommended as the safest, surest, and cheapest method of alleviating our problem. This method was selected from among numerous historical alternatives, that is, transshipment from the Bahamas and Maritimes, pipelines from the mid-Atlantic States or from Maine, product terminals within the harbor, product and crude terminals outside the harbor, 11 alternatives in all including doing nothing. Each aspect, the environmental considerations, the economic considerations, and the engineering feasibility of each alternative was probed, dissected, assessed, and weighted. The result, as previously stated, deepwater crude terminals and associated refineries.

Except for the details of site specificity it is difficult to understand how a more comprehensive investigation could be undertaken and it is gratifying to hear the EPA conclude 2 weeks ago that deepwater terminals receiving supertankers are an environmental plus and that refineries can be constructed to be environmentally acceptable.

Assuming the credibility of projections that seven 160,000 bbl/d refineries would be needed to satisfy the demand in New England by 1980, and 50 more for the rest of the Nation, it is quite possible when you consider the leadtime that tomorrow is today and that nonaction policies now could create a severe crises in the 1980's.

Thank you, Mr. Chairman, for the opportunity to be here this morning. And I would be glad to attempt to answer any questions you have.

Mr. UDALL. Mr. King, is the Massport Authority a subdivision of the State of Massachusetts, a legal organization? Tell us about it.

Mr. KING. No, it isn't, Mr. Chairman. It is a quasi-public agency that does not depend upon taxes for its operation. It is an agency that sells bonds, and the revenues from the bonds are the revenues that are expended by the authority.

Mr. UDALL. Who charters it?

Mr. KING. The Commonwealth of Massachusetts Legislature.

Mr. UDALL. And it receives financial support from the legislature?

Mr. KING. It does not receive financial support directly from the legislature, but the bonds that are sold by the port authority are backed up by the Massachusetts Legislature.

Mr. UDALL. I will yield to Mr. Cronin.

Mr. CRONIN. May I just by way of explanation point out that in Massachusetts we had a history of very expensive operations at our airport, in our Port of Boston, and also at some of the toll bridges coming into the city. And there was a great deal of expose at the time on the handling of political patronage and the problems that those associations had. At that time the State legislature set up an independent authority that was chartered by the State, with its members appointed on a staggered basis by the Governor of the State. However, they have the power of independent action and are independent in

their authority from the State. I am very pleased to say that since this project was started we have had people of impeccable integrity on the port authority who have succeeded in building the eighth largest airport in the country that operates at a profit. And they have succeeded in rebuilding a substantial amount of the Port of Boston. They have also succeeded in building several bridges and other authorities that operate without utilizing 1 cent of tax dollars.

Mr. UDALL. Does the Massachusetts Port Authority have statewide jurisdiction?

Mr. CRONIN. It does not have statewide jurisdiction. But from a practical point of view, 50 percent of the population of the six New England States is in the State of Massachusetts and in fact 50 percent of the population of Massachusetts is in the Greater Boston area where the port does have authority. So most of the problems of Massachusetts and New England are in Greater Boston.

Mr. UDALL. Does the port authority cover various forms of transportation, airports, and oil shipments and so forth?

Mr. CRONIN. Right.

Mr. UDALL. Does the Massachusetts Port Authority operate local airports?

Mr. CRONIN. It does.

Mr. UDALL. So this one overall transportation authority for the State?

Mr. CRONIN. Right.

Mr. UDALL. Mr. King, has any study been given as to the specifics as to where a deepwater port near Boston would be located?

Mr. KING. No. This is the fine tuning that I referred to in my statement. The specific area has not been selected. And we could be required through EPA rules and regulations in existence right now to select at least two.

Mr. UDALL. In general, of the offshore coast of Massachusetts are there places that have deep enough water which are suitable for construction?

Mr. KING. Yes, within 7 miles east of Massachusetts.

Mr. UDALL. To what extent does the weather off the New England coasts, that is more severe than the Gulf of Mexico where the water is shallower, pose a problem?

Mr. KING. It may present a problem although it is more severe than the Gulf of Mexico, it is certainly not as severe as in the North Sea in which these projects are being constructed now.

Mr. UDALL. You were here during the testimony of Mr. Mills and the Louisiana group. Have you given any thought in the Massachusetts Authority as to whether you and the authority would actually build the deepwater port facilities, and whether you would desire to have them built by a private consortium?

Mr. KING. No, we would build the offshore terminal, and associated refineries would have to be constructed by the oil interests, the company or consortium.

Mr. UDALL. Have you given any consideration to the discussion that Mr. Mills and I had with regard to giving the State or a State agency the first call on the license and then letting it decide whether the port authority or private group or someone else would actually build the terminal?

Mr. KING. Well, since we are the only agency in the Commonwealth of Massachusetts at the present time that would be capable of such an undertaking, the question is really not appropos to our program.

Mr. UDALL. Mr. Bingham?

Mr. BINGHAM. Thank you, Mr. Chairman.

I am just curious, for my information, what is the wrong side of the road that you referred to?

Mr. KING. Well, keep to the right. In this particular case the channel in Boston Harbor, the outgoing channel, or the outgoing side of the road, when you are keeping to the right, is deeper than the incoming channel. So that the tankers coming in—we have a 9-foot tide in Boston—and tankers coming in not only have to take advantage of that 9-foot tide by waiting for it, but they have to come in on the wrong side of the road so that they have that extra 50 foot of depth.

Mr. BINGHAM. And that is not the standard way in which ships come and go in that particular harbor entrance?

Mr. KING. In any harbor, no sir, that is not the standard way.

Mr. BINGHAM. Thank you, Mr. Chairman.

Mr. UDALL. Mr. Steelman.

Mr. STEELMAN. Thank you, Mr. Chairman.

Mr. KING, you mention in your statement that 85 percent of New England energy demands are satisfied by petroleum and 40 percent of these come through the Port of Boston. What is the large energy demand in terms of barrels, do you know offhand?

Mr. KING. No, I don't. We can use 22 million tons and multiply it by 7, and add 15 percent, and you will have it.

Mr. STEELMAN. One of the disturbing things about our national policy recently has been that we have geared all our policies to demand, that is, trying to meet demand without trying to have any impact on demand. And at the present there is an insufficient supply of energy. I think Governor Love has said on several occasions that we have to start now approaching a balanced policy, that we have to start worrying about conservation as well as supply. Are you doing anything in New England, in the Massachusetts Port Authority or any other public body to try to start conserving energy in addition to meeting your demand projections?

Mr. KING. We certainly support the concept of conservation of energy. But as far as the practical aspects of what can be obtained as far as barrels of petroleum or in kilowatts of electricity through the conservation of energy, I think at the present time that we would have to prescribe to the philosophy that it is not going to be significant enough to reduce the demand significantly so that we would not have to go ahead with some type of a program, whether it would be petroleum or nuclear or whatever it is, expanded program.

Mr. STEELMAN. Is it feasible to start using more coal in industry?

Mr. KING. I am not an energy expert, sir, so I couldn't answer that.

Mr. STEELMAN. No further questions, Mr. Chairman.

Mr. UDALL. Mr. de Lugo.

Mr. DE LUGO. No questions.

Mr. UDALL. Mr. Cronin.

Mr. CRONIN. Mr. Chairman, just to get a couple of things on the record, I think the figures you use are significant: 85 percent of our demand in New England is satisfied by petroleum, and 40 percent of

this is imported into the six New England States through the Port of Boston. This 40-percent figure is much higher than most parts of the country today. It is an indication of the level of volume that we are going to have in the very near future nationwide. I wonder if you might comment why you feel that we have a disproportionate amount of imports vis-a-vis another port of the country. Is there something unique about the Port of Boston that allows us to get in 40 percent or this very high percentage of imports?

Mr. KING. Well, within the Port of Boston there are 24 companies, oil companies, that have terminals. And most of those oil companies are independent operators, as is the case throughout all of New England. And historically the independent operators have been at the so-called mercy of the major companies. They have been able to operate significantly and obtain security supplies through the trading of import quota tickets, et cetera. But last year, and especially this year, with the import quota system not in existence, and the price of foreign crude oil coinciding or equaling that of domestic crude. I suspect there is going to be a severe shortage of petroleum products, especially No. 2 heating oil, in New England and in the Boston area. And 40 percent of that will have to come through or will not come through the Port of Boston.

Mr. CRONIN. Related to that, New England has traditionally paid the highest price for its energy nationwide, and the high price of energy for oil has been transmitted into the highest legal rates in the country and many other sources of power. If we are able to have a deepwater port in the Port of Boston, because of our geography, vis-a-vis the sources of supplies in Latin America and the Middle East, would there be any attraction to companies to bring this oil to Boston in greater amounts than they have now, so that hopefully these prices would be reduced and the cost of energy would be reduced for New England?

Mr. KING. On the assumption that we would be bringing oil in to be refined, we could expect an economic incentive of around 50 cents a barrel to any oil company that would construct a refinery in the greater Boston area, as a result of our study.

Mr. CRONIN. Does it take as long, for example, to get a ship of oil from Venezuela or from the Middle East to Boston as it does to New York or other points on the east coast?

Mr. KING. Considering the source of crude to be Arabia, Boston would be closer.

Mr. CRONIN. By roughly how much, a day?

Mr. KING. By 2,000 miles—2,100 miles.

Mr. CRONIN. So there would be some incentive to come to Boston before going to other places. And this might help to offset the other problems that we have.

I would like to point out to the members of the committee that we have been hearing testimony from Governor Love and others on the best possibility of 5 percent shortage nationwide in heating oil a year. To New England that 5 percent means 40 percent because of the distribution supply. And as a result of a 5-percent shortage nationwide, conceivably 40 percent of our people in New England would be without any heat at all in winter. So I think that the point you have made of locating a deepwater port 2,000 miles closer to a source of crude than

many other ports in the country would be the incentive that we need to get more fuel if New England, and hopefully supply more energy to our people.

Thank you very much for your testimony.

Thank you, Mr. Chairman.

Mr. UDALL. Are there any further questions?

If not, we thank you very much, Mr. King. And we appreciate Mr. Cronin's arranging for your being here.

Our next witness is Dr. John Moeller, executive director of Ameraport, Montgomery, Ala.

Mr. Moeller.

**STATEMENT OF DR. JOHN E. MOELLER, EXECUTIVE DIRECTOR,
AMERAPORT, MONTGOMERY, ALA.**

Mr. MOELLER. Thank you. Mr. Chairman and members of the committee, I am Dr. John E. Moeller, executive director of the Ameraport Corp. I would like to thank you for giving me the opportunity to express the position of the State of Alabama in behalf of Gov. George C. Wallace on the subject of deepwater port facility regulation and the general purposes of H.R. 7591, and in addition the position of Ameraport Council, which is a joint effort between the States of Alabama and Mississippi. Ameraport Corp. is the culmination of an effort which began in Alabama in late 1972. Its task is to express and support the view that a deepwater port in the eastern gulf is a viable concept with regional and national impact. To support this view, Ameraport has undertaken various research studies, the results of which are relevant to the bill now before this subcommittee.

I would like to summarize, in general, the activities which Alabama has undertaken in regard to deepwater terminals.

Gentlemen, I apologize for not having these studies in your hands. But Delta Airlines forgot to put them on the airplane I traveled on. They will be here later on today, and I will furnish them to you. In my statement I have referred to various portions of the studies which are pertinent and germane to the bill now before you. And with your permission, Mr. Chairman, when I do present them to your staff, I would like to have them made part of the record.

Mr. UDALL. Without objection those reports will be made a part of the file.

Mr. MOELLER. In introducing our testimony, I would like to define what we see as a vitally important project, not only to Alabama and its region, but to the nation as well. I am referring to the Alabama concept of "Ameraport"—nor a local port, but a port to serve the needs of the Nation. Ameraport is a progressively staged program that will be an oil terminal in its initial configuration, and later, as technology gives us the capability, will be expanded to handle other commodities as well.

The State of Alabama has watched with interest the repudiation by several States of plans to build deepwater terminals off their shores, primarily because of inadequate environmental and economic planning by proponents. Also, all Alabamians have been acutely aware of the minimal reserves in the Nation's energy resources and their declining balances.

In view of the critical U.S. energy situation and the apparent reluctance of some States to take the initiative to reduce its impact, Governor Wallace directed the establishment of the Ameraport research team in early 1972. This team was to determine the considerations required for locating a deepwater terminal in the eastern gulf, and further, to catalog the activities necessary to insure that such a terminal and the resulting onshore development would be environmentally and economically compatible with established State goals. The Ameraport interim study, dated May 1972, is the Research team product and I would like to quote briefly from its foreward:

The study was prepared in full cognizance of the importance of the environmental factors involved. The study's perspective is that a compatibility of interest can be developed which is beneficial to both the environment and overall economic development. It is incumbent upon all involved with development to work toward a high quality environment as a part of our continual striving for improved human well-being.

The Governor and the State agencies strongly support this approach and feel Alabama can meet the challenge to move progressively in meeting the demands of the future.

And in this regard, Mr. Chairman and members of the committee, I would like to invite your attention to the actions of the Alabama Legislature, which just adjourned in late September, which has in fact passed a coastal area act which does provide for the preservation, enhancement and development of the coastal area of Alabama to establish a board with responsibility and authority for developing, coordinating, and maintaining a coastal area program, and to provide for the promulgation of regulations and provisions for the enforcement of this act.

And in conjunction with that bill, the Alabama Legislature also passed an act to create and establish and empower the Ameraport offshore harbor and terminal commission pending the approval of a bi-state compact involving the participation of the States of Alabama and Mississippi in the development of an offshore deep draft harbor and terminal for the purpose of loading and unloading cargoes of energy, in particular petroleum of all kinds.

And going to a question of the chairman to a previous witness, this commission is in fact vested with all the powers necessary to regulate and control the onshore development of coastal areas which would be impacted by an offshore terminal.

Again, gentlemen, I would invite your attention to some of the interim studies which was a joint effort by the States of Alabama and Mississippi to determine the environmental soundness of a deepwater terminal in the eastern gulf of Mexico off the shores of Alabama and Mississippi. And to that end we employed the Marine Sciences Environmental Consortium, the Alabama Geological Survey, and the Gulf Coast Research Bureau to investigate and determine the impact and effect upon the fisheries, the various marine life that would be affected by deepwater terminal, and also the effect of a pipeline onshore from a point approximately 28 miles due south of Pettibone Island, which is a point which is approximately equidistant between the Port of Pascagoula and Mobile.

I would also like to invite the committee's attention to the multi-State interests in the Ameraport. We began as a bistate effort between Alabama and Mississippi, and in recent weeks the great State of Ten-

nessee has joined and has become a member of the Ameraport Council, which is an executive appointed council, to do all of those things necessary to promote the development of an east gulf location of a deepwater port.

In summarizing my testimony, gentlemen—I am not going to read it all here, you have it—

Mr. UDALL. We appreciate that in the interests of time. And without objection your full statement will be printed in the record in full, together with the attachments that you referred to that aren't here yet. And you can summarize the points as you wish.

Mr. MOELLER. I would like to summarize, Mr. Chairman.

Going particularly to the point that was raised by my distinguished colleague from Louisiana, the States of Alabama and Mississippi both together have studied the concept of State licensing, that is, the States being the licensee. And we have gone on record as supporting the conceptual approach that Mr. Mills has introduced. And to this point I would invite your attention to my testimony on page 5 in section 103(e) of 7501, where we point out and suggest that such legislation should reserve to the States the decisions as to where it is to be built, or whether it is to be publicly or privately owned, and whether the State itself should construct and/or operate the facility.

By inviting your attention to the elements. Mr. Chairman, I do not mean to suggest that the State of Alabama has any plans to actually build a deepwater port. But we do believe that we should have the license, which we can in turn relicense.

Mr. UDALL. You raise another question. You suggest now that you are working with your fellow Americans in Mississippi, and maybe Tennessee wants to get involved in this, too. But suppose that Alabama and Mississippi got together at an area that is off the coast of both States. To whom do we look under your suggestion here for the licensing?

Mr. MOELLER. The State legislatures of both Alabama and Mississippi, Mr. Chairman, have passed bills authorizing the Governors to request the Congress to authorize a bi-State compact for the formation of a legal entity which can be the applicant. And that was passed by the Mississippi Legislature in its past session, and it was also passed by the Alabama Legislature in its last session. And when this bi-State compact become effective, then the Ameraport Offshore Harbor and Terminal Commission, which is strictly an Alabama Commission, will go out of existence.

Mr. UDALL. Thank you, sir.

Mr. MOELLER. We have also commissioned the Battelle Columbus Laboratories to do more economic and environmental onshore studies to determine the secondary impact of a deepwater terminal. In other words, as we see it, Mr. Chairman, there are two areas that have to be considered. One, the environmental impact of the offshore terminal itself, and the secondary impact; namely, environmental association economics of the onshore development. Battelle Columbus Laboratories have conducted these studies for us. They are in the printer's hands right now. They will be available in mid-October, and will be furnished to this committee as a part of the record at this time.

Mr. UDALL. We will be pleased to have them.

[Mr. Moeller's statement in full follows:]

STATEMENT OF DR. JOHN E. MOELLER, EXECUTIVE DIRECTOR, AMERAPORT CORP.

Mr. Chairmen, members of the committees, I am Dr. John E. Moeller, Executive Director of the Ameraport Corporation. I would like to thank you for giving me the opportunity to express the position of the State of Alabama in behalf of Governor George C. Wallace on the subject of deep water port facility regulation and the general purposes of H. R. 7501.

Ameraport Corporation is the culmination of an effort which began in Alabama in late 1972. Its task is to express and support the view that a deep water port in the Eastern Gulf is a viable concept with regional and national impact. To support this view, Ameraport has undertaken various research studies, the results of which are relevant to the Bill now before this subcommittee.

I would like to summarize, in general, the activities which Alabama has undertaken in regard to deep water terminals.

In introducing our testimony, I would like to define what we see as a vitally important project, not only to Alabama and its region, but to the nation as well. I am referring to the Alabama concept of "Ameraport"—not a local port, but a port to serve the needs of the nation. Ameraport is a progressively staged program that will be an oil terminal in its initial configuration, and later, as technology gives us the capability, will be expanded to handle other commodities as well.

The State of Alabama has watched with interest the repudiation by several states of plans to build deep water terminals off their shores, primarily because of inadequate environmental and economic planning by proponents. Also, all Alabamians have been acutely aware of the minimal reserves in the nation's energy resources and their declining balances.

In view of the critical U.S. energy situation and the apparent reluctance of some states to take the initiative to reduce its impact, Governor Wallace directed the establishment of the Ameraport Research Team in early 1972. This team was to determine the considerations required for locating a deep water terminal in the Eastern Gulf, and further, to catalogue the activities necessary to insure that such a terminal and the resulting on-shore development would be environmentally and economically compatible with established state goals. The Ameraport Interim Study, dated May, 1972, is the Research Team product and I would like to quote briefly from its Foreward:

"The study was prepared in full cognizance of the importance of the environmental factors involved. The study's perspective is that a compatibility of interest can be developed which is beneficial to both the environment and overall economic development. It is incumbent upon all involved with development to work toward a high quality environment as a part of our continual striving for improved human well-being.

"The Governor and the State agencies strongly support this approach and feel Alabama can meet the challenge to move progressively in meeting the demands of the future."

This statement points out, I believe, that environmental factors have received paramount consideration from the very beginning of Alabama's studies of deep water terminal considerations.

The Ameraport Interim Study anticipated several provisions of the Bill now before this subcommittee. Specifically, the Study chapter entitled "Background", pages 1 through 4, supports Sections 101(a) (1) and 101(a) (2), and the Environmental Consideration section of the "Continuing Effort" chapter at page 19 anticipates Section 101(a) (3). In addition, the Interim Study appendix at pages 23 through 39 discusses possible problems in international law and impacts Section 101(a) (4). The Continuing Effort chapter at pages 17 through 22 provided the direction of subsequent studies which will be referred to later in our testimony.

In the course of the Research Team studies, it became apparent that a more permanent organization would be required to successfully complete the comprehensive studies necessary to fully assess the impact of a deepwater terminal location in the Eastern Gulf. The recognition of this need resulted in the establishment of the Ameraport Corporation, a non-profit, state chartered entity, supported monetarily by a broad cross-section of Alabama municipalities, counties, businessmen and interested citizens. This group has pledged \$351,000 in support of the Ameraport effort, eighty per cent of which has already been paid.

From the Ameraport Corporation came to Ameraport Council, originally a bi-state pact between Alabama and Mississippi, which has now been joined by the state of Tennessee. Other states have expressed a keen interest in the Council and are expected to join soon. The Council supports the Ameraport concept that

an Eastern Gulf Coast deepwater terminal off the Alabama-Mississippi coast is a viable concept with regional and national implications.

The Ameraport Council and Ameraport Corporation have directed their efforts to specifically identify environmental and economic factors involved in deepwater terminal location and specific reference is made to that part of the Ameraport Council Preliminary Study dated December 15, 1972, beginning on page 1 of the Supplement chapter entitled "The Ecological Impact of a Deep Water Port in the Northeastern Gulf of Mexico." The next area of concern and study was the Hydrography of the East Louisiana-Mississippi-Alabama Continental Shelf and its effect on any possible spill. Data is contained on Pages 9-18 of the Supplement to the referenced study. The summary regarding actual site location is contained on Page 19 of the Supplement. The chapter entitled "Regional Economic Impact of a Superport" which begins on page 14 treats the economic factors. References and data sources together with tables and maps to support the material previously referenced are found beginning on Supplement page 20 and continue through the supplement and appendices to the Preliminary Study.

Another document that we have presented for the record, is the Ameraport Progress Report dated June 1, 1973. This report provides an excellent description of the Ameraport Corporation and a chronicle of its activities, as well as an economic analysis based on locating one 225,000-barrel-a-day refinery in Alabama.

In addition to the interstate coordination already referred to, we would like to impress upon this subcommittee the degree of intrastate coordination which has been accomplished. Ameraport Corporation has its offices with the Alabama Development Office which is directly under Governor Wallace. The Ameraport Corporation officers include the chairman of the Senate Seaports Committee, the Director of the Alabama Development Office and the Director of the Alabama State Docks. The studies it has undertaken were conducted in part by the University of Alabama, University of South Alabama, the Geological Survey of Alabama, the Marine Environmental Sciences Consortium, the Alabama Law Institute, the Alabama Department of Conservation and Natural Resources, and the South Alabama Regional Planning and Development Commission. In addition, several independent consultants have contributed in their respective areas of expertise as well as the Battelle Columbus Laboratories of Columbus, Ohio, which will soon complete a comprehensive three-part study which I will refer to later. And, as mentioned previously, the corporation is financed solely by contributions from people in all walks of life throughout the State. We bring these facts out to demonstrate that the Ameraport Corporation has not operated in a vacuum, but rather, has sought reputable and independent advice to guide its activities; that the Ameraport concept has broad based support within Alabama; and that the objectives of the studies are to determine that the project is economically feasible, environmentally sound, and attractive to industry.

We support the single agency license application concept. However, it is our belief that the authority relationship and coordination procedures between the Secretary of the Permit Granting Agency and "other" agencies should be more clearly defined. We would recommend specific provision in the Bill to require precise and expeditious handling of applications by all agencies and believe the Secretary should be empowered to insist upon expeditious handling of each application by other agencies involved in the licensing process. With federal authority concentrated in a single agency we believe the interests of all will be better served.

Section 103(e). We believe that any federal legislation which would authorize or impact on the issuance of licenses for construction and operation of deepwater terminal facilities should reserve to the state off whose coast the proposed facility is to be built, the opportunity to decide on such construction and operation before a license is issued. Also, such legislation should reserve to the state the decisions of where it is to be built, whether it is to be publicly or privately owned and whether the state itself should construct and/or operate the facility.

In suggesting these provisions, we take cognizance of the national implications in the matters of commerce, international trade and energy resources, inter alia; however, we feel these provisions are necessary to enable the state to adequately protect the interests of all its citizens in view of the potentially enormous environmental and economic impacts of a deepwater terminal.

Alabamians have spent, and are willing to continue to spend, funds to promote the development of a deep water terminal off the Alabama-Mississippi coast because we can envision a sizable economic benefit to our state, our region, and our nation. As we move to promote this project, we can also see that substantial

economic impact will occur in our state because of the development of secondary industries. This is borne out by the economic studies which Battelle Columbus Laboratories has been conducting. In addition, we envision the development of the facility and secondary industries within the framework of the most modern environmental protections available and believe that economic benefits can be gained without unnecessarily jeopardizing our coastal environment.

By giving the coastal states the authority over the development of deep water facilities, Congress will provide the opportunity for these states to assist and participate in meeting the challenges which will naturally result from such offshore development. It would in effect, be giving the coastal states an opportunity to negotiate with private firms to construct and operate such facilities for the mutual benefit of both parties and the public at large. Terminals such as are needed to bring in foreign oil have been built all over the world by both oil companies and firms which specialize in building and operating terminals. The operations of those facilities, coupled with the development of industry which normally follows, has a potential incidence of environmental impact which will affect most the states offshore from which they are located. Those operations also have a level of profitability from which some form of payment could and should be made to the affected coastal states either directly or through the Federal agency regulating such operations in order to give the coastal states which choose to permit such operations off their shores some immediate financial means to defray costs which might be incurred as a result of those operations.

In our testimony up to this point, we have referred several times to the comprehensive study being developed by Battelle Columbus Laboratory. I would now like to present an outline of that study.*

PART I

Preliminary assessment of the AMERAPORT feasibility.

Determination of those commodities to be handled by AMERAPORT.

PART II

Socio-economic assessment of the AMERAPORT development.

PART III

Environmental assessment of the AMERAPORT development.

In the study, a detailed cost analysis was made for importing, refining, and distributing crude oil and petroleum products through the proposed Ameraport. The cost comparison indicated that consumers would benefit on each barrel of crude oil processed through the Gulf Coast in 1985 by locating new refineries in Alabama and a deep water terminal off the Alabama-Mississippi coast. The saving could amount to over \$600 million annually, based on 1985 projections for imported crude oil.

The recently released "Report on Gulf Coast Deep Water Port Facilities—Texas, Louisiana, Mississippi, Alabama and Florida" by the Department of the Army, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Mississippi (June, 1973) supports the Battelle study conclusions by stating at page 111, "... that transportation savings would support at least two monobouy ports in the Gulf located in the vicinity of Freeport, Texas and off the Louisiana coast, and if major refinery growth (on the order of 1.5 million b/d) developed along the Mississippi-Alabama coast, or further east, a third port at the Mobile-Pascagoula site would be supported by transportation savings."

In addition, Table 56, "Summary of Alternatives—Throughput, Costs, and Savings, on page 110 of the Report lists the greatest per barrel annual net savings for the alternatives which include facility locations in the Mobile-Pascagoula area.

In summation of our testimony, I like to emphasize those areas we believe to be important in the location of a deep water terminal off the Alabama-Mississippi Coast as they relate to H. R. 7501.

Ameraport fully supports the need to provide an affirmative course of action to determine the environmental effects of a deep water terminal both on the offshore portion of the facility as well as the anticipated industrial development

*The study will be submitted to this Committee when it is completed, probably in late October.

activities on-shore which would naturally result from the location of a deep water terminal. We believe that Section 103(a)(3) and other provisions of H. R. 7501 provide for this course of action and wholeheartedly approve of it. As evidence of our support, I cite the documentation we have introduced for the record and the Battelle Study we will furnish upon its completion. One point I would like to make here about our studies is that we have sought out independent and reputable research organizations to conduct an objective study; they are not the result of in-house work.

Another area which we feel needs to be stressed is the license application process. In addition to what we have said concerning the authority/coordination relationship between the Secretary of the Permit Granting Agency and "other" agencies, we would like to see the Bill provide a realistic time frame for the overall application process. A long lead time before a license can be granted is, in our opinion, likely to work severe hardships. The lack of data should not hinder the licensing process. There is currently available throughout the world, technical, construction and operational data concerning deep water terminals, and it is our understanding that there are approximately 150 such terminals in operation at this particular time. To impose a long application lead time will place an unreasonable burden and delay on those who are attempting to solve the energy crisis via the use of Very Large Crude Carriers and deep water terminals. In effect, what a long lead time will amount to is that we will be forced to use conventional sized tankers in ever increasing numbers, thus increasing the opportunities for collision and spills far beyond that which might be anticipated by use of a deep water terminal. In addition, the ultimate cost to the consumer in terms of added transportation costs by use of conventional sized tankers would cause the consumer to pay more for gasoline, heating oil, etc., than he normally would if the economy of large scale transportation were used.

Finally, I would like to say that the Eastern-Gulf location for a deep water terminal off the Alabama-Mississippi coast has proved to be a viable concept, both environmentally and economically. Both the Ameraport Corporation and Ameraport Council have undertaken comprehensive and intensive research which bears this out. Our research also provides us the basis for supporting the Bill before this Committee and we do support its purpose and intent with exceptions as stated in our testimony.

Alabama stands ready to play its role in deep water terminal development and looks forward to the federal-state partnership which we feel is the spirit of H. R. 7501.

Thank you, Mr. Chairman, and Members of the Committees.

Mr. UDALL. Let me ask a question that I meant to ask Mr. Mills and some of the others who have done a great deal of work in this area.

Do you know of any studies that touch on, or would your study touch on, the question of how many offshore ports the country could support? Do we need one for Texas and one for Louisiana and one for Mississippi and one for Alabama and one for Massachusetts and another one off New Jersey. Has anyone studied the extent to which the country could support deepwater ports?

Mr. MOELLER. Yes, they have. As a matter of fact, the Corps of Engineers did a study to this point, which I do refer to and include in the record, Mr. Chairman.

On page 7 of my testimony:

The recently released "Report on Gulf Coast Deep Water Port Facilities—Texas, Louisiana, Mississippi, Alabama and Florida" by the Department of the Army, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Mississippi (June, 1973) supports the Battelle study conclusions by stating at page 111, . . . that transportation savings would support at least two mono-buoy ports in the Gulf located in the vicinity of Freeport, Texas and off the Louisiana coast, and if major refinery growth (on the order of 1.5 million b/d) developed along the Mississippi-Alabama coast, or further east, a third port at the Mobile-Pascagoula site would be supported by transportation savings.

Mr. UDALL. Let me ask you another question which is prompted by that question. It has been my view, based on increasing demand and use of oil not only in this country but in Japan and Europe and elsewhere, that probably the fossil fuel age is going to pass us by in another 10 years if you are pessimistic, and 40 years if you are optimistic. Do you agree with this, No. 1, that even if we build those superports we are going to be using them for perhaps the matter of generation, and second, beyond that their use for us will have expired? And following that assumption, if you make it, can you finance these so as to amortise them and get your return back in that period of 20, or 30, or 40 years?

Mr. MOELLER. Yes, sir. The authorization costs that have been furnished to me by the financial people that have prepared our studies indicate a 10-year amortization on this, so that it could be amortized in 10 years.

Actually, Mr. Chairman, the deepwater port as we envision it, namely, a single point mooring system and attendant pipelines ashore, there are approximately 150 of these in existence throughout the world now. The technology is there. And we estimate the costs of our coast at approximately \$172 million. And with a throughput of a million and a half barrels a day, just as a throughput terminal charge of a nickel a barrel, which I think is a reasonable figure, it doesn't take long to amortize that.

Mr. UDALL. All right, sir.

Do you have any other major point before I turn my colleagues loose on you here with questions?

Mr. MOELLER. No, sir. I think that the points, sir, if I may suggest, are in my printed statement, with the professional studies that have been supplied to the committee.

Mr. UDALL. It is a good statement and we appreciate it very much.

Mr. Bingham.

Mr. BINGHAM. Thank you, Mr. Chairman.

What is the technology of this monobuoy system, a platform and it is not fixed?

Mr. MOELLER. Mr. Bingham, it is a rather large steel container. If you are familiar with some old Navy mooring buoys out in the San Diego Harbor, it might be very similar to those. It is hollow and has a swivel on top. And this is one of the designs which is connected to the ships pumps at the bottom. And we are looking at 120 feet of water approximately. It is connected at the bottom with large family of pipelines, and it goes through this buoy or through this single point mooring system using the ships gear to pump ashore.

Mr. BINGHAM. The pipe rests on the bottom?

Mr. MOELLER. Yes, sir, it rests on the bottom, or it would be anchored to the bottom either in a concrete trench or a trench that had been dug along on the bottom of the gulf. And our studies, when we look at this particular techniques, both the Geological Survey people and the marine biologists looked at the impact or effect of such a trench on the gulf. And they are only temporary.

Mr. BINGHAM. Can it handle more than one ship at a time?

Mr. MOELLER. You could build an interport mooring system, Mr. Bingham, and that could handle more than one ship at a time, although it is contemplated as far as our end is concerned that about

one at a time is about all we would be able to handle from the onshore facilities.

Mr. BINGHAM. On the first page of your statement you referred to the repudiation by several States of plans to build terminals off their shores.

Mr. MOELLER. Yes, sir.

Mr. BINGHAM. Can you tell us what States those are?

Mr. MOELLER. Well, mainly Delaware, sir. I believe New Jersey has also exhibited certain reluctance to have deepwater terminals off her shores.

Mr. UDALL. Our colleague from New Jersey, Mr. Howard, who chairs an Energy Subcommittee in Public Works, has legislation strongly supported by New Jersey residents along the coast that he represents, which would prohibit anyone of these ports, unless the Governor and the State legislature specifically approved. In other words, they would have a veto. And they say there is great respect for that point of view in New Jersey.

Mr. BINGHAM. Thank you, Mr. Chairman.

Mr. UDALL. Mr. Ruppe.

Mr. RUPPE. Thank you. How much oil would have to be imported into a given area or through one of these operational terminals to make it economically viable?

Mr. MOELLER. A minimum amount of imports per day, sir, would be a half a million barrels; 500,000 barrels a day.

Mr. RUPPE. 500,000 barrels would be the equivalent of one of the supertankers?

Mr. MOELLER. No, sir, may I beg to disagree, sir. If we go look at these supertankers of, say, just around the figures of 250 deadweight tons, it is my understanding that this is approximately the tonnage capacity of this vessel. So if you take 250,000 deadweight tons and multiply that by seven, which is a round figure—it is seven-plus—which is the number of barrels per ton—you would end up with quite a bit more than 500,000.

Mr. RUPPE. Then you are really talking about a 1,700,000 barrels a day.

Mr. MOELLER. Yes, sir.

Mr. RUPPE. And the new ones that are going on line and would be in use at the time your port concept reached fruition would probably import per vessel about 3 million barrels a day. Is that correct?

Mr. MOELLER. Yes, sir.

Mr. RUPPE. I have some trouble with my mathematics. So far I stand corrected. But if we take 3 million barrels on one vessel, can 500,000 barrels a day make the vessel viable?

Mr. MOELLER. You asked me, sir, what the minimum requirements were. There are other types of vessels that can bring it in—that is, smaller tankers, the 100 to a 1,000 deadweight tons, which still can't get into your harbors. But your question, as I interpret it, sir, was, what is the minimum amount of throughput per day that would make a deepwater port viable? And that figure is a half a million barrels a day, although from a technical standpoint as far as the ships per se are concerned, we are looking at $1\frac{1}{2}$ million or a 1.7 million.

Mr. RUPPE. About $1\frac{1}{2}$ million?

Mr. MOELLER. Yes, sir.

Mr. RUPPE. And then you would be up to one of these supertankers every other day, or something in that area?

Mr. MOELLER. Yes, sir.

Mr. RUPPE. We are assuming your State would have one out of three ports that would be located on the gulf coast, with the LOOP system in Louisiana, and another in Texas?

Mr. MOELLER. Yes, sir.

Mr. RUPPE. So we need all of the installations when the importation at the gulf coast reached 4 to 5 million barrels a day?

Mr. MOELLER. Yes, it is. May I add to that, sir. We do not see ourselves, that is, in Alabama and Mississippi and its competitors to LOOP and Seadock in Louisiana and Texas. We see ourselves as a part of the expanded refinery capacity which is needed in this country if demand is to be met. If you look at the existing refinery capacity in the United States today as opposed to existing demand, we have to either import finished product or crude, and if we import crude, we have to refine it. As I recall, this was part of the incentive in the President's energy message which did give certain incentives in the form of tax benefits for the importation of crude to be refined in this country. So we see ourselves as a part of the solution, not the total solution, Mr. Ruppe, but as a part of the solution, in providing a climate and environment which can support up to 5,000 grassroots refineries, which would go to the alleviation of the refinery capacity in the United States which the gentleman from Massachusetts also alluded to.

Mr. RUPPE. Just one small question in closing. What would be the length of time a supertanker of 500,000 deadweight tons would spend in one of these ports being unloaded?

Mr. MOELLER. The rate of discharge on those tankers, sir, is approximately 100,000 barrels an hour.

Mr. RUPPE. Thank you very much.

Thank you, Mr. Chairman.

Mr. UDALL. Mr. de Lugo.

Mr. DE LUGO. No questions.

Mr. UDALL. Mr. Cronin.

Mr. CRONIN. On that last comment for a deepwater facility of the type that is proposed, the three proposed, what is the maximum they can take a day?

Mr. MOELLER. I can't answer that accurately, sir, because I would prefer to defer that question more to my colleagues from Texas and Louisiana who obviously are going to take the larger throughput than we would. But I would say that they could go from the broad-based figure, without any degree of absolute research in the area by myself, that they can handle up to 3 to 4 million barrels a day without any great trouble. All you have to do is add another SPM, another buoy there, and you are ready to go.

Mr. CRONIN. And so what you are saying is that even with this 3 to 4 million a day you are only talking about five additional refineries?

Mr. MOELLER. No, sir, I am not talking about that. The refineries in Texas and Louisiana need feed stock. Their current supply of domestic crude is not sufficient to supply their existing capacity. So they have to augment their refineries with feed stock from imports. We have no major existing refinery capacity in Alabama at the moment. They do have some in Mississippi at Pascagoula, the Chevron plant there has a

capacity of about 225,000 barrels a day which I understand are expanded to approximately 300,000 barrels a day. We are in, you might say, the market for a major refinery capacity to be located in the eastern gulf area, both in Mississippi and in Alabama.

Mr. CRONIN. You have made two significant points in your statement from my point of view, one being that we need these deepwater ports, not just to get additional refined products, but to supply existing refinery capacity that no longer has domestic source of supply.

Mr. MOELLER. Yes, sir.

Mr. CRONIN. That is extremely important. The second point is that, if you are talking about the remainder of those imports only supplying five additional new refineries at a time when we need 50 to 60 refineries in the country by 1980, again that is significant. You are talking about less than 10 percent of that total new refinery capacity that will be just able to keep even with demand, being serviced by all the ports of such magnitude, that are now planned, which is an indication that you need substantial deepwater facilities to meet the needs of the other 90 percent or to even come close to meeting the demand that we will have for the next 10 years.

Mr. MOELLER. I agree with you.

Mr. DE LUGO. Will the gentleman yield?

Mr. CRONIN. Yes, sir. I would be pleased to yield to my good friend, the gentleman from the Virgin Islands.

Mr. DE LUGO. We have been using the term deepwater ports. What is the draft of one of these tankers? How deep are these deepwater ports?

Mr. MOELLER. The largest tanker afloat at the present time to my knowledge is the *Glob Tokyo*. The keel was laid in April of 1972, launched in October of 1972 and delivered in February of 1973. It is 447,000 deadweight tons. It draws 39½ feet of water. You need about 15 feet of water under the keel. So we are talking in the neighborhood of 110 to 120 feet. So in terms of balance this is 20 fathoms. And this is the depth of the water that the proposed Ameraport site has. It is on the 20-fathom mark or line in the eastern gulf.

Mr. DE LUGO. Thank you.

Mr. UDALL. Thank you, Mr. Moeller. It is very helpful testimony.

We have scheduled two more witnesses this morning. The Chair would hope that we might finish this morning.

Mr. Hallman, will you come up and summarize your major points as quickly as possible and leave us a little time for questions. And we will try to finish both witnesses before we recess.

STATEMENT OF ROBERT HALLMAN, SIERRA CLUB, ENVIRONMENTAL DEFENSE CLUB, NATIONAL PARKS AND CONSERVATION ASSOCIATION, NATURAL RESOURCES DEFENSE COUNCIL, FRIENDS OF THE EARTH

Mr. HALLMAN. Thank you, Mr. Chairman and members of the committee. My name is Robert Hallman, staff attorney for the Center for Law and Social Policy. I am here today to provide the views of several national, environmental organizations with respect to deepwater port development policy and especially with respect to the administration's proposed Deep Water Port Facilities Act of 1973.

The organizations I am representing and whose views I reflect are the Sierra Club on a national level, the Environmental Defense Fund, the Natural Resources Defense Council, the National Parks and Conservation Association, and the Friends of the Earth. Their combined membership is approximately 250,000. And they are nonprofit groups.

These groups have a very real and substantial interest in the question of deepwater port developments. They have testified before the Senate a couple of times on this issue, and also before this arm of Congress. And they have prepared comments on the Department of the Interior's draft impact statement that related specifically to the legislation before the committee. In sum, they have given a lot of thought to how deepwater port policy ought to be developed and what principles ought to apply to its development. I will attempt to summarize those for you today.

They have also closely examined the administration's proposed legislation. And I have some specific comments on it that I will summarize.

I apologize for not having a written statement. I intend to submit one shortly.

Mr. UDALL. We would appreciate it for the record, because the groups you do represent have important points to make here, and we want to hear them out before we make decisions.

I would caution you that we propose in the next 2 or 3 weeks to try to get some action one way or the other, and begin to reach some conclusions. So the sooner you can provide us with the statement the better it would be.

Mr. HALLMAN. I will endeavor to do it as quickly as possible.

If I could summarize briefly, the theme of any remarks it would be this: It is essentially premature at the present time to discuss licensing deepwater port facilities. It is premature because there are some very substantial issues ranging from energy policy, environmental effects, economic justifications, and coastal zone management, which have not been resolved. We do not have adequate information available at the present time to resolve them. And there is no institutional basis presently available on a Federal or State level to effectively, I think, and intelligently deal with those questions.

The long and short of that position is that deepwater port development ought not to go forward presently until those policy decisions are made, and until the information necessary is obtained, and until the appropriate institutional framework is established to deal with those problems. In effect, we were saying that there ought to be a moratorium for at least a short period of time on the development of deepwater ports in this country. Such action is particularly important in view of the pressure and the interest, as the committee has seen on behalf of many States, and on behalf of many private organizations, to develop ports at various spots around this country, and in fact, off its shores.

With respect to the administration's proposed legislation, we deem it unacceptable. We think it does not take account of the environmental problems posed by deepwater ports development. It does not provide means for effectively dealing with them. It is essentially a developmental piece of legislation. It fails to take into account and provide for adequate planning. It fails to take into account and provide for adequate citizen and State input. The point is that we do not

believe that the administration's proposed legislation in its present form is an acceptable form of legislation, and we would not support it.

In discussing the question of deepwater port development, it is appropriate to keep it in its proper perspective. The perspective must be viewed in view of three basic issues.

First, the energy policy issue, which relates to the notion of substantial increases in oil imports over the next 10 or 15 years. Is that really going to be what our energy policy provides us? Are there any alternatives to that kind of an energy policy approach?

And second, the question are the deepwater ports and the supertankers associated with them economically justified a basic argument made in favor of them is that they will lower the unit transport cost of oil. That may be true. But that is a very small portion of the total economic picture, when you are looking at it from a policy point of view. There has not been in our judgment and to our knowledge, any study of the total economic costs, including social and environmental costs, that would have to accompany any marine transport system that relies on supertankers. Until such a comprehensive analysis is made, which looks at all costs, the costs of constructing the plants, the facilities, the cost of the environmental design features that may be necessary on the supertankers that serve them, the cost of oil containment facilities, the cost of onshore environmental protection devices, we cannot talk about an economically justifiable development of deepwater ports.

And I think it is important in this regard to note that the economic study done by the Council of Economic Advisers attached to the Department of the Interior's environmental impact statement has a very limited focus. It did not take into account all the environmental costs, and points up, it seems to me, the lack of any firm basis upon which to commit the deepwater ports on economic grounds.

Now, the third basic issue is the environmental issue. Are these deepwater ports and supertankers environmentally preferable to some other alternatives, assuming we are going to have to meet certain increased level of imports?

I submit to you that there are very real doubts and weaknesses about the allegations made in support of deep water ports and super tankers. The basic arguments made from an environmental point of view in support of them are (1) that you are going to have fewer ships, and, therefore, you are going to have reduced collisions and perhaps reduced groundings because they will be serving deeper areas and will not be coming into narrower and shallower ports; and (2) that by putting oil offshore, if it is spilled it is less likely to come into the estuarian and coastal areas.

Those two allegations, I think, have weaknesses in them. And they also fail to focus on the major problems posed by the deepwater ports from an environmental point of view.

First, as to the reduced collision idea, it is not at all clear that a reduction in the size of tankers and substituting large tankers for small tankers would necessarily reduce the number of collisions. We know that super tankers are very much less maneuverable and have substantial problems of maneuverability not associated with small tankers. That factor is generally not taken into account in the kind of statistical

analyses that are made to try to demonstrate that you are going to have fewer collisions. And attempts to project how many collisions that you are going to have with a limited number of ships are basically just speculation. We will submit in our written statements concessions to this effect which have been made in several environmental impact statements prepared with respect to tankers by the Federal Government.

Second, it is not at all clear that the number of collisions is the relevant measure of environmental harm that is going to be associated with super tankers. The relevant measure is the amount of oil that is going to be spilled in comparison to the amount of oil handled, it is not the number of collisions per se. And this raises the key point that any collision that involves a super tanker poses unprecedented risk of oil spill, there is no question about that.

Just to illustrate that point, the Maritime Administration in a recent impact statement estimated that if a tanker of 400,000 deadweight tons cracked up 20 miles offshore of Delaware, the resultant damage—the resultant oilspill would affect States as far north as Massachusetts and as far south as South Carolina. And on an economic basis the damage to the economies of the coastal States would be above \$2.8 billion, \$2.8 billion of damage to those economies in eight coastal areas. And that is one heck of a lot of damage. It certainly could never result from the crackup of a 30,000 deadweight ton tanker or an 8,000 deadweight tanker. It is important to keep in mind the unprecedented risk associated with the supertanker accidents aside from whether you are going to have one collision or 20 collisions and reduce the number of collisions with that kind of tanker.

Another point that is not necessarily considered when you are talking about the environmental benefit of super tankers in offshore ports is that there are other alternatives. If there are benefits from putting tankers and tanker facilities offshore, they are not necessarily restricted to using VLCC's on the offshore facilities. What does the alternative of using smaller tankers, the intermediate size tankers, the 80 deadweight tons tankers, for example, at offshore facilities look like when compared to utilizing the VLCC's at offshore facilities? That kind of analysis has not been done. Presumably you would get the same kind of benefits, you would be moving the oil out from the shore, and on the other hand, you would not have the substantial risk that is posed by the huge tankers, you would be using smaller tankers.

And there may be other kinds of marine transport system alternatives. We will detail some of them in our written statement. But these have not been examined in terms of their environmental costs and benefits as compared to the VLCC offshore approach.

Finally, with respect to the environmental problems posed by the deepwater port facilities, the focus on collision reduction and the focus on moving oil offshore overlooks entirely the secondary impact of these facilities, which is an extremely important factor to consider, the onshore development. And with respect to that, virtually everyone concedes, including the Department of the Interior in its impact statement, that this is a major environmental problem that has to be addressed in considering marine transport by VLCC's.

The point I want to make is that the environmental benefits are not at all clear, and that there is a lot more that needs to be done in terms

of analysis and information gathering before we can make the kind of concrete judgment that this is the way to go, and make the kind of concrete declarations that are in the administration's proposed bill as a proposed finding.

Now, against that background the environmental organizations have essentially developed, say, 10 or 11 principles—and I will relate them—that they think ought to be very carefully woven into any deepwater port development policy.

The first one is, really relates to my theme, and that is that should be a moratorium at the present time, at least for some short period of time, not forever. We realize that there are issues here, gray areas. But because of the environmental risk involved there has to be more study before we can permit the kind of onshore port development that has been proposed in Maine and in Puerto Rico and offshore ports being proposed in Louisiana and Texas.

Secondly, to the extent that any development does go forward, it is our view that at least it initially ought to be limited perhaps to a single pilot project. This goes to the point really of how many of these facilities are needed even if we assume that imports are going to grow at the substantial projected rates. There seems to be fairly clear agreement that a very small number of ports perhaps one for each coast, would be necessary. This point is supported by the Department of the Interior's environmental impact statement.

The third point is that in view of limited development, and in view of the substantial policy issues, we believe that serious consideration ought to be given to having legislative, congressional approval, for every deepwater port development that is proposed—not approval on all the specifics, but basically on the concept and the location, and perhaps upon some basic guidelines for development.

Fourth, we believe that the States ought to play an important and substantial role in the development of any deepwater port proposal. In our view, States should have a veto power based upon environmental and economic considerations over any deepwater port proposal that might affect them. And any veto decision should be evidenced by specific findings, and it would be subject to judicial review. So there would be that checkover.

Fifth, there ought to be a uniform regulatory scheme. And this is not provided for in the administration's proposal. We do not need legislation to set up a scheme to regulate deepwater port developments beyond the 3-mile limit only, we need one that affects deepwater port developments throughout all our waters, so that we do not end up with one policy or one set of principles applying beyond 3 miles and one set of principles applying within 3 miles. As you know, the administration proposal only applies beyond 3 miles. In fact, the Puerto Rico proposal is an onshore proposal; it would not at all be covered by the existing legislation.

Sixth, we think a single Federal agency ought to be responsible for overall planning and coordination of development of deepwater port proposals.

And next we believe that the economics, particularly the user charges, the funding of deepwater ports ought to be subject to Federal regulation.

Next, we feel that all existing legislation which applies to navigation, vessel construction, and water quality ought to be applied to any marine transport system even though it is built outside of the navigable waters. Most such legislation is now limited to navigable water only. And serious consideration ought to be given to setting special standards for such construction and oil containment facilities for these deepwater ports and perhaps those ought to be set forth specifically in legislation.

And finally, assuming that some deepwater ports are developed—we would support their being put as far offshore as possible, in view of the fact that the estuarine areas close to shore are among the most vulnerable to oil pollution.

We would also want to insist that any oil that is transported from any offshore terminals be transported not in vessels but in buried pipelines. If you transport it in vessels, of course, you do not have any advantages that are alleged to result from deepwater port facilities, you just multiply the number of small vessels going to and from in a limited area.

And finally, the one last concept, the principle that we would want to have embodied in any legislation is that no deepwater port would be licensed unless there are clear findings made after an adjudicatory hearing of need for that facility; that it is economically justified; that it would result in no significant adverse environmental impact; that all possible means would be employed to minimize those environmental effects; and that no alternatives are available that could reduce the environmental effect of the proposed facility.

If I can just take 3 more minutes I will summarize very briefly the problems we have with the administration's bill.

I think it is probably apparent that it does not meet many of those principles that I have laid out. But let me just touch on a couple of other points that bother us about it.

As I noted, we believe it is basically a developmental bill. And the developmental purpose is made perfectly clear in the finding set forth in section 101.

Secondly, we have some difficulty with the licensing agency selected to administer deepwater port development policy. We have some reservations about delegating this authority to the Interior Department, largely because of its basic lack of expertise with no respect to navigation and vessel construction and port development and operation. It is true that Interior has expertise with respect to offshore drilling risk, but the fervor with which it enforces and looks after environmental problems, I think, is subject to some questions, at least on the part of the people I represent. And in addition it is questionable whether it has the real expertise necessary to administer a deepwater port development proposal.

You might think perhaps about the Coast Guard as a possible agency that could fulfill these needs or in fact set up a new agency to do so.

With respect to the environmental standards in the bill, we believe these are entirely unacceptable. In fact, the bill as written now would not require any balancing of environmental need. You could license a plant so long as attempts are made to minimize adverse environmental effect. That in effect, is a prescription for going ahead with anything so long as some demonstration has been made that we have

minimized harm, not that no harm could exist. That does not appear to us to be a good way to go.

Regarding State participation, again the bill provides only for consultation, not for the kind of substantial and important veto power that we support.

The licensing procedures are far from adequate. There is no mandatory public hearing as I believe was suggested here earlier. Whether a hearing is going to be held is subject to the discretion of the Secretary. And we believe this is a major fault.

Also no burden is placed on the applicant to show that he is going to meet the environmental tests set forth.

And finally, there is no planning aspect to the bill, there is no requirement that plans be submitted 2 years, for example, before the construction begins. They could be submitted a week before. And this, we think, is a failing.

Two other points. With respect to judicial review, some very curious provisions have been included which cut back substantially on the Administrative Procedure Act, particularly as regards grounds for judicial review of a decision issuing a license. In fact, the bill if read carefully, eliminates any kind of review on the basis of a decision not being based on substantial record evidence. Instead, the bill provides for a procedure, which I think is quite novel, to allow a petitioner to go to court to get an order to have the Interior Department adduce additional evidence and have a hearing, but you cannot get a review on the merit as to whether Interior's decision is based on substantial evidence.

Further, the bill precludes review by petitioners in the District of Columbia, although there is provision for review in the District of Columbia by licenses that are upset by a revocation of a license. This does not seem to be quite fair, and we could not support this kind of cutback on the judicial machinery necessary to overlook deepwater port development.

With respect to enforcement, we think it is not nearly strong enough. The civil penalty provisions are not mandatory, they are solely discretionary, and they clearly ought to be mandatory.

Finally, there ought to be a provision for citizen enforcement as there has been in most environmental legislation enacted since 1970, and that is lacking in this legislation.

Thank you.

Mr. UDALL. Thank you, Mr. Hallman, for a very keen analysis of this legislation. I have been urging the environmental groups for many weeks and months now to give this important legislation some attention and give us the benefit of their input into this thinking. And you have done that exactly today.

And I certainly want to consider personally the points that you have made. I do think that in most of these major environmental and energy bills that we have been considering this year that adequate participation in all stages is important. We are doing this with surface mining legislation. And I think this is something that strengthens it and gives a broader national consensus when we finally do move forward that people in the local area and people in the country have been considering.

So I would hope again that if you have specific language, specific suggestions, with regard to any of the sections of the administration's bill, that you give them to us as soon as possible.

I also like your idea, in fact, it occurred to me earlier, of legislative approval of each one of these proposals. Where we have a Federal program involving the hundreds or thousands of individual installations, I am not sure that is feasible. But we are talking here at the most of 6 or 8, or 10, and probably considerably less than that, of these major offshore super ports. And it seems to me, after the application has been acted on and after we know the details of the proposal, that we could have a period of time of 120 days or 90 days or some reasonable period of time, after which that matter would lie before the Congress, and the committees of the Congress or the Congress itself would either affirmatively or negatively approve it, so that there would be that safeguard.

And that leads me to the final comment I wanted to make. You suggest that we have a brief moratorium, that we not go forward until we have made some studies and answered some of the questions you have raised. It seems to me, however, that the structure of the bill itself provided for a moratorium. If we were to pass this bill out of the subcommittee this morning, it would be 3 or 4 months in any event, before the Congress as a whole approves the bill and the President signs it. And then you would have to have an application, and some one has to come in and apply to the Secretary of the Interior for a permit to build one of these things. And you then have to have environmental impact statements, and you would have to have all the studies made by the Interior Department. And in effect you have built into these situations a moratorium of a couple of years, I would suppose, before the first one of these would be under construction. Does not this application procedure—the environmental impact study and the submission of any application that is approved to the Congress—by its very nature provide the kind of moratorium you are asking for?

Mr. HALLMAN. Certainly, the bill in its present form would not provide for a moratorium. First it would not cover deepwater ports built within 3 miles of shore. The Puerto Rico Port could go ahead and not be affected at all by this legislation. And also, there is nothing in the bill right now that focuses on the basic policy issues that I am suggesting are extremely important. There is no requirement for a finding that the port is needed. And there is no requirement that it is economically justified.

Mr. UDALL. My point is, would not all of that occur in the course of 2 years while LOOP or Seadock had their applications pending? Would not the Interior Department have to go in and answer all these fundamental questions before an application were granted?

Mr. HALLMAN. Not on the basis of this bill. Let me also say that it seems to me that going ahead and setting up machinery to license and getting people geared up to accept licenses really does involve some commitment to that principle. And I suggest that we are not at a stage to set the machinery in motion that this bill would set in motion.

Mr. UDALL. I would not assume that when you set up a licensing procedure the assumption is that you are going to grant everybody a license, particularly with something this large and complex.

Mr. HALLMAN. But even if you assume that, maybe that is not going to be true. The kind of studies that you are talking about would be studies in the context of specific proposals, that would not be overall national policy kinds of studies, the kind of more cosmic look at this question that is necessary. And this brings up the point that you emphasized before that I think is so crucial, that the fossil fuel age may be behind us. We are really talking about here a short-term energy supply problem to which there may be other alternatives—energy conservation, for example, domestic development of the fossil fuels, and other kinds. A national energy policy may render deepwater port proposals obsolete—if a hard look is taken, it may lead us to the conclusion that deepwater ports and supertankers are not necessary, and to invest in such development now—which may have only economic lives of 20 to 30 years—could seriously prejudice a reasoned analysis of national energy policies and choices.

Mr. UDALL. We have a quorum call.

Let me ask my colleagues, is it our desire to have the witness back at 1:30 p.m.? I am going to conclude the hearings today in any event.

We will recess, then, until 1:30, Mr. Hallman, to continue our questioning. And after that we will hear Mr. Soler.

The subcommittee will stand in recess until 1:30.

[Whereupon, at 12:30 o'clock p.m., the hearing was recessed, to reconvene at 1:30 p.m., this same day.]

AFTERNOON SESSION

Mr. DE LUGO (presiding). Let the record show that I am presiding at the request of our distinguished chairman of the subcommittee, Mr. Udall, who is a member of the conference committee that is meeting at this moment on the Alaskan pipeline.

When we recessed about 12:20 this morning, Mr. Hallman had just completed his testimony.

And I would like to commend you, Mr. Hallman, on your statement. I thought you brought out a number of problems that I am sure are on many of the members' minds regarding this legislation. I know that they are very much on my mind, because the talk of superports is prevalent in my area, in the Caribbean. And I am looking forward to hearing from our next witness following you, Mr. Soler, who is from Puerto Rico. I believe you brought out and other witnesses mentioned that there is a possibility of a superport being built down in that area.

I do not believe I have any questions at this time, other than to commend you on your presentation. And I would like to yield now to my colleague from Massachusetts, Mr. Cronin.

Mr. CRONIN. Thank you, Mr. Chairman.

I have several points and questions.

There are several parts of your testimony which bothered me. One is your comment on whether or not tankers are economically justified. It seems to me that you were talking about the straight economics involved with the tankers, the building of the tankers and the use of the tankers; is that correct?

Mr. HALLMAN. In considering whether or not the use of supertankers is economically justified, we look at it from more than a simple

narrow economic focus, that is, the unit transport cost, and include all the cost likely to be associated or committed to that kind of a marine transport system. What I am really saying is that, first, to intelligently assess the economics of that system you must look at more than the unit transport cost, and if you look at more than the unit transport cost, what do you see? I am suggesting that we really do not know what we see and that nobody has taken a full look at all the economic costs—and by that, I mean to include costs of environmental protection that may be required to build an acceptable system.

Mr. CRONIN. What are you alluding to when you say that, the proper environmental protection that will be needed to build this entire system?

STATEMENT OF ROBERT HALLMAN, SIERRA CLUB, ENVIRONMENTAL DEFENSE FUND, NATIONAL PARKS AND CONSERVATION ASSOCIATION, NATURAL RESOURCES DEFENSE COUNCIL, FRIENDS OF THE EARTH—Resumed

Mr. HALLMAN. I am alluding to such things as designing tankers with double bottoms, double hulls, twin screws, and lateral thrusters, and those kinds of things which will certainly increase the costs of these facilities but there would be substantial environmental benefits associated with their use.

Also, the costs of developing adequate oil containment systems should be included in any report. For example, the monobuoy, which appears to have the support of most of the administration at the moment, presently, under the existing technology, as I understand it, cannot be adapted to—no oil containment system that we know of now can work in that system. Therefore, I would think that that system is unacceptable at the present time until we look down the road to what kind of technology we are going to develop to contain oil spilled with that kind of a system, and then factor that cost into a system that uses monobuoy, and then see whether it costs less under that system as opposed to some other energy system.

The other point I was making is, assuming there is going to be some economic benefit, what is this going to mean to the consumer? And I do not know what it is going to mean to the consumer. If it is going to mean a cent or two on a gallon of gasoline, is that something that an educated consumer wants to get in terms of what may be the adverse effects that will result from that kind of system?

Mr. CRONIN. Several points along those lines. First of all, apparently we have different sources of information, because I have seen evidence that I do not have here in front of me but which could be backed up by information in my office on containment with monobuoys. Also I find that it is rather interesting that we would have somebody testifying before our committee that would take a very different approach to whether something is economically viable or not than has ever been taken really in the history of the country. In the past the determination of whether something is economically viable is generally made by the person who is making the investment within the constraints and restrictions that the Government sets down to protect the interest of the consumers at large, including environmen-

tal interests. Now, agreeing that the Government has adequate safeguards and rules and regulations that must be met to protect the environment, that somebody would then invest the hundreds of millions of dollars that it takes to build supertankers as a lark, without having economic justification to do so, seems to me to be absurd.

Mr. HALLMAN. Not as a lark, but under the same apprehension and misapprehension industry had about the Alaska pipeline. This is the same old problem of the failure to take into account the environmental costs in the economics of businessmen.

And let me refer you to the Nixon energy message in which he talks about an expanded view of economics, and precisely states that when we were looking at economics you have got to consider environmental cost. And if you want to call it new economics and more socially oriented economics, whatever it is, it is something that is coming into style now and it is essential to take that kind of a broad look. And it is precisely because the businessmen will not take that look that we need an agency in the Government that will take it and look at all economic factors and, therefore, make that policy judgment outside the narrow confines of the businessmen in the board of directors room.

Mr. CRONIN. I think completely differently. We have a responsibility to protect the environment. I do not think you and I disagree with that. The other part where we begin to disagree is in the approach to do it. I think, quite frankly, this difference is what is defeating the environmentalist's point of view more and more. The environmentalists came on the scene 5 or 10 years ago with some very real concerns, and if they had not been brought on the scene at that point, it probably would have resulted in many disasters by now, just because of the way things were going and the way we were progressing as a society. They met very stiff opposition from the business community and also from the Government. We wound up with a polarized situation. We had environmentalists on one side and business, including the energy concerns, on the other side. But what has happened is that in the intervening period of time there has been a considerable amount of technological development. Today environmentalists are still taking positions that are diametrically opposed to the technological changes that have taken place, particularly in the last 3 years. They are guilty of the same sin that they accused people of 5 or 7 years ago; not doing their homework. We are finding this more and more in testimony, not only for this committee, but in the other subcommittee in which I sit, the Subcommittee on Energy of the Committee on Science and Astronautics.

One of the points you made earlier in connection with these ships was the maneuverability which makes them much more difficult to operate. Your assumption was that you would wind up with the potential for greater collisions, because they are more difficult to maneuver. I think nothing could be farther from the truth. The electronics systems that are in these ships today, the anticollision devices, are incredible. I only wish that the economics of the situation forced a lot of these smaller tankers that are a real danger and hazard to our environment, to have this type of anticollision device. If we did, we would be cutting down our collision incidents substantially. But that is just one example of a technological change not fitting into this equation.

Mr. HALLMAN. I think I take issue with the notion that the environmentalists are looking away from technological change that might benefit the environment. Quite to the contrary. All the things that I have suggested as possible means for improving the vessels are available, they are simply costly, and, therefore, they were being ducked by the industry.

On the economics point, I would like to point one thing to your attention that might perhaps reduce somewhat your sense that I am sort of preaching some new economics. In the Department of the Interior's draft environmental impact statement they purported to do an economic analysis of a deepwater port system using VLCC's. They conceded that they left out a lot of environmental costs that should have been included, and, therefore, it is limited in that regard. I think that is a major failure. But even accepting that for the moment, under one of their assumptions, as a minimum cost approach, they conclude that if tankers that use the VLCC's were forced to have double bottoms—and that is available technology—that could substantially reduce the environmental risks associated with tankers—deepwater ports would not be economically justified. And that is at page B-43.

Mr. CRONIN. What was the price a barrel of oil at that point in time?

Mr. HALLMAN. I do not know what it was.

Mr. CRONIN. That is a significant point. You should know that if you are going to follow through and maintain this argument. You cannot maintain your point of view if and when that statement was made the price of oil was \$2 a barrel and today it is \$6, and by the end of 1980 it is \$10. Our costs are being affected by the countries that are exporting this oil, countries that we cannot control. Hasn't OPEC raised the price three times in this year alone? It is going up again. And once those prices go up, the whole structure on which you are basing your entire argument begins to fall apart, because the more expensive the oil becomes, then the more economic benefit that we can get. Quite frankly, the more the economic system can then afford to pay for the protective devices to insure our ecological integrity without affecting the price of oil to the consumer adversely.

Mr. HALLMAN. The variable I am talking about is not the price of oil per se that may be affected by what OPEC does. I am talking about the variables associated with looking realistically at what the environmental costs will be of utilizing a particular marine transport system. I am saying that that aspect of the economic equation has been neglected and not adequately analyzed and factored into the equation. It may be that once you look at that that you come out with a judgment that VLCC's are not economically justified. I am not taking a position one way or the other. But I am trying to point out a serious error in the way the problem has been looked at today.

Mr. CRONIN. I will just rest my case on the fact that you cannot take a set of figures based on a baseline that has changed drastically in recent years.

Before we get too far along, one of the points on which I agree with you substantially is on having a uniform regulatory system. I think that is the essence of the solution of the problem, quite frankly; having a uniform regulatory system. The Federal Government has the responsibility to set regulations that are effective, so that we can meet

these concerns, but which at the same time would require firms to use them, for example, in the North Sea oilfield which is in the first phase of drilling, companies could be utilizing a new technology but they are not doing so because they were not made to do it. If required to do so, they could, economically, for it is economically feasible.

You have made two points that I am concerned about. One is, that any development be limited to a single pilot project. I do not understand that as one of your criteria, when we already have many of these monobuoys in other systems operating in other parts of the world today. Why would you limit it to just one here when we already have existing experience in other parts of the world by which to judge?

Mr. HALLMAN. First of all, it is not clear that the monobuoy system is the one that we would decide is the most appropriate, based upon environmental considerations. There are other alternative ways of dealing with the deepwater port problem. It is not all clear to me that the experience with foreign monobuoy systems is sufficient experience upon which this country should make a basic commitment to have 50 or 100 monobuoys strewn along the coast.

Mr. CRONIN. What do you think is a sufficient experience?

Mr. HALLMAN. I think at least a substantial amount of time operating with a particular pilot project.

Mr. CRONIN. What period of time?

Mr. HALLMAN. Whatever would be reasonable. A couple of years is perhaps sufficient time.

Mr. CRONIN. We have had plenty of them operating in the world longer than 2 years.

Mr. HALLMAN. Again, I am not certain that they are operating under environmental circumstances or under the kind of restraints that we would like to impose. They may not be operating in the kind of environment or under the kind of restrictions that we want to see imposed and utilizing the kind of environmental protective devices that we want to test. Do we want to adopt other nation's antipollution laws, if they have any, as a model for ourselves? I think not.

Mr. CRONIN. But do you not think it is reasonable to look at the means of how these different monobuoys and other type systems have operated during that 2-year period and longer?

Mr. HALLMAN. Yes.

Mr. CRONIN. As opposed to restricting ourselves to one? I think a more intelligent approach would be to look at these differences around the world and see if they have created any potential damaging situations. If they have, correct that potential danger in our law; and if they have not, recognize that in our law, as opposed to just building one and delaying the process for many more years, when we already have existing experience throughout the world to judge by.

Mr. HALLMAN. We disagree. I think that such experience probably is relevant, but I would not want to rely entirely on it in developing a policy for this country. I think the monobuoy system has some substantial problems, as I pointed out. In fact, Russell Train, chairman of the Council on Environmental Policy, testified before the House Public Works Committee a few months ago that no monobuoy system ought to be set up in this country until we developed oil containment technology capable of dealing with oilspills utilizing that facility. That has not been developed by any other country.

Mr. CRONIN. The last point I want to make is on the need for a moratorium for more study. I could not disagree more on that. I think that is mainly why we have the problem today. I think that particularly in the last 10 years the decisionmakers at every level, not just in the Government but in industry and a lot of other areas, have just failed to make decisions. They have not had the courage to stand up and do the careful analysis that is needed and then make decisions. This lack of decisionmaking is what has created a substantial amount of the problems today. To me a moratorium is just an additional step along that road. We have incredible amounts of information. What we need is just some analysis of that information that will encourage us to make some decisions, in my considered judgment.

That is the end of my questioning, Mr. Chairman. Thank you.

Mr. DE LUGO. Thank you.

I would like to again compliment you, Mr. Hallman, for your statement. I think it has given us a lot of food for thought. And I am particularly interested in a number of your specific proposals for this legislation.

I must say that I too am curious about your proposal for a moratorium, particularly since I think if I am correct, you said that one of the things that should be done first is for the United States to adopt a comprehensive energy policy. Did you not say something like that?

Mr. HALLMAN. I think that is a prerequisite, yes.

Mr. BINGHAM. Knowing the way the Government operates, I think that that is an unrealistic condition to impose. Although I would like to see it and I think we ought to be pressing ahead in many directions, but I believe as a practical matter, as a matter of 6 months or a year or 2 years, or even 5 years, we are not going to have a comprehensive energy policy of the kind that you are talking about. There are too many variables, and too many unknowns, in addition to the simple inefficiency of the Government in arriving at that kind of a complex and difficult position.

I also have some doubts about your pilot project approach, perhaps for another reason, that I am not sure that a pilot project in a situation of this kind would mean very much, because what you are talking about here are steps to be taken that we hope would make an installation of this kind virtually foolproof. Odds of a hundred to one against an accident are not enough in a situation of this kind. But for a pilot project to survive perfectly safely for a period of a couple of years is no trick. So that I would not be terribly impressed with a record of a safe operation for 2 years. And I agree with the gentleman from Massachusetts, I think whatever experience has been had is certainly relevant. And I would suppose too that on many of the questions you raise the answers will depend on the given circumstances. For example, the comparison of the environmental danger in one situation as between offshore and inshore may be entirely different from another situation. I think you would have to concede that. And if you could substitute, for example, offshore facilities for the Puget Sound reception center that is contemplated for the Alaskan oil, obviously some great hazards would be avoided. There may be other situations where that would not be so. And I imagine the economics of it will differ largely too from one case to another. So I agree with you that I think we must write standards into the act that probably are not there,

criteria and procedures that would increase the safeguards. But I think we have to face up to the problem now as the gentleman suggested.

I suppose I have no questions. That is just by way of comment.

Mr. DELUGO. I thank the gentleman from New York.

Mr. RUPPE.

Mr. RUPPE. Thank you very much. In your comments this morning you had a number of specific recommendations. Are these based upon an observation on your part or a premise that we can maintain the present nonsupport volumes at existing levels, or are you willing to concede that even in the support area we are going to have to increase oil imports into the United States?

Mr. HALLMAN. They are not based on any particular projected level of oil imports. Rather, aside from the moratorium suggesting we are saying that if there are going to be increased imports, if that happens to be the fact, if that is what energy policy leads us toward, then the principles I have described ought to govern development of deepwater port policy.

I might say, on the notion of a comprehensive energy policy, that certainly would be the ideal if we could go that far. But very much short of that, a lot more could be done than has been done, including simply taking a realistic look at what the alternatives are that are available today to oil imports. And I would suggest that this has not been done. And the best illustration of it not having been done is in the Department of the Interior's draft environmental impact statement. And in that statement they make the very point that projections of energy are the key to whether the super port ought to be built or not.

Mr. RUPPE. With your projections in, do you feel that we will increase our energy imports by a million or a million and a half barrels a day in the next several years or do you feel that present projections can be changed around and we can maintain present levels?

Mr. HALLMAN. It is our belief that based upon our reading, and probably the same information that you have, that substantial fat exists in a lot of the import figures. You can go from high to low, and the Department of the Interior does go from high to low.

Mr. RUPPE. Do you think that present levels of imports could be maintained without significant increases in the next 5 years?

Mr. HALLMAN. That is a virtually impossible question to answer. I think that the rate of growth in imports could probably be affected significantly by varied and quick energy conservation measures, and by developing other domestic sources of fossil fuel. I do not know what the environmental tradeoffs might be of those things. A comprehensive cost-benefit analysis, including environmental costs of alternatives, has not been done. If you look at what the Department of the Interior has presented as a basis for going ahead with this legislation: they took oil import figures based on no stimulation of domestic resources, the worst case situations in each case. They made no projections based upon what I would consider to be a more realistic more realistic approach; namely significant development of domestic resources. Where would we come out in terms of oil import projections under this set of assumptions? How far in the future are we really talking about relying on 25 or 30 or 40 percent of our needs being imported?

Mr. RUPPE. Is the moratorium proposal based on an ability to do that while still importing more oil, or is it based on a premise, frankly, that we would have to maintain import levels close to what we have reached today? Can we carry out this wait and see study and still import more oil, or are you basing this on a promise that we would have to restrict the level of oil imports to the level that they are today?

Mr. HALLMAN: I cannot say that I am basing it on either one of those premises. I am basing it upon, I think, informed suspicion about facilities. And I just really have not seen—the organizations that I what the projections are that underlie the need for deepwater port am representing are frankly a little disturbed about the validity and the basis for the projections and whether they are based on realistic examination of alternative energy policies. You will find in virtually every impact statement; for example, that has been written regarding energy policy decision that alternatives cannot make a dent in our energy needs; but when an alternative is the subject of the impact statement, it suddenly becomes a major answer to energy needs. There really is, I think, a basic lack of a comprehensive and objective analysis looking at all the alternatives that are available in short term today and their impact on oil imports.

Mr. RUPPE. As far as a study or pilot program as to the validity of a deep water port program in this country, would there not be enough experience or enough study already on the books and already carried out in Europe or Japan to give us some pretty good technology on which to base the permit or licensing program in this country for similar deep water ports?

Mr. HALLMAN. This point was raised by the Congressman from Massachusetts. And my response is that although that experience is relevant, it is too limited to rely on—first of all, it is limited to a particular kind of technology that is, monobuoys, with respect to which some questions have been raised, as I pointed out earlier, by Russell Train, as to its environmental impact.

But secondly, there are alternative ways of dealing with the deep-water port system. And I think these ought to be explored on a pilot project basis here before we go ahead and rely entirely on foreign experience that frankly, I doubt has been carefully monitored and could provide much reliable data for use here.

But maybe the important point to make here that I failed to make in response to the Congressman from Massachusetts, is that while there may be some experience with monobuoys there has been very little experience with very large tankers. It is true that they are rapidly becoming more and more numerous, there are greater numbers of these on the oceans. But if you look at the data basis, for example, of those studies that are done of collisions that may be advised by the Council on Environmental Quality, and if you look at the environmental impact statement that the Interior Department prepared, they concede that they have virtually no data that can give you an intelligent judgment about what is going to happen if you go to super-tankers.

Mr. RUPPE. Is there any suggestions or study or evidence to date that increasing the size of the tankers increases either the likelihood of ecological damage or the likelihood of collision?

Mr. HALLMAN. Yes, there is. The first point is that everything that I have seen points out that the large tankers are much less maneuverable than the smaller tankers. And unless they are equipped with equipment that is available but not put on them, they have substantial problems of maneuverability. And they take substantial time to stop.

Mr. RUPPE. Are there any statistical results—any insurance studies, if you will, based on actual greater numbers of collisions or greater numbers of casualties at sea because of the size of the tanker? Is there any proven correlation?

Mr. HALLMAN. There is none presently, for the reason that, as I said before, that we have very little experience. And it is precisely that kind of experience that I think we need to develop. As to whether or not they pose an unprecedented risk, there is evidence, as I stated this morning, that appears in the environmental impact statement of the Maritime Administration. And they estimate \$2½ billion worth of damage to the east coast of this country if a major tanker cracks up.

Mr. RUPPE. I yield to my colleague.

Mr. CRONIN. One point that I would like to make, and I started to make it before, is one the electronic devices that are on these new ships. I beg to differ completely with you that these are not required on the new ships.

Mr. HALLMAN. What devices are you talking about, collision avoidance radar systems?

Mr. CRONIN. Not only collision avoidance radar systems, but complete guidance systems with automation that run these ships 90 percent of the time that they run. These are required.

Mr. HALLMAN. By whom?

Mr. CRONIN. They are required not only by the United States, but our shipping interests. They are also required by various ports where these ships enter. The ships are not allowed to come in without them. Brussels is one very good example. Brussels has some of the most stringent rules going for the radar guidance of ships coming in and out of their ports. Without the devices on the ships the ships simply cannot come to those ports and unload. It is as simple as that. The ships, if they do not have the guidance systems on them, are useless, because they cannot enter the places where they want to discharge their cargoes.

Mr. HALLMAN. I must be looking at it or talking to different people than yourself, because I am not aware—in fact I have had fairly close contact with the Coast Guard regulations and the Maritime regulations in this country, and as far as I understand it, there is no requirement in the United States that a ship entering its port have a particular kind of collision avoidance radar system or any kind of radar system.

Mr. CRONIN. It depends on the ship.

Mr. HALLMAN. As a matter of fact, we have just finished working out a settlement with the Maritime Administration where we obtained their agreement for the first time to require collision devices on ships subsidized by the United States. In terms of other maneuverability devices, there are absolutely no requirements that they have double bottoms or twin screws.

Mr. CRONIN. We are talking about maneuverability. What I am saying is that you have to recognize that a mass that size is going to be more difficult to maneuver than a much smaller mass. That is simple

logic. But for you to then take that assumption and say that this creates danger, I think, is false logic, because you fail to recognize the electronics that are required in ships of this size to maintain their protection. I would be prepared to give you the names of firms that do this, and some of the ships that they are on today. And I am sure that you will find that every large tanker is equipped with this today, there are no major tankers in the world today that are not utilizing this equipment. Again, getting back to your economic argument, they simply cannot afford to not use it.

One other point. On the information that has been given to you, the source you always quote is the Interior Department. So far as the demands of energy in the United States are concerned, we have many other sources. They tend to substantiate rather than overturn many of the points of view so far as our energy demands are concerned and the alternatives. The Joint Atomic Energy Committee is one very good source that is concerned with not only nuclear power but all sources of power. Have you had a chance to review Jack Bridges' demonstration?

MR. HALLMAN. No, sir, I have not.

MR. CRONIN. I would suggest that you contact the committee and see if you could take in that presentation, because I think it is extremely well done so far as the demand curves are concerned and the various alternative sources of supply. Many of us who are Members of Congress, and everyone on this committee, I believe, has had the chance to see that. As a member of the Energy Subcommittee of Science and Astronautics, I know we are getting additional sources of information all the time. Quite frankly, when you start talking about conservation of energy—of which I am 100 percent in favor, and I have sponsored many pieces of legislation dealing with this subject—even if you consider all of our conservation of energy, considering that we could train the consumers so that they would all consume to the maximum amount possible in a sound, conservative manner, the net impact on our total demand is negligible looking at the demands throughout the rest of this century. I know we are looking at other sources of energy besides fossil fuel, and we are actively involved in a program in solar energy.

The Subcommittee on Energy has, for example, had testimony on using a solar generator in outer space in a fixed orbit satellite. We were told that they would send up a test model on the first space shuttle and hope to have the working model by 1980. The committee felt this was so important that they asked if the test model could not go up in one of our Apollo flights in 1975 or 1976. The scientists responded, yes. The committee went on record as asking NASA to do this. And NASA agreed. This means that we can have a working model in the sky by the first Space Shuttle in 1984 or 1985.

Congress is taking significant steps in providing alternative sources of energy in an ecologically pure manner. To fault us for not considering them, I do not think is fair. Most of the members on this committee and other committees in Congress that are concerned with energy are devoting a major portion of their time to not only looking at the demand but to conserving and coming up with new supplies.

MR. HALLMAN. I would like to commend you for those efforts. And I never intended to criticize the Congress or anyone else for looking

for alternative sources of energy. I think that is critically important. All I am trying to say is that when you come down to consider the energy policy implications of committing to deep-water ports, as you know, there are some energy policy assumptions in there, and I want to make sure that those assumptions are assumptions that are based on facts and objective analysis of alternatives that are available and not upon someone's developmental objectives that would not necessarily be the same as yours.

Mr. RUPPE. I believe you indicated this morning that we should reevaluate or make some pretty good economic evaluations as to whether these super ports are needed. Who should make such evaluation?

Mr. HALLMAN. I did raise the question, and I think it is a question in our mind, as to whether or not the economics of deep water ports has been adequately analyzed. And what I mean really, by that—I expanded on this a little before—was looking at simply more than the unit transport costs, considering all the costs of environmental protection devices that might be necessary to put that system into being, considering the total package of environmental and social costs—

Mr. RUPPE. What you are really saying is that it is not simply the cost to any organization putting a project together, but you are in effect broadening that to question the economic costs in terms of pollution controls that may be needed ashore, the impacts of zoning and land restrictions, and all the attendant economic problems?

Mr. HALLMAN. That is correct, what are the possible costs associated with cleaning up a spill? And again, I would refer back to the Interior statement. These costs are recognized, but they say, we do not have any projections of those costs at the present time. But there are projections available.

Mr. RUPPE. Would not the operator be responsible for spills and for all the problems attendant to an unloading disaster?

Mr. HALLMAN. I would certainly hope that they would, yes.

Mr. RUPPE. The reason I am getting at it, if they are willing to assume that responsibility, and go ahead with the project, I would say, is that not economic justification enough in itself?

Mr. HALLMAN. I would really have to say not, and I would disagree with that approach. A large part of the environmental problem today has been the failure of industry to take into account the environmental costs that might be associated with their activities. And they say that these costs can be ignored. But they cannot. It is as simple as that. Whether they are going to be responsible is one thing. Whether in fact the public wants to take the risk of building a plant and building a deepwater port which has inadequate pollution control devices associated with it because they cost money, which has vessels utilizing it which are not built in an environmentally sound design, is a question, I think, which rests in the hands of Congress. And I think that the people that are responsible, in considering legislation of this kind, ought to be aware of all the costs associated with these developments and take those into account in setting up procedures and committing to a particular transport system.

Mr. RUPPE. Thank you, Mr. Chairman.

Mr. DE LUGO. I thank my colleague from Michigan. Mr. Hallman, you have made an excellent witness and have brought out many fine points here today. And you have been very provocative.

I must agree with my colleague from Massachusetts that it would seem to me that simple economics would mandate that these super tankers would have the sophisticated collision avoidance system just to protect their huge investment. But if that would not mandate it, then I would feel that perhaps it should be mandated by legislation, that this sort of equipment be aboard each tanker when they come into American ports.

I believe that this morning you raised the question of possible input by the Coast Guard. You felt that the Interior Department might not have the expertise in the question of super ports, and that there should be more input by the Coast Guard. Would you comment on that?

Mr. HALLMAN. That is a fair statement of what I said. We are concerned at this time about establishing planning and overall authority for deepwater port development in the Interior Department. And we believe that perhaps a more broadly based environmental agency, and one with expertise in the particular areas of navigation, vessel construction and port development and operation, might be better suited than the Interior Department to carry out that basic function. It is not to say that Interior would not have some part to play in the scheme. But we think it might be desirable to think about perhaps the Coast Guard or developing a new agency to deal with this problem.

Mr. DE LUGO. Well, Mr. Hallman, thank you on behalf of the committee for your testimony. It has been very helpful.

Mr. HALLMAN. Thank you.

There is just one point I would like to clear up for the record, both your point and that of the Congressman from Massachusetts, about expecting tanker owners and operators to have the best possible pollution protection equipment that would prevent them from losing their vessels or cargo. I would think that most reasonable men would believe that that is the way they would act. And that was the assumption I had until we became involved in litigation with the Maritime Administration about a year ago looking into their tanker construction subsidy program. They subsidize large numbers of tankers for use in our merchant marine. And it became known to me that the largest tankers being built in the U.S. shipyards by Bethlehem Steel Corp. and Seatrain Shipbuilding Corp.—these are 265,000 and 225,000 deadweight tons—were not designed with anticollision radar systems or other devices to improve maneuverability; yet the subsidies were approved anyway. So that raises some question in my mind as to whether or not the business community is acting as a reasonable man might think they would act.

Mr. CRONIN. Are you saying that these ships are plying the seas without these safety systems?

Mr. HALLMAN. I think they are being constructed and paid for and operating without them. I would be glad to supply you with documentary evidence of that if you like.

Mr. CRONIN. I would appreciate that. But I would also question, if that had any validity, whether those who owned them could put those ships in the water and run them without this type of system on them. I will not dispute your information on this point, that they do not become a liability until they are on the seas.

Mr. DE LUGO. Thank you, Mr. Hallman. We would like to have that information from you. It will be helpful to the committee.

[The information follows:]

CENTER FOR LAW AND SOCIAL POLICY,
Washington, D.C., October 11, 1973.

HON. MORRIS K. UDALL,
*Chairman, Subcommittee on the Environment, Committee on Interior and Insular
Affairs, U.S. House of Representatives, Washington, D.C.*

DEAR CONGRESSMAN UDALL: I have enclosed copies of my testimony before your subcommittee on October 1, together with an addendum arising out of questions posed during my testimony and comments of the environmental groups I represent regarding the Department of Interior's Draft Environmental Impact Statement on Deepwater Ports. I would appreciate your placing all of this material in the record of the hearings on H.R. 7501.

Very truly yours,

ROBERT M. HALLMAN.

TESTIMONY OF ROBERT M. HALLMAN, ON BEHALF OF THE SIERRA CLUB, ENVIRONMENTAL DEFENSE FUND, NATURAL RESOURCES DEFENSE COUNCIL, NATIONAL PARKS AND CONSERVATION ASSOCIATION, AND FRIENDS OF THE EARTH

Summary of Positions

The basic positions set forth in the testimony are as follows:

- (1) Development of deepwater ports to accommodate supertankers should not be permitted to proceed (a) until fundamental questions of need and environmental effects are resolved and all reasonable alternatives are explored, and (b) until a coordinated policy for management of the coastal zone is established;
- (2) Any deepwater port development undertaken should proceed cautiously and perhaps be limited to a pilot project in the first instance;
- (3) Since only a limited number of deepwater port facilities appear ripe for consideration within the near term, it may be appropriate to have specific congressional approval for each facility, rather than leaving this determination to an agency;
- (4) State and regional authorities should be directly involved in the planning process and they should retain the right to reject any deepwater port project on land use planning and environmental grounds;
- (5) There should be a uniform scheme of regulation applicable to all deepwater port projects whether located within the territorial sea or on the Outer Continental Shelf;
- (6) A single federal agency should be responsible for overall planning and coordination of deepwater port development;
- (7) Financing, ownership and charges for use of deepwater facilities should be subject to governmental regulation;
- (8) Authority to regulate vessel design, to provide for vessel traffic services and port systems, and to provide pollution abatement plans and systems, should be extended to cover deepwater port construction and operation outside the territorial sea;
- (9) Deepwater port facilities should be located and isolated offshore and at a substantial distance from bays and estuaries;
- (10) Transport of oil from offshore terminals must be accomplished by buried pipelines rather than small tankers and barges; and.
- (11) No deepwater port project should be approved unless, following an adjudicatory hearing and based on record evidence, it is concluded that (a) the project will not result in significant, adverse environmental effects; (b) no alternatives are available which would minimize unavoidable adverse environmental effects; (c) all possible means will be employed to minimize adverse environmental effects; (d) the project is consistent with applicable coastal zone management and land use plans.

In light of these positions, H.R. 7501 is evaluated and deemed to be unacceptable. This legislation, in its present form, appears designed (a) to facilitate rather than to plan for and regulate deepwater port development and (b) to limit challenges to such development. It wholly fails to create an adequate regulatory framework which would provide for coordinated, planning approach to deepwater port development, taking into account all relevant economic, social, political and environmental facts; meaningful protection against environmental harm; and effective citizen or state input into the decisionmaking process.

I appreciate the invitation to appear before the Committee today to provide the advice of the Sierra Club, the Environmental Defense Fund ("EDF"), the

Natural Resources Defense Council ("NRDC"), the National Parks and Conservation Association ("NPCA"), and Friends of the Earth ("FOE") (all groups collectively referred to hereinafter as the "Environmental Groups") with respect to H.R. 7501 (the "Act").¹ I have acted as counsel to these groups on environmental matters in the past, and have been asked by them to coordinate the presentation to this Committee today of their views on the important issues of national environmental policy raised by the Act, which would vest in the Secretary of the Interior the authority to license the construction and operation of deepwater ports on the Outer Continental Shelf.

The environmental groups which I represent are all national, non-profit, membership organizations deeply concerned about the preservation and protection of the marine and coastal environment. Their combined membership exceeds 250,000 persons throughout the United States and abroad, and includes a substantial number of persons who reside in coastal areas which are likely to be directly affected by offshore developments, as well as scientists who have conducted and intend to continue to engage in research in coastal and estuarine areas and the marine environment.

The environmental groups have made substantial efforts to improve the quality of the marine and coastal environments by means of litigation, testimony, policy analysis, and educational programs. For example, in the litigation field, EDF, NRDC and NPCA recently achieved a settlement with the Commerce Department under which it agreed to prepare environmental impact statements in connection with its program to subsidize the construction of United States oil tankers. And NRDC, the Sierra Club and FOE were successful in requiring the Department of Interior to consider all reasonable alternatives, and their environmental impacts, to its offshore oil and gas lease sales. In the area of international regulation of marine pollution, EDF, NRDC and the Sierra Club have taken an active role in commenting upon the proposed 1973 Convention for the Prevention of Pollution from Ships.

These groups have also been actively involved in presentation of testimony on deepwater port policy. Thus, all the groups presented their views on deepwater port policy at hearings held in March of this year before the Senate Commerce Committee, and in July before the House Merchant Marine and Fisheries Committee, and before a special joint subcommittee of the Senate Committees on Interior and Insular Affairs, Commerce and Public Works. The Sierra Club submitted comments at congressional hearings held in 1970 regarding the development of a proposed deepwater port at Machiasport, Maine, as well as at recent hearings held around the country by the Corps of Engineers related to its current deepwater port studies.

I. THE PROBLEM OF DEEPWATER PORT DEVELOPMENT

The United States is on the verge of deciding whether to develop deepwater port capacity. As the Committee knows, this country, which is situated on a relatively shallow continental shelf, currently has no harbors which are deep enough to accommodate so-called "supertankers"—ships of 200,000 dead weight tons or greater, with drafts of more than 60 feet and capable of carrying in excess of 60 million gallons of oil. Thus, unless existing ports are deepened or new facilities constructed in deeper water offshore, supertankers—whose number in the world fleet has grown spectacularly from two in 1967 to in excess of 230 today, with more than 250 on order—will never come fully loaded to the United States. Not surprisingly, in light of the immense investment of the oil industry in supertankers, and stimulated by fears of an "energy crisis", pressure for deepwater port development in this country is mounting. As you undoubtedly are aware, concrete industry plans currently exist and are rapidly progressing (although shrouded in substantial controversy) for development of such facilities off Maine, New Jersey, Delaware, Louisiana and Texas coasts; and, the government of Puerto Rico has recently announced plans for an onshore deepwater port complex. Indeed, creation of U.S. deepwater port capacity is taking on an aura of inevitability, even though, as pointed out below, the ultimate rationale for and implications of such development are uncertain.

The principal reasons advanced in support of deepwater port development are the projected growth in U.S. demand for imported oil over the next 10-15 years,

¹ Substantial assistance in preparation of this written testimony was provided by my colleague at the Center for Law and Social Policy, Eldon V. C. Greenberg, and by Edward L. Strohbehn, Jr., of NRDC and Peter Borrelli of the Sierra Club.

the unit transport savings supposedly associated with carriage of oil in supertankers, and the alleged environmental benefits relating to the use of supertankers and offshore (though not inshore) facilities. Thus, at the heart of any proposal to develop deepwater ports lie the threshold issues of: (1) whether the United States needs additional energy supplies of the magnitude contemplated, particularly in the form of imported petroleum—which depends in large measure on the shape of our national energy policies; (2) whether, if substantial increases in petroleum imports are necessary, the use of deepwater ports in providing for reception of such imports is economically justifiable; and (3) whether, if economically justifiable, their development is environmentally acceptable in light of existing or potential alternatives. Despite the numerous preliminary studies that have been recently undertaken, including those of the Maritime Administration, the Corps of Engineers, and the Council on Environmental Quality, none of these issues has been comprehensively addressed or adequately resolved to date, and thus critical areas of uncertainty remain.

A. Demand for Oil Imports

In terms of energy policy, the need for deepwater port development is premised on vast increases in oil imports—at least during the next 10 to 15 years. The Federal Maritime Administration has estimated, for example, that approximately 300 tankers, including more than 125 supertankers, or their equivalent tonnage, will be needed to carry such imports by 1980 alone.

The importance of import demand projections to deepwater port development has recently been underscored by a federal interagency committee in a report entitled "Economics of U.S. Deepwater Ports", as follows:

"A major determinant of what type superports should be built, and even whether a U.S. superport should be built at all will be the level of throughput for much of the facilities anticipated lifetime. This finding underlines the importance of accurate demand projections from the start."²

Demand projections, however, as well as the extent of our reliance on oil imports over the long term, are subject to debate and depend in large measure upon what energy policy strategies are assumed. The United States has long lived with the illusion that it can utilize ever increasing amounts of energy without regard to future energy requirements or the environmental degradation which can and does result from such unrestricted consumption. To urge, without adequate reflection, the creation of deepwater ports to handle an increasing volume of oil imports may merely serve to perpetuate this illusion and defer but not resolve the problems of energy utilization which we face today.

President Nixon has recently stated that "the American people must develop an energy conservation ethic."³ The most effective way to foster such an ethic is not to encourage ever greater investment in energy production and distribution, but to develop sound, hardnosed strategies to reduce energy demand. Such strategies can be implemented now or in the near future and could substantially reduce the need now or in the near future and could substantially reduce the need for increased oil imports. The Office of Emergency Preparedness has recently concluded that energy conservation measures could reduce U.S. energy demand by as much as 7.3 million bbl/d of oil by 1980,⁴ or about two-thirds of projected total U.S. petroleum import needs for that year. and, the Environmental Protection Agency has estimated that if the annual energy growth is reduced from 4 to 3 percent (which it believes is possible "without significant changes in lifestyle or unacceptable economic dislocations"), 45 billion barrels of oil could be saved between now and 1990—which equals 3 years total consumption at present usage levels.⁵

Demand for motor gasoline and jet fuel, which comprise over 80% of the petroleum demand in the transportation sector, can be substantially decreased through energy conservation efforts. Demand for the former can be cut by reducing the size, weight and engine horsepower of automobiles; and, demand for the latter can be decreased by increasing the airline industry's load factor through reduction of duplicative flight schedules.

² Draft Environmental Impact Statement on Deepwater Ports, DOI, App. B at B-46 (June 1973).

³ President's Energy Message to the Congress, April 18, 1973.

⁴ The Potential for Energy Conservation (A Staff Study), OEP, Executive Office of the President (Oct. 1972).

⁵ Testimony of John Court, Deputy Assistant Administrator for Planning and Evaluation, EPA, before Subcommittee on Energy, House Committee on Science and Astronautics, June 19, 1973.

Moreover, alternative energy strategies are even more likely to reduce reliance on imported oil in the long term. These strategies include, in addition to conservation measures, increasing the availability of other energy resources, such as deep-mined low sulphur coal and gas and oil from such coal and/or exploration for and production of oil and gas in the North American continent. To the extent these strategies are implemented, demand for expanded marine transport capability may be relatively short-lived.

Finally, the relative environmental costs and benefits of alternative energy development strategies, i.e., oil importation versus offshore exploitation, must be carefully weighed—a task which has not yet been adequately done—before a commitment to any one strategy is made. The point is that national long-term energy requirements and methods for meeting them are critical factors in deciding whether and if so how to develop deepwater port facilities in the United States, particularly in light of the severe environmental risks which they pose.

B. Transport Cost Savings of Supertankers

Even if needs for oil imports rise substantially, it is not clear that deepwater ports make economic sense. Development of deepwater ports is deemed desirable because of unit transport cost savings projected to result from carriage of oil in supertankers over long distances. It is estimated, for example, that dollar per ton freight cost could be reduced nearly 30% by increasing tanker size from 65,000 to 250,000 DWT. However, whether these apparent reductions in unit transport costs will result in significant economic benefits for the consumer (as opposed to increased industry profits) is not clear. As a recent report of the Senate Commerce Committee concluded:

"seaborne transportation accounts for only a tiny part of the final price to the consumer. Even the peak rates prevailing in early 1971 amounted only to 1 cent per gallon of gasoline levied by government. Since seaborne transportation costs account for so small a proportion of oil cost, even large percentage escalations of that cost would have very little impact on consumer prices." S. Rep. No. 92-724 (March 28, 1972).

In any event, whether deepwater port development in the United States is economically justified cannot be determined solely by looking at unit transport cost savings. Several other costs associated with a delivery system must be taken into account, including (1) the costs of constructing new ports, which could range as high as one billion dollars for an offshore island; (2) the costs of tax benefits and other subsidies provided by various governments to oil producers, ship owners and operators; (3) the costs of operating such ports, including costs arising from environmental protection measures, such as traffic controls and oil spill containment systems; and oil spill clean-up (4) the costs for environmental safeguards incorporated on vessels, such as double bottoms or double hulls; and (5) the environmental and other social costs associated with construction and operation of the total delivery system. These costs must then be compared with the costs of systems using smaller tankers, either for transshipment from the Bahamas or the Caribbean (where terminals presently exist) or direct throughout.

To our knowledge, no comprehensive analysis of the total costs and benefits of a supertanker transport system has been made. Such a study is essential before valid conclusions can be drawn regarding the alleged economic benefits of supertanker/superport development.

C. Environmental Consequences of Deepwater Port Development

Even if the energy policy and economic issues are resolved in favor of deepwater port development, the environmental issue remains. Supporters of U.S. deepwater port development claim that it will provide environmental benefits.

These benefits—primarily reduced collision risks resulting from the decrease in the number of vessels needed to serve particular levels of demand—are uncertain at best. Estimates of reduced collision risk generally fail to take into account the reduced maneuverability and increased stopping time and distances associated with large tankers. Moreover, the authors of the Maritime Administration's recent impact statement on its tanker construction program noted, "the mechanisms and mathematics of collisions are not well understood and estimates of the effects of traffic levels upon casualty rate are highly speculative . . ." Final Environmental Impact Statement on Tanker Construction Program, (May 30, 1973) (N.T.I.S. Rep. No. EIS 730725-F).

Even assuming that a greater accident risk would be inherent in any increased tanker fleet, it is far from clear that the risks of *marine pollution* are greater than those posed by superport development. The oil spill risks posed by supertankers themselves are unprecedented. For example, the U.S. Maritime Administration has recently estimated that if a 300,000 DWT tanker were to lose its entire cargo in the coastal waters adjoining Machias, Maine, a massive oil slick would form which could easily expose two to three hundred miles of New England shoreline to heavy oil pollution and result in a complete loss of the shellfish and lobster catch for one or more years (the processed value is estimated at about 48 million dollars per year) and entire loss of a tourist season "with serious economic loss to coastal New England communities." The Maritime Administration also estimates that a massive spill from a 400,000 DWT supertanker about 20 miles offshore Delaware could form an oil slick affecting states as far north as Massachusetts and inflicting economic losses on eight coastal states from Massachusetts to Virginia totaling as much as \$2.8 billion. *Final Environmental Impact Statement on Tanker Construction Program* (May 30, 1973), IV-88, IV-89, IV-95 thru IV-102 (N.T.I.S. Rep. No. IES 730725-F). No competent study has been done to estimate and compare the total amount of oil spilled per unit of oil landed in the U.S. from various marine-transport alternatives (VLCC—offshore port, intermediate size tanker—offshore port, conventional tanker—offshore port, intermediate tanker—onshore port), based on utilization of best available pollution abatement designs and operational measures.

Finally, deepwater ports will create substantial secondary environmental impacts, often overlooked by their proponents. The direct and indirect effects that construction and operation of deepwater terminals would have on the surrounding coastal environment, including land use, air and water pollution, solid waste disposal, aesthetic problems and increased demands for public services related to development of storage facilities, refineries and the petrochemical plants, "could have a more significant environmental impact than any other component of a deepwater port system over a long period of time." *Draft Environmental Impact Statement on Deepwater Ports*, DOI, IV-85 (June 1973).

Complete and objective assessment of all associated environmental risks may ultimately militate in favor of reliance on transshipment facilities in, for example, Canada or the Caribbean, or the development of a fleet of shallow draft tankers, or even an increase in size of the conventional tanker fleet, coupled with appropriate vessel traffic and design controls, rather than development of deepwater port facilities to service supertankers in U.S. coastal waters.

II. LACK OF INSTITUTIONAL AND POLICY FRAMEWORK

Not only are fundamental issues concerning the need for and environmental effects of deepwater ports unresolved, but an adequate institutional, legal and policy framework for dealing comprehensively with the problems posed by such development is lacking. The magnitude and complexity of the planning and regulatory problems inherent in constructing and operating deepwater ports cannot be separated from fundamental questions of national, regional and local land use planning, all of which must be dealt with in a consistent manner giving effect to the congressional judgement, embodied in the Coastal Zone Management Act of 1972 (Pub. L. No. 92-583), that the coastal zone deserves special protection. The construction and operation of such facilities further raise important questions of state-federal regulation and cooperation, of jurisdictional conflicts among several federal agencies, and of possible constraints imposed by international law and treaties, as well as issues of private versus public funding, construction, ownership and operation. Finally, development and coordination of regulations respecting port reception facilities, spill containment devices, traffic control systems, and design and construction characteristics of ships permitted to serve U.S. deepwater ports will necessarily be integral to the safe operation of such facilities.

Deepwater development is presently subject to a crazy quilt of certifying authorities and overlapping jurisdictions; for example, at the federal level, numerous agencies, *e.g.*, Coast Guard, EPA, NOAA, the Federal Power Commission, the Bureau of Land Management, the Bureau of Sport Fisheries and Wildlife and the U.S. Geological Survey, and numerous statutes with different objectives and standards, *e.g.*, the Outer Continental Shelf Lands Act, the 1899 Rivers

and Harbors Act, the Coastal Zone Management Act of 1972, the Federal Water Pollution Control Act, the Ports and Waterways Safety Act of 1972, the Fish and Wildlife Coordination Act and the National Environmental Policy Act of 1969, all must be dealt with in examining any deepwater port proposal. Finally, it is unclear if any federal agency has the power to authorize construction of a port facility in areas beyond the territorial sea.

Despite the substantial problems outlined above, none of the bills currently pending in Congress which would regulate deepwater port development, including the Administration's proposal, provides for a comprehensive planning approach for treating the energy policy, land use and environmental issues at stake, and all the proposed legislation would continue or even exacerbate the existing fragmentation of authority.

The environmental organizations I represent are concerned that a commitment may be made to deepwater ports in this country and that design, planning, construction and operation of such facilities may proceed without full and systematic consideration of all alternatives and implications and without an adequate input from local, state and regional authorities, as well as the public. Since this country is at the inception of perhaps extensive and novel coastal development, the opportunity exists for a comprehensive systems approach to such development—the only approach which will ensure effective environmental protection—taking into account all relevant economic, social, political, and environmental facts. Each proposal currently before Congress must be evaluated in the context of the need for such an overall approach.

III. GENERAL PRINCIPLES FOR REGULATING DEEPWATER PORT DEVELOPMENT

If resolution of the issues outlined above indicates that construction of deepwater ports might be appropriate, the environmental groups believe that several principles should be reflected in the development of a national deepwater port policy. These are:

1. *Place Interim Moratorium on Development.*—Development of deepwater ports should be subject to a moratorium until there is a sufficient informational and institutional basis for establishing a coordinated policy approach for such development within the context of an overall coastal zone management program. Because private oil companies with the sanction of some states are rapidly implementing plans for deepwater terminals, the need for such a moratorium is immediate. Absent a moratorium, these projects may proceed to completion and frustrate any effort to develop a sound, coordinated program for resolving the fundamental issues of environmental, energy and land use policy at stake.

2. *Ensure Limited Initial Development.*—Because oil import projections are uncertain, foreign transshipment facilities are available, and the environmental risks associated with deepwater port development are serious, responsible policy dictates limited development of such facilities. Possibly, only a single pilot project should be authorized initially, with future port authorization to be based on the results of the pilot project. In any event, it seems unwise at this time to permit construction of more than one port in any one sector of the country, although, at some future date, it is conceivable (as was pointed out in the President's Energy Message of April 18) that construction of dispersed, smaller deepwater ports may be preferable to construction of one massive port to serve an entire coastal region.

3. *Consider Specific Congressional Approval.*—Not only should the number of deepwater ports initially authorized be limited as a matter of prudent policy, but all of the government studies of which we are aware support the view that, even assuming a substantial growth in reliance on oil imports, only a limited number of deepwater port facilities may be required.⁶ In such circumstances, specific congressional approval of each project (such as proposed in S. 836) may be appropriate at least as regards basic commitments to and locations for development.

4. *Provide for State Approval.*—There must be adequate opportunity for regional, state and local interests to participate effectively in any decision to site, construct, and operate a deepwater port facility. As noted above, construction and operation of deepwater port facilities within or immediately adjacent to the territorial waters of one or several coastal states may not only pose direct and

⁶ The Interior Department concluded in its Draft Environmental Impact Statement on Deepwater Ports that: "the actual number of ports may not exceed one or two in each coastal region, depending on the port type and location suggested." (p. IV-1).

substantial threats to the coastal and marine resources of such states, but may also induce substantial secondary impacts on land use, water resources and public services, as well as increase industrial concentration in regions which they serve. State and local governments have traditionally had the authority to regulate these kinds of impacts and, in so doing, have developed substantial resources and experience which have been recognized in federal legislation concerned with air and water pollution. In particular, the critical role of states and regional interests and of coordinated efforts in planning, managing and regulating development of this country's coastal zone was recently recognized by Congress in enacting the Coastal Zone Management Act of 1972 (Pub. L. No. 92-583).

We believe that it is essential that any scheme for regulating deepwater port development provide that any state adjacent to such development can disapprove such development, whether or not the facility is to be located within its territorial waters, (a) if it would be inconsistent with an established state land use or coastal zone management plan or policy and/or (b) if it is likely to result in significant adverse environmental effects within the state's jurisdiction. The decision to approve or disapprove should be evidenced by specific findings and conclusions and subject to judicial review.

Additionally, as a necessary corollary of effective state participation, power should be vested in states to prescribe stricter environmental or safety standards for facilities (as well as transshipment modes, i.e., pipelines or vessels) within their jurisdiction than may be required by federal laws or regulations.

5. *Establish Uniform Regulatory Scheme.*—There should be a uniform scheme of regulation for deepwater port development which applies regardless of whether the port would be located within the territorial sea or above or upon the Outer Continental Shelf, subject, of course, to limitations imposed by international law.⁷ The issues involved in planning and overseeing deepwater port development simply do not divide along such arbitrary lines, and it would therefore not be advisable to allow creation of a system where one agency with one set of standards would license development of deepwater port facilities on the Outer Continental Shelf and another agency with another set of standards would license their development within the territorial sea.

6. *Create Single Coordinating Agency.*—A single federal agency should have primary responsibility for coordinating and overseeing construction and operation of deepwater port facilities. This agency would be responsible for evaluating all phases of a proposed petroleum delivery system—vessel transport, site selection, construction mode, pipeline design, landside support facilities, etc.—in terms of environmental and socio-economic factors, taking into account regional, state and local interests and other current and proposed uses of the coastal zone. The agency would coordinate appropriate environmental reviews and appraisals provided by other bodies with expertise and authority in discrete areas and would be required to consult, as appropriate, with such bodies. Also, the agency mandate should provide that no project should be approved as environmentally sound where it is likely to result in significant adverse environmental effects—which include landside economic development as well as marine pollution and damage to coastal ecosystems—and reasonable alternatives are available which would reduce such effects.

7. *Provide for Economic Regulation.*—If only one or two deepwater port facilities are constructed, they will constitute a scarce and valuable resource which will require substantial economic regulation by the federal government. Financing, ownership and charges for use of deepwater port facilities should thus be covered in any regulatory framework, in particular because of the potential for monopoly profit, and perhaps some share of the revenues should be provided to coastal states to assist in dealing with adverse environmental effects. In any event, such facilities should not be promoted through the availability of substantial federal subsidies.

8. *Set Standards for Delivery System.*—Present federal authority to regulate vessel design, to provide for vessel traffic services and systems, and to regulate the design, construction and operation of facilities used for bulk transfer of oil to and from vessels should be expanded to cover vessels and facilities used in

⁷ Under existing principles of international law, such a scheme might not be directly applicable to ports constructed and operated on the Outer Continental Shelf by foreign nationals, but regulation of such activities might be achieved through rules governing transport into the U.S. by pipeline or feeder vessel. The same considerations apply to setting standards for a delivery system. See point 8, *infra*.

connection with U.S. deepwater ports located in the contiguous zone or on the Outer Continental Shelf. Indeed, to the extent that deepwater ports are built, thereby encouraging supertanker traffic in or near U.S. navigable waters, it may be that special standards of design and construction should be required of such vessels as a condition to their use of United States facilities. Similarly, special standards for traffic control systems, oil spill containment devices, off-loading equipment and pipeline connections might be required of such facilities. At an absolute minimum, a specific requirement for a positive, mandatory vessel traffic control system, such as that recently proposed by Senator Gravel for the Alaskan trade, coupled with automatic collision avoidance radar plotting devices aboard ship, appears a necessity to reduce the risk of accident at such facilities.

9. *Locate and Isolate Facilities Far Offshore.*—If it is decided to utilize supertankers to transport petroleum imports to the United States, the deepwater port facilities developed to accommodate them should be located offshore at a substantial distance from bays and estuaries, should be dedicated solely to the petroleum trade, and should be isolated from other vessel traffic. This policy is extremely important for minimizing disturbance of the estuarine and coastal marine resources which are the most vulnerable to damage from dredging, spoil disposal and oil pollution. It would avoid dredging and construction activity in ecologically sensitive estuarine regions. By restricting supertanker traffic to offshore areas, the risks of groundings and collisions generally associated with operations within narrow and shallow harbor approaches will be reduced for such vessels. By isolating supertankers from other vessel traffic, the risk of collisions and groundings is even further reduced. Finally, should an oil spill from a supertanker occur, it would be located a substantial distance offshore which would provide more time for containment and cleanup before becoming a threat to delicate coastal areas.

10. *Transport Oil to Shore by Pipeline.*—Oil should be transported from deepwater port facilities to shore by buried pipelines (routed around significant marine breeding grounds) rather than transhipped in smaller tankers and barges. Although pipelines are not free from environmental risks and substantial efforts are needed to improve pipeline safety technology, this approach would appear to minimize vessel traffic congestion and spill probabilities incident to tanker accidents and ship loading and unloading activities. This requirement and the requirements of isolating deepwater ports well offshore and establishing special standards for associated delivery systems are of such importance that they should be expressly set forth in authorizing legislation, rather than left to agency discretion.

11. *Environmental Standards for Approval.*—In order to protect against the wideranging and substantial environmental risks posed by deepwater port development, no facility should be approved unless, following an adjudicatory hearing and based on record evidence, it is concluded that: (a) the project will not result in significant adverse environmental effects; (b) no alternatives are available which would minimize adverse effects; (c) all possible means will be employed to reduce environmental harm; (d) the project is consistent with applicable coastal zone and land use plans.

III. ANALYSIS OF H.R. 7501

When analyzed in light of the general principles set forth above, the Act falls far short of creating an adequate regulatory scheme for deepwater port development. In applying only to deepwater port facilities on the Outer Continental Shelf [Section 102(b)], it creates the risk that there will not be a uniform scheme of regulation of deepwater port development; by specifically excluding examination of economic effects of deepwater port facilities [Section 103(c)], it provides for no effective limitation on the number of ports to be constructed and effectively precludes any planning for development; by providing only for consultation with states, rather than specific state approval [Section 103(e)], it does not adequately recognize state, local, and regional interests in deepwater port development; in making no specific provision for review of secondary impacts of deepwater port development [Section 103(b) (3)], it ignores what may be the perhaps most significant effects of deepwater port development in any given region; and, by authorizing licensing of ports if adverse environmental effects are minimized, it effectively eliminates environmental harm as a meaningful factor in licensing decisions. Perhaps most importantly, the Act is no way pro-

vides for an overall, systems approach to particular projects or to deepwater port development in general, taking into account all relevant economic, social, political and environmental factors.

A close reading of the Act indicates that this proposal is essentially designed (a) to encourage rather than to plan for and regulate deepwater port development and (b) to limit challenges to such development. The Act is basically a developmental statute. The relative unimportance of environmental, economic and social considerations in the regulatory scheme is underscored in particular by the findings in Section 101(a) which declare deepwater port development to be a virtually unalloyed blessing that must be facilitated by the federal government, but which express no recognition that such development may pose severe problems which require stringent federal regulation. At the same time, the licensing and review procedure established in Sections 105 and 106 make substantial inroads into the general rules of procedure established under the Administrative Procedure Act and seem intended to limit evaluation (and review) of the merits of a particular project rather than to provide for the fullest possible assessment of its total costs and benefits.

While the Act does embody several concepts for which we would express support—

(1) Vesting primary responsibility for coordinating and overseeing construction and operating of deepwater port facilities in a single agency [Section 104(c)];

(2) Extension of existing state and federal laws to offshore facilities, including a recognition that the National Environmental Policy Act of 1969 applies to such facilities [Sections 104(d), 111];

(3) Provision for prescription by state and local government of stricter safety or environmental standards for facilities within their jurisdictions than may be required by federal laws or regulations [Section 112]; and

(4) Provision for some economic regulation of offshore terminals [Sections 103(f), 107(5)]—

(5) Provision requiring licensees, upon revocation or expiration, to render deepwater port facility "harmless to the environment". [Section 107(b)].

it would require drastic revision, including a complete shift of emphasis, before it could be acceptable to the Environmental Groups. As outlined in detail below, there are numerous areas in which such revisions would appear necessary.

(1) Statutory Purpose

The findings contained in Section 101(a), such as the finding that development of deepwater port facilities fulfills the "national interest in economic use of resources, environmental protection, transportation safety, competitive advantage in world trade, and security in international relations" [Section 101(a)

(1)] set the tone of the legislation: deepwater port facilities are good and must be encouraged. As others have pointed out today, these conclusions are not justified. Moreover, there is neither a recognition of the environmental dangers which deepwater port development poses and of the pressing need to regulate such development in order to protect the environment nor any expression of a commitment to utilize all efforts to achieve such protection.⁸ Environmental protection, rather than promotion of development, should constitute the core of any acceptable deepwater port legislation, and, if a statute is to be interpreted and implemented with a view to environmental protection, such purposes must be explicitly made part of the regulatory agency's mandates.

(2) Licensing Agency

We have reservations about placing authority for regulating offshore port facilities within the Department of the Interior.⁹ A broader based environmental agency, with more experience in the port development and regulation area, would better appear fitted to the task of overseeing the construction and operation of

⁸ By contrast, see Sections 302(a) (2), 302(a) (3) and 302(b) of S. 80, and Section 301(a) of S. 2232.

⁹ These reservations are heightened by what Representative Reuss of Wisconsin has called the Department of the Interior's "great reluctance and ineptness in enforcing its laws and regulations [under the Outer Continental Shelf Lands Act] against the oil industry, even though potential for disaster is significant," as documented in the Report, dated June 29, 1973, from the United States General Accounting Office to the Conservation and Natural Resources Subcommittee on Government Operations of the House of Representatives.

such projects. While the Department of the Interior may have expertise concerning the regulation of offshore drilling platforms under the Outer Continental Shelf Lands Act, 43 U.S.C. §§ 1331 *et seq.*, it has no demonstrated expertise with respect to design and construction of port facilities or vessels. Intelligent evaluation of the effects of any particular port facility proposal requires understanding and appreciation of the engineering and operational characteristics of the proposed facility and an ability to project the likely results of any variations in these factors. It may well be that an agency such as the Coast Guard, which has been more intimately involved in port development and design, would be better suited to regulate deepwater port development. See S. 2232.

(3) *Geographic Scope of Application*

Section 102(b) defines "deepwater port facility" to include only facilities constructed "beyond three nautical miles" from the coast to the United States.¹⁰ As noted above, a sensible jurisdictional regulatory scheme should provide for uniform environmental regulation of offshore facilities regardless of whether they are located within or beyond the territorial sea of the United States. The approach taken in the Act merely opens up the possibility that there may be inconsistent regimes for licensing deepwater terminals.

(4) *Planning Function*

The grounds for issuance of a license specified in Section 103(b) make it clear that the Department of the Interior is not authorized to take an overall systems approach to the licensing of deepwater port development. The bases for granting or denying licenses are limited in the extreme—financial responsibility and willingness to comply with applicable laws, regulations and conditions [Section 103(b)(1)], non-interference with navigation [Section 103(b)(2)], and minimization or prevention of adverse significant environmental effects [Section 103(b)(3)]. We believe that provision should specifically be made in the statute for the Secretary to examine a proposed facility in light of overall coastal zone uses within the region in which the facility is planned and to consider those uses in relation to uses of the United States coastal zone as a whole. Such review would necessarily focus upon both short-term and long-term uses of the coastal zone in light of present and projected energy demands. Only if this long-term planning function is carried out by the coordinating federal agency can there be some assurance that fundamental social or environmental values will not be sacrificed for the sake of short-term or geographically limited economic benefits.

In particular, if this planning function is to be adequately carried out, a provision such as Section 103(c), which provides that, "the Secretary shall not limit the number of licenses or deny licenses on grounds of alleged economic effects of deepwater port facilities . . ." has no place in the regulatory scheme. Economic effects are critical to the decision as to when and where to develop deepwater terminals. As noted above, only one or two such terminals may make economic sense for this country even at projected 1985 import levels. To allow a potentially unlimited number of such facilities to be licensed without considering the economic need therefor simply makes no sense in light of the serious environmental risks which such facilities pose.

(5) *Environmental Standards*

The environmental protection standards established under the Act are limited at best. Indeed, by permitting licenses to be granted if "adverse significant environmental effects" (otherwise an acceptable standard) are "minimize[d]" [Section 103(b)(3)], there is no assurance that significant harm will not occur. If construction or operation of a facility will result in adverse, significant environmental effects, minimized or not, it simply should not be licensed, especially if other alternative sites or types of facility are feasible.

Additionally, while the six specific effects which the Secretary must consider are not inappropriate themselves, significantly they neither include the need for siting the structure in the contemplated location nor the effect of the project on human health and welfare. Further, any evaluation should include a wide range of alternative port development possibilities and related impacts, and considerations should not be limited to the six effects set forth in the statute but should include any other considerations which the Secretary may deem

¹⁰ Parenthetically, it should be noted that the exclusion of "pipelines" from the definition of "deepwater port facility" is open to question. As stated above, we believe that all elements of the delivery system should be evaluated in a single package in assessing a particular port's impact.

appropriate or necessary. Finally, the Secretary should be required to establish specific, substantive environmental criteria for reviewing and evaluating terminal proposals under section 103(b)(3).¹¹

(6) *Evaluation of Landside Impacts*

As is underscored in the Department of the Interior's Draft Environmental Impact Statement on the Act, at p. IV-85, "one of the most important elements in the analysis of onshore facilities related to a deepwater port complex is the potential development of refinery facilities and related industries. This could have a more significant environmental impact than any other component of a deepwater port system over a long period of time." Similarly, the Corps of Engineers stated in the Summary of its Atlantic Coast Deepwater Port Facilities Study, dated January 8, 1973,

"The location of a deepwater port terminal will tend to induce industrial concentration, particularly of refineries and petrochemical complexes. In turn, this concentration of basic petroleum related industries would induce concentration of associated commercial and economic activities. The totality of new development will result in population growth and the requirement of new housing and public services, such as sewage treatment, transportation, schools, recreational facilities, etc. Each of the activities induced by port related economic growth will result in a range of environmental impacts."

In spite of the significance of the secondary impacts of port development and their critical importance for coastal zone management, the Act nowhere provides for their review and assessment by the licensing agency. It seems clear that the criteria listed in Section 103(b)(3) must, therefore, be expanded to comprehend indirect and secondary effects of offshore port development, *e.g.*, land-side industrial development, in a fashion similar to that followed in Section 2 of S. 1316.

(7) *Provision for State Participation*

The Act provides insufficient protection for legitimate state and local interests. As noted above, we believe that deepwater port legislation should provide for state participation in the decision-making process relating to the siting, construction and operation of deepwater port facilities and that such decisions should be subject to state approval in the manner set forth above at page 10, whether or not those facilities are to be built within the traditional "jurisdiction" of the states. The "consultation" which Section 103(e) provides for is clearly not the equivalent of the state power of approval or disapproval as is expressed in a number of other deepwater port proposals, *e.g.*, S. 836 and S. 1316.¹²

(8) *Timing of License Applications*

Neither Section 103(a) nor Section 105 which establish licensing procedures make it clear whether there will be a single, pre-construction license procedure or whether there will be two separate licensing procedures, one prior to construction and one prior to operation. Substantial time may elapse and circumstances change between any pre-construction licensing procedure and the time that the facility itself may enter into operation. We believe it essential that provision be made in the statute for review of operational effects of deepwater terminals shortly before they are scheduled to become operational. It might be appropriate to have a two step process—an initial license to be granted for construction and then a second license to be granted for operation. Further, provision should be made for continuing regulation and oversight of operation of the facilities in order to insure that such operation is carried out in an environmentally acceptable manner, as well as to insure that new means for improving environmental protection are promptly incorporated as they become available.

(9) *Conditions to Licenses*

Substantial economic and environmental regulation of deepwater port facilities

¹¹ In connection with the establishment of criteria, the Act should make explicit that the rules and regulations referred to in Section 104(a) include criteria for environmental certification and that these criteria should be established in consultation with federal, state, and local officials and interested members of the general public in the context of a formal rulemaking proceeding pursuant to the Administrative Procedure Act.

¹² A further indication of the Act's failure adequately to recognize state interests is found in Section 104(d), which provides that, "in carrying out all of his functions under this Act, the Secretary shall consult with all interested or affected federal agencies," but which establishes no requirement that the Secretary consult with state or local agencies with jurisdiction by law or special expertise with respect to the environmental effects of the proposed facility.

achieved, in part, through conditions to licenses,¹³ should be integral to the licensing scheme. Thus, conditions to the effect that "non-discriminatory access at reasonable rates" [Section 107(5)] be included in the license appear necessary, and the Secretary should be mandated to impose such conditions rather than merely being given the authority to do so. With respect to measures which the Secretary "may prescribe to prevent or minimize the pollution of the surrounding waters," [Section 107(3)], we believe that the licensing authority should be required to establish comprehensive conditions, based upon regulations elaborated in the context of a formal rule-making proceeding under the Administrative Procedure Act, to prevent and minimize all adverse environmental effects associated with the licensed project and the entire delivery system, which would include such matters as vessel traffic control, terminal design, oil spill containment devices, storage facilities, ship-terminal interface and ship design and construction standards.

(10) Licensing Requirements

The licensing procedures set forth in Section 105 appear designed to facilitate the grant of licenses rather than to ensure that projects are fully assessed. No specific burden is placed upon the applicant to demonstrate that the proposed facility (a) will comply with applicable standards especially those standards relating to environmental protection, (b) is necessary from an energy policy standpoint; (c) is economically justified, or (d) will not result in significant adverse environmental effects.

Further, because no specific time for filing an application is established, the possibility exists that the entire licensing procedure may be carried out in a relatively hasty manner.¹⁴ Even more significantly, the Act fails to provide for mandatory public hearings. While the Secretary may order such hearings held if "substantial objections" are raised by any "interested person" [Section 105(b)], it seems obvious from past practice that once a decision is made to avoid public hearings, it is unlikely to be altered upon reconsideration. The use of the word "substantial" merely serves to underscore the manner in which the decision not to hold hearings, even in the face of objections, will be justified.

The scope of any hearings which are held is confused at best. The Act contemplates two sorts of hearings—first, a general hearing if "substantial objections" are made [Section 105(c)] and, second, pursuant to Section 105(d), a "supplemental" "evidentiary" hearing if, based on the general hearing, the Secretary determines that there "exist one or more specific and material factual issues. . . ." to be resolved. No procedures are established for the first hearing, but it is specifically exempted from the provisions of the Administrative Procedure Act relating to adjudicatory hearings [Section 105(f)]. As to the second hearing, its procedures, which are defined, are particularly troubling. The specific statutory grant of authority to hearing officers to "preclude repetitious and cumulative testimony, to require that direct testimony be submitted in advance in written form, and to permit cross-examination only to the extent necessary and appropriate in view of the nature of the issues" [Section 105(d)], coupled with the general exemption of such hearings from the provisions of the Administrative Procedure Act relating to adjudicatory hearings [Section 105(f)], constitute an unwarranted limitation upon the hearing procedure. We strongly support adoption of the approach presently embodied in S. 2232 and S. 1316 which requires a public, adjudicatory hearing to be held in accordance with Sections 554, 556 and 557 of the Administrative Procedure Act, with the full panoply of rights provided therein, with respect to each application for a construction or operating license.

(11) Access to Information

We do not believe that adequate provision is made in Section 105 or elsewhere in the Act for access to data supporting applications. Section 105(b) leaves open the possibility that applications and supporting data may be available for examination in only one location and may not be available for reproduction. A better approach would appear to be that taken in Section 305 of S. 80, which provides that "copies of any communications, documents, reports, or information

¹³ To the extent that one license condition may involve payment of fees to the federal government [Section 107(1)], we would suggest that such fees be shared with states which may be affected by construction or operation of the terminal.

¹⁴ A better approach is that suggested in Section 307(b) of S. 80, which would require submission of plans for the facility at least two years prior to the expected date of the beginning of construction.

received or sent by any applicant shall be made available to the public upon identifiable request, and at reasonable cost . . ." Such a provision could even be further improved by the addition of language to the effect that copies of communications, documents, reports or information received or sent by consulting agencies or interested parties submitting comments should also be made available for public inspection.

(12) *Application of NEPA*

While, as we noted above, we applaud the recognition in the Act that NEPA applies to the licensing procedure,¹⁵ the reference in Section 105(e) to the Secretary's decision "including" or being "preceded" by an environmental impact statement is confusing. NEPA requires that a draft environmental impact statement be prepared and circulated for comment as early as possible in the decision-making process, i.e., long prior to the Secretary's decision and certainly prior to any hearings on the matter. Thus, the draft impact statement should be released prior to a mandatory adjudicatory hearing on the license application, which hearing could and should be combined with a hearing under NEPA. As to the final environmental impact statement, this must be issued substantially prior to the Secretary's decision in order to allow time for public comment and the submission of views to the Secretary with respect to appropriate final action to be taken thereon. In sum, the entire NEPA process must be complete before the Secretary acts.

(13) *Judicial Review*

The Act unjustifiably limits judicial review, Section 105(f), by excluding both general and supplemental licensing hearings from the provisions of 5 U.S.C. § 706(2) (E), deprives a reviewing court for the power to make a determination that an agency decision is "unsupported by substantial evidence." Since "specific and material factual issues" are explicitly made subject of special evidentiary hearings under the Act, the "substantial evidence" test should be clearly relevant in review proceedings. The substitution of a hybrid factual review procedure which would permit petitioners to apply to the court "for leave to adduce additional evidence" under limited circumstances [Section 106(b)], is another unwarranted attempt to deprive the public of the rights available under the Administrative Procedure Act.

Section 106, by only allowing persons "adversely affected" by an order to seek review may limit the class of persons who can invoke the judicial process. Choice of the word "aggrieved" (used in Section 108 to define those who may seek review of penalty assessment actions) would appear to allow review by a broader class. In any event, there is no sound reason to deviate from the general Administrative Procedure Act formulation which allows review by persons "suffering a legal wrong because of agency action, or adversely affected or aggrieved by agency action . . ." 5 U.S.C. § 702 (emphasis added).

Further, the limitation of the forum in which review can be sought to the "United States Court of Appeals for the Circuit nearest to which the facility is sought to be located," is unwarranted. In light of the fact that licensees aggrieved by enforcement actions can sue under Section 108(b) in the District of Columbia, cutting off parties seeking judicial review of the licensing proceeding itself from such forum appears wholly untenable. Especially if national environmental organizations are involved in licensing proceedings with respect to deepwater ports, the limitation on forums in which review can be sought may impede their ability to seek such review. Generally speaking, a judgment has been made by Congress that judicial review of agency action can be sought in the District of Columbia, see, e.g., 28 USC § 1391(e), 28 U.S.C. § 2343, and we see no reason for deviating from that judgment in this legislation.

Finally, the specific procedure established under Section 106(a) with respect to the record on review represents an equally unwarranted effort to limit the proceedings. 28 U.S.C. § 2112(b) establishes a general rule that the record "shall consist of the order sought to be reviewed or enforced, the findings or report upon which it is based, and the pleadings, evidence and proceedings before the agency, board, commission or officer concerned. . . ." We see no reason for arbitrarily narrowing the record in advance by legislation.

¹⁵ There does appear to be an inconsistency, however, between Section 104(d) and Section 105(e). The former states that an environmental impact statement "shall be prepared in connection with each license," while the latter merely refers to environmental impact statements being prepared "where required."

(14) Enforcement

The enforcement provisions with respect to civil penalties, criminal penalties and revocation or suspension of licenses [Sections 108, 109 and 110, respectively] need substantial improvement. In particular, Section 108 should be expanded to provide for mandatory rather than merely permissive assessment of civil penalties by the Secretary for violations of the Act and to apply to "any person" (rather than merely "any licensee") who violates the Act. Similarly, action to revoke or suspend a license for non-compliance with provisions of the law or rules, regulations, restrictions or conditions imposed thereunder [Section 110] should be mandatory. Further, provision should be made, with respect to revocation or suspension of a license, for citizen enforcement (including enforcement against the Secretary) in the event that the Secretary fails in a timely manner to enforce the statute. Finally, we would suggest that this legislation, like other recent pollution control laws, provide for the award by the court of litigation expenses, including reasonable attorneys fees, where the interest of justice requires. *E. g.*, Federal Water Pollution Control Act, Section 505(d).

Conclusion

In conclusion, I re-emphasize the need to proceed with the utmost caution in authorizing the development of deepwater port facilities and to avoid any commitments to such facilities pending development of adequate information and institutional capacity to resolve the complex issues of environmental, energy and land use policy which are at stake. Development of offshore port facilities, which represents a major new endeavor in the marine environment and which may pose unprecedented threats and challenges to the integrity of our coastal waters and lands, should be allowed to proceed only in the context of a comprehensive, multi-interest planning and regulatory framework for management of the coastal zone. The Act in its present form is patently inadequate to accomplish this task.

Thank you.

ADDENDUM TO TESTIMONY OF ROBERT M. HALLMAN

During my testimony on H.R. 7501 on October 1, 1973, the question arose as to whether oil tankers, as a result of regulation or otherwise, generally incorporate the best available mechanisms for accident prevention and, specifically, whether they incorporate collision-avoidance radar systems. I offered to supply supplemental information to elaborate on my understanding that oil tankers do not now generally incorporate such equipment.

The only national, navigational safety requirements presently in existence for oil carrying vessels trading in the U.S. navigable waters are set forth in Coast Guard regulations at 46 CFR § 32.15.¹ These regulations require incorporation of such things as fog signal devices, navigational lights, whistles, depth indicators, and radio-direction finders. There is no existing requirements for oil carrying vessels to incorporate the best available accident prevention equipment, such as collision-avoidance radar systems, twin screw propulsion systems, controllable pitch propellers and lateral thrusters—all of which are available and capable of improving vessel maneuverability and reducing the possibility of accidents.²

The inadequacy of existing design requirements has recently been expressly acknowledged by Congress in the Ports and Waterways Safety Act of 1972, Pub.L. No. 92-340, 46 U.S.C. Section 391a (the "Act"). In section 201(1) of the Act, Congress concluded that

"Existing standards for the design, construction, alteration, repair, maintenance and operation of . . . [oil carrying vessels] must be improved for adequate protection of the marine environment."

To remedy present environmentally unsound practices, Congress, in Section 201 (7) of the Act, directed the Coast Guard to establish standards

"as soon as practicable . . . to improve vessel maneuvering and stopping ability

¹ A summary of existing domestic and international regulations with respect to tanker design and operation is set forth in Section V of the *Final Environmental Impact Statement on the Tanker Construction Program*, prepared by the Maritime Administration, U.S. Department of Commerce (N.T.I.S. Report No. EIS 730725-F, March 1973) ("Marad EIS").

² See generally *Hearings on S. 2074 (Ports & Waterways Safety Act of 1972)* before Senate Commerce Committee, 92nd Congress, 1st Session (September 1971); *Marad EIS* § VI.K.

and otherwise reduce the possibility of collision, grounding or other accidents. . . ." Congress's finding that prompt action is necessary to improve maneuverability and otherwise reduce the possibility of collisions involving tankers was in large part based upon the facts that tremendous increases in sizes of tankers

"has substantially reduced the ability of these vessels to maneuver, thus avoiding collisions, groundings and other accidents . . . (and) not enough attention and priority are being assigned to this problem."

S. Rep. 92-74 (March 28, 1972), 1972 U.S. Code and Congressional News 2886, 2898-99. The Coast Guard has not yet implemented the Congressional mandate to establish design criteria to reduce accidental pollution.

One important means for reducing collision possibilities is the utilization of collision-avoidance radar systems.^{3a} Such systems are now available from at least four U.S. manufacturers. They all utilize a digital computer to automatically process radar data and display encounter situations in a form enabling a vessel to be steered manually to avoid possible collisions and groundings. Marad EIS VI-70. Despite the clear accident prevention benefits offered by collision-avoidance radar systems, vessel owners do not to my knowledge voluntarily incorporate them on oil tankers. The reluctance of vessel owners to incorporate such devices is well-illustrated by the fact that none of the approximately fifty oil carrying vessels (ranging in size from 35,000 DWT to 383,600 DWT), for which applications for construction differential subsidies were filed with U.S. Maritime Administration between June 1971 and June 1973 were designed to include collision-avoidance radar systems^{4a} (or any of the other accident prevention devices listed above).

To conclude, it can not be assumed that vessel owners will incorporate the best available pollution abatement technology in their vessels. As one congressional committee has stated: "tankers have been and are being designed and built exclusively for the economic benefit of their owners and customers, with little thought being given to their impact on the marine environment." S. Rep. No. 92-74, *supra* at 2897. Every effort must therefore be made by the Coast Guard, as well as other governmental officials, to insure that all oil carrying vessels which service ports on and adjacent to the U.S. coast incorporate the best available pollution abatement technology.

^{3a} The principal congressional report on the Act specifically mentions anti-collision devices as improvements to be considered for oil tankers. S. Rep. No. 92-724 (March 28, 1972), 1972 U.S. Code and Congressional News 2886, 2900. Moreover, National Transportation Safety Board in Report No. NTSP-NS-72-1, (Special Study of Collisions Within the Navigable Water of the United States—Consideration of Alternative Prevention Measures) (February 2, 1972) recommends that all vessels be equipped with a collision-avoidance system.

^{4a} The Maritime Administration in August of this year determined to require all subsidized oil carrying vessels to incorporate such systems, as well as certain other pollution abatement devices. Final Opinion to Order of the Maritime Subsidy Board, Docket No. A-75 (August 30, 1973).

CENTER FOR LAW AND SOCIAL POLICY,
Washington, D.C., August 16, 1973.

DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR DEEPWATER PORTS, JUNE 1973
(INT DES 73-37)

Hon. ROGERS C. B. MORTON,
Secretary of the Interior,
U.S. Department of the Interior,
Washington, D.C.

DEAR SECRETARY MORTON: We are writing on behalf of the Environmental Defense Fund, the Natural Resources Defense Council, and the National Parks and Conservation Association, three national environmental organizations (the "environmental organizations"), to present their comments regarding the draft environmental impact statement for deepwater ports, dated June 1973, (the "DEIS") released by the Department of Interior ("DOI") for public comment on July 17, 1973.¹ The specific subject of the DEIS is the proposed Deepwater Port Facilities Act of 1973 (the "Act") submitted to Congress by DOI on April 18,² which would amend the Outer Continental Shelf Lands Act.³ to authorize the Secretary of the Interior to license the construction and operation of deepwater port facilities located beyond the territorial sea.

¹ 38 Fed. Reg. 19045 (July 17, 1973).

² S. 1751; H.R. 7501.

³ 43 U.S.C. §§ 1331, *et seq.*

The national, environmental organizations we represent have a total membership of approximately 100,000 persons and have an established history of concern about pollution in the marine environment, particularly that related to marine transport of oil. Their membership includes a substantial number of persons who reside in coastal areas likely to be directly affected by deepwater port development, as well as scientists who have conducted and intend to continue to engage in research in coastal and estuarine areas and the marine environment. The environmental organizations have made substantial efforts to improve the quality of the marine and coastal environment by means of litigation, testimony, policy analysis, and educational programs. For example, they have recently: (a) achieved a settlement of litigation with the United States Department of Commerce calling for preparation of environmental impact statements in connection with subsidization of construction of oil tankers in the United States and provided extensive comments on an impact statement regarding the tanker construction program; (b) submitted comments to the Coast Guard and testified before Congress on the agency's proposal to require segregated ballast systems, including double bottoms, on all oil tankers trading in U.S. navigable waters; (c) commented on drafts of the proposed Convention for the Prevention of Pollution from Ships currently being prepared by the Intergovernmental Maritime Consultative Organization; and, (d) participated in the current United Nations' Law of the Sea negotiations.

The environmental organizations regard the complex energy policy, economic, environmental and land use issues raised by proposals to develop deepwater ports and increase use of supertankers as among the most important issues facing the government and the public. They have testified three times before Congress on deepwater port development policy, most recently on the Act.⁴

On June 5, they wrote you requesting issuance of an environmental impact statement on the Act. The DEIS was not released for public comment until July 17, approximately three months after submission to Congress of the Act to which it relates, and an absolute minimum of time to comment thereon has been provided, i.e., 30 days.

The growing pressure and number of proposals for increased use of supertankers and deepwater port development are based primarily on alleged growth in U.S. demand for imported oil over the next 10-15 years, unit transport savings resulting from long-haul carriage of oil in supertankers, and environmental benefits associated with offshore location of ports and reduced tanker fleets. Despite the numerous preliminary studies recently undertaken by the federal government, none of the critical energy policy, economic and environmental issues raised by such proposals has been comprehensively addressed or adequately resolved. Moreover, assuming some deepwater port development is justified, there is presently no coordinated institutional, planning or legal framework for dealing with the broad range of issues posed by such development.

In our judgment, the DEIS does not comprehensively address or assist in any meaningful ways in resolving the above-mentioned fundamental issues raised by deepwater port development proposals. We believe it is inadequate and does not satisfy the requirements of Section 102(2)(C) of the National Environmental Policy Act of 1969.⁵ Like the Act, the DEIS is designed primarily to justify and support development of deepwater ports and increased utilization of supertankers. In effect it appears to be a brief in favor of development of offshore monobuoy systems. Further, it fails to discuss alternative institutional and planning schemes for dealing with deepwater port proposals, as well as several alternative marine transport systems, and avoids meaningful, objective analysis of the implications of energy policy and petroleum source alternatives for potential port and tanker requirements.

I. ENERGY POLICY AND DEEPWATER PORT REQUIREMENTS

The Administration's determination to develop deepwater ports in the United States is based on the assumption that "under existing trends, a dramatic increase in imports appears to be unavoidable over the next few years. . . ." (DEIS, II-1). Even assuming dramatic increases, the DEIS concludes that "the actual number of ports may not exceed one or two in each coastal region (Atlantic

⁴ Copies of testimony presented on July 12, 1973 before the House Committee on Merchant Marine and Fisheries, and on August 1 before a Special Joint Subcommittee of the Senate Committees on Interior and Insular Affairs, Commerce and Public Works are enclosed for your information.

⁵ 42 U.S.C. § 4332(2)(C).

and Gulf . . . , depending on the port type and location selected." (DEIS, IV-1).

The importance of import demand projections to deepwater port development is underscored by the Energy Subcommittee Working Group on Deepwater Ports in its Final Report, entitled "Economics of U.S. Deep Water Ports," included as Appendix B in the DEIS (the "Economic Analysis"). The state that:

"A major determinant of what type of superports should be built, and even whether a U.S. superport should be built at all, will be the level of throughput for much of the facilities anticipated lifetime. This finding underlines the importance of accurate demand projections from the start." (DEIS B-46).

Despite the importance of the underlying demand assumptions, the DEIS contains no meaningful assessment of the basis for its import projections and the variations therein stemming from alternative energy policies. While Chapter II contains a brief assessment of five possible import levels for the East Coast and Gulf Coast based on certain energy policy assumptions, there is no detailed analysis of the implications of each projection for port and tanker needs, nor is the rationale for the projections set forth. For example, the lowest level projections (*i.e.*, Cases IV and V) are based upon "maximum stimulation of U.S. oil and gas production." However, the meaning of "maximum stimulation" is not revealed; and the low projections are dismissed quite cavalierly in one sentence as "optimistic projections of domestic production which could be realized only through optimal federal leasing policies, increased prices and fortuitous discovery rates." (DEIS, II-15).

Assuming *arguendo* that the maximum stimulation alternative postulated by DEIS represents one extreme, the other cases postulated in the DEIS (Cases I, II, and III) represent the other extreme—they assume "*no stimulation* of U.S. oil and gas production." We fail to understand why exclusive reliance was placed on "worst case" projections and no attempt was made to develop and utilize projections based on substantial (although not necessarily "maximum") stimulation of U.S. production, together with reasonably foreseeable developments in other energy policy areas which might affect the level of imports, such as increased fossil fuel production from oil shale and coal, and energy conservation measures. These alternatives, as well as other alternative energy policies and petroleum sources are discussed in Subpart E of Chapter IX, but their implications for U.S. imports are not related in any meaningful or detailed way to the controlling assessment of the United States petroleum situation set forth in Chapter II and alleged deepwater port requirements.

While predictions based upon the relative roles of alternative energy policies and sources may involve "a large measure of judgment . . ." (DEIS, IX-146), this does not justify the failure of the DEIS to evaluate the implications of relevant policy and source options for import levels. The sole discussion of such options in the context of a national energy policy is contained in Subpart G of Chapter IX, entitled "Combination of Alternatives". This section consists primarily of a virtually meaningless energy policy flow chart, and table which purports to compare incremental production potential for alternatives to oil imports, and a generalized (and apparently randomly selected) list of factors considered relevant to a projection of oil import needs. In addition to being virtually incomprehensible, the discussion of combination of alternatives is not related to potential deepwater port needs nor the five import scenarios discussed several hundred pages earlier in Chapter II, despite indications in separate discussions of alternative energy policies, alternative petroleum sources and alternative energy sources that means are available to reduce significantly, *e.g.*, 1 million b/d, (DEIS, IX-83), the level of oil imports between now and 1985.

The discussion of energy policy and source alternatives in the DEIS is also deficient in another area: there is no detailed analysis of the comparative environmental costs and benefits of these alternatives. Such a comparative analysis is critical to intelligent energy policy planning designed to fulfill environmental policy objectives, particularly as regards the alternatives of increased development of domestic fossil fuel resources⁹ and reduction of energy demand.

⁹ The sole comparative assessment of environmental risks appears in the discussion of increased domestic production of offshore oil and consists of the single, unenlightening assertion that most environmental impacts encountered from outer continental shelf leasing and production "would be the same as are expected for deepwater ports. . . ." (IX-32). The subsection entitled "Combination of Alternatives" (DEIS, IX-152) does not

II. THE ECONOMICS OF DEEPWATER PORTS AND SUPERTANKERS

Another assumption underlying deepwater port development proposals is that, together with the use of supertankers, they will result in significant transportation cost savings. The DEIS argues that deepwater ports and supertankers are the economically preferred way to meet rising United States oil import demands. Serious questions exist, however, as to the usefulness and validity of the Economic Analysis contained in the DEIS.

The Economic Analysis of deepwater ports excludes refinery costs, even though they "probably represent the largest share of the total cost of processing imported crude oil." (DEIS, I-24). This appears unjustified, particularly in view of the basic assumption that most oil imported through 1985 will come from the Persian Gulf and that such oil will be high-sulphur content crude oil. According to the DEIS, few existing U.S. refineries "are capable of processing this type of crude oil (and) . . . costly modifications may be required and desulphurization plants will need to be built." (DEIS, IV-59, IV-62). On the other hand, the sulphur content of domestic crude oil is substantially less than that of Middle East crude; thus, to the extent that domestic resources are utilized, refinery costs for sulphur removal from crude would appear to be substantially reduced. It therefore appears unreasonable to exclude the cost of foreseeable refinery modifications and desulphurization facilities from an economic evaluation of the deepwater port-supertanker transport system.

Material in the DEIS suggests that the transport cost of oil per dead weight ton tends to decrease with increasing size of tankers and, thus, that savings in unit transport costs result from utilization of supertankers. The DEIS also implies that any such savings will accrue to the U.S. consumers (DEIS, I-2). However, as Barbara A. Heller, a member of the Energy Policy Staff, Environmental Policy Center, pointed out on July 25, 1973 in testimony on the Act before the Special Joint Subcommittee of the Senate Committees on Interior and Insular Affairs, Commerce, and Public Works:

"Little attention has been given to the distribution of these savings . . . It seems reasonable to say that relative savings per gallon of product to the consumer are small, if in fact they exist, and the benefits from unit transport savings resulting from supertanker-superport use will very likely accrue to the oil industry."

The DEIS should examine in detail the potential significance for the consumer of the alleged savings from supertanker use.

The Economic Analysis purports to take into account the cost of environmental safeguards to be incorporated in deepwater port-supertanker transport systems. However, a number of important environmental costs are excluded, including costs of damage from oil spills. Further, the analysis is based on lowest possible (or minimal) environmental cost assumptions and appears designed to prove that the alleged economic benefits of deepwater ports are not significantly affected by environmental costs.⁷

According to the Economic Analysis, the environmental controls factored into the analysis are based upon a "list of *minimum* standards necessary to prevent, contain, and clean up spills" drawn up by the Environmental Protection Agency. (DEIS, B-33). Exclusive reliance on minimum standards is unjustified and prejudices the study from the outset, *i.e.*, provides the lowest possible estimate of environmental costs. Additional estimates must be provided based on standards necessary to prevent significant adverse effects and utilization of the best available technology. Also, it is essential to set forth the "minimum standards" in detail, together with the basis for their selection. The DEIS merely states in a single paragraph that only double bottoms are assumed to be incorporated on supertankers utilizing deepwater ports; that certain devices for containing spills were assumed to be available for sea island and artificial island ports, but not for monobuoys; and that transshipment pipelines were assumed to "be buried to EPA specifications . . ." (DEIS, B-34).

Moreover, we believe that the pollution abatement equipment selected by EPA was unduly limited. For example, it is unreasonable to limit consideration of vessel design features for environmental protection to double bottoms. Fully segregated ballast systems, radar controlled collision avoidance systems, and devices for improving maneuverability, including twin screws and controllable pitch propellers must also be considered. Similarly, there is no justification for excluding costs associated with modern traffic control systems, (such as those

⁷ Significantly, even under the DEIS minimal environmental cost approach, it appears that deepwater ports would *not* be economically justified at very low levels of throughput and assuming double bottoms are used on tankers serving U.S. ports. (DEIS, B-43). discuss environmental tradeoffs regarding any alternatives.

now being developed by the Coast Guard in various ports of the United States) and costs for containment devices for use with monobuoys. While current practices may not permit containment of spills at monobuoys, this problem must be resolved at some cost before monobuoys can be approved.

While it may be difficult to project costs of damages resulting from oil spills, it is certainly not impossible. For example, costs likely to result from massive spills in various regions of the country are set forth in some detail in the recent environmental impact statement prepared by the Maritime Administration regarding its tanker construction program.⁸ Also, certain clean-up costs are estimated in the DEIS (DEIS, IV-65, 66). Estimates of damage costs are thus available and must be included in any comprehensive economic assessment of deepwater ports.

Finally, we believe it was a serious mistake to have the environmental controls which form the basis for the Economic Analysis drawn up exclusively by the Environmental Protection Agency. Given the Congressional mandate to the Coast Guard in the Ports and Waterways Safety Act of 1972 and its experience in dealing with ship-generated pollution as well as port facilities, the Coast Guard should have had primary responsibility for drawing up potential environmental safeguards for deepwater port facilities, with the advice and cooperation of the Environmental Protection Agency. Also, the Departments of Transportation and Interior should have played a significant role in establishing requirements for pipeline safeguards, although this job was apparently delegated to EPA.

III. ENVIRONMENTAL IMPLICATIONS OF DEEPWATER PORT DEVELOPMENT

A. *The Environmental Tradeoffs of Alternative Marine Transport Systems*

A basic assumption which underlies the proposed legislation and is repeated throughout the DEIS is that offshore, deepwater ports and utilization of supertankers is the environmentally preferable way to serve U.S. oil import demands. (E.g., DEIS, VI-1, VII-1, IV-94-IV-103). In fact, a finding to this effect is included in Section 101(a) of the Act.

Certain preliminary studies described in the DEIS suggest that the further oil is located offshore, the less likely it is to reach shore and have damaging effects on critical marine and estuarine ecosystems. The DEIS concedes, however, that such assumptions run the risk of over-simplification (DEIS, IV-94); that quantifying the impact of oil spilled "as a function of distance from shore is difficult because winds, currents, and biological and physical conditions vary by site, season, and even day of the month." (DEIS, IV-97); and that "in the absence of natural action, massive spills at sea would likely reach estuarine and shoreline areas" (DEIS, IV-79).

Other data in the DEIS (IV-98, 100) purport to show there is no necessary relationship between tanker size and oil outflow magnitude resulting from accidents and that reducing fleet size should reduce pollution risks. But, the DEIS concedes: (1) that the data base relied on is questionable since it does not include a single catastrophic accident with a tanker larger than 80,000 dwt and does not reflect any substantial experience with supertankers, (DEIS, IV-98-IV-102); and (2) that it is an open question whether the amount of oil likely to be spilled (as opposed to the number of accidents which might occur) utilizing a large fleet of small vessels would be greater than that spilled by a smaller fleet of large tankers. (DEIS, IV-58-59).

The DEIS conclusion that smaller tankers pose a greater risk of collision, grounding or accidental discharge than supertankers is in part based on the assumption that small tankers would be considerably older than, and lack modern safety and pollution control devices incorporated on, supertankers. However, it seems unreasonable to compare the environmental risks of a fleet of supertankers and a fleet of smaller vessels assuming that certain environmental safeguards will be incorporated in one kind of vessel and not in the other. The potential use of substantially improved traffic control systems, as well as pollution abatement design alternatives, including double bottoms, segregated ballast systems and maneuverability devices, must be considered in assessing the environmental risks associated with a fleet of small tankers. Also, the reduced maneuverability associated with large tankers must be taken into account as a negative factor when making a comparative analysis. In other words, is a fleet of supertankers, coupled with construction of deepwater

⁸ Final Environmental Impact Statement, Maritime Administration Tanker Construction Program (N.T.I.S. Report No. EIS 730725-F).

ports, environmentally preferable to a fleet of small tankers incorporating pollution abatement designs and operating in accordance with modern traffic control systems?

Another marine transport system alternative which must be examined is the use of offshore facilities by intermediate and/or small size tankers. Would the environmental advantages alleged to result from supertankers still exist if compared to a fleet of smaller tankers utilizing offshore facilities?

An additional alternative which bears analysis is the development of a fleet of large, shallow draft tankers as a substitute for a fleet of deep draft supertankers. The shallow draft tankers should reduce the need for deepwater ports, yet presumably would provide some of the economies allegedly associated with larger tankers.

The point is that the DEIS conclusion that offshore ports together with supertankers are the environmentally preferred alternative for meeting import demands is not necessarily correct and may be misleading. An objective assessment of available data reveals that a substantial amount of analysis and information gathering remains to be done before any such concrete judgments can be made regarding the environmental costs and benefits of alternative marine transport systems. This is particularly true with respect to the monobuoy system, which is recommended by the DEIS, since it does not permit containment of spills (DEIS, IV-93), and there is a substantial risk of tankers creeping up on the monobuoy and damaging hoses which transfer oil to underwater pipelines (DEIS, I-8). Indeed, the inability to contain spills during unloading operations when utilizing single point mooring type facilities has been described by Russell Train, former Chairman of the President's Council on Environmental Quality, as "a major environmental disadvantage" of such a system. He also has cautioned that "further development and experience with single point mooring technologies will be necessary to alleviate this problem before these facilities come into general use in the U.S."⁹

B. Consideration of Secondary Environmental Effects

The question of deepwater port development is intimately related to broader questions of national, regional, and local land use planning and coastal zone management. As is acknowledged in the DEIS, the location of a deepwater port will induce new industries, particular refineries and petrochemical complexes, in the region surrounding the area serving the port, with consequent growth in commercial and economic activities which will result in a broad range of environmental impacts. According to the DEIS:

"One of the most important elements in the analysis of onshore facilities related to a deepwater port complex is the potential development of refinery facilities and related industries. This could have a more significant environmental impact than any other component of a deepwater port system over a long period of time." (DEIS, IV-85).

Despite the importance of secondary environmental impacts of deepwater ports, the Act nowhere provides for their review and assessment by the Secretary in considering applications for licenses and they are treated only minimally in the DEIS. The discussion of secondary impacts is extremely general and restricted to four pages in the more than 400 page document. The consideration of secondary impacts must be substantially expanded and tied specifically to particular regions, *i.e.*, the North Atlantic and Gulf Coast, which are prime candidates for deepwater ports. Moreover, the discussion should (a) consider likely competing uses of the coastal land and water resources, *e.g.*, power plants, airports, waste disposal facilities, and (b) contain a detailed analysis of trade-offs between dispersion of deepwater ports and related industrial development, and concentration thereof.

IV. THE NEED TO EXAMINE ALTERNATIVE REGULATORY AND PLANNING SCHEMES

As noted earlier, there is presently no comprehensive institutional and planning mechanism for establishing deepwater development policies, or legal framework for implementing such policies. The Act falls far short of establishing such mechanisms and framework, and the DEIS neither provides a comprehensive analysis of the Act or alternative means for policy development and implementation.

⁹ Testimony of the Honorable Russell E. Train, before the House Committee on Public Works, June 20, 1973.

The basic purpose of the Act is to "remove any legal impediments to the development of deepwater terminals . . . beyond the 3-mile limit" (DEIS, I-2),¹⁰ and it leaves "basic planning and design of these . . . facilities . . . to non-Federal initiatives." (DEIS, I-3).

The Act would authorize the Secretary of the Interior to license and regulate deepwater ports beyond the territorial sea. The Secretary could issue a license whenever he finds, *inter alia*, (a) that the applicant is financially responsible and has demonstrated an ability and willingness to comply with applicable laws, and (b) that the facility "will be located, constructed, or operated in a manner which will minimize or prevent any adverse significant environmental effects." The Secretary is provided "unrestricted authority" (DEIS, V-1) to promulgate rules and regulations regarding issuance of licenses, and terms and conditions to be included in them, subject only to a requirement of reasonableness. Before issuing a license, the Secretary would be required to consult with the governor of any state off whose coast the facility is proposed to be located to ensure that its operation and related land-based activities "would be consistent with the state land use program." Also the deepwater ports and related tanker operations would be subject to existing U.S. safety and pollution control regulations.

While a wide variety of regulatory schemes could no doubt be devised to deal with deepwater port development proposals, it is essential for the DEIS to include a discussion of the rationale for proposing the regulatory scheme contained in the Act and reasonable alternatives thereto. The DEIS, however, contains no such discussion. In view of the significant environmental, energy policy, and land use issues which surround a potential commitment to development of deepwater ports, and the acknowledgment in the DEIS that only a limited number of such facilities would be needed even assuming maximum import levels through 1985, it would be reasonable to consider, for example, (a) deferral of any approval of port proposals pending development of additional data regarding environmental and economic tradeoffs among alternative marine transport systems and a coordinated policy for overall coastal zone management; (b) limitation of initial development to a single pilot project (or perhaps one to serve the Atlantic coast and one to serve the Gulf coast); and/or (c) a requirement for specific Congressional approval of each deepwater port project, at least as regards need and specific locations for development; (d) establishment of a single federal regulatory body to consider planning, siting and operation of all types of offshore facilities, *e.g.*, power plants, airports in addition to ports, and authorization of such body to adopt a coordinated systems approach to specific proposals; (e) establishment of regulatory authority for deepwater port activities (and possibly other coastal zone projects) in an agency with broader based environmental expertise and experience with port and vessel construction and operation, such as the Coast Guard; (f) establishment of special and strict requirements regarding spill containment systems, traffic control systems, storage facilities, design and performance characteristics for vessels which serve deep water ports, as well as for pipelines and other facilities used to transport oil to shore; (g) a requirement that ports and related activities could not be approved unless a clear need therefore is demonstrated and they would not result in significant adverse environmental effects, and would incorporate the best available pollution abatement technology; and (h) a requirement for the licensing authority to consider secondary environmental impacts in evaluating port proposals.

Moreover, in view of the substantial environmental impact of offshore developments on coastal states and their traditional authority to regulate such impacts, consideration must be given to providing states with a veto power over such developments off their coasts based on environmental or economic grounds.

Further, assuming that existing U.S. safety and pollution control laws would be applied under the Act to deepwater ports and tankers using them, these laws must be critically reexamined to determine whether they provide adequate protection for the marine environment in this area. Of particular importance in this connection are regulations for pipelines utilized to transship oil from offshore facilities. While the DEIS does discuss in general terms the potential environmental risks posed by pipelines, a more detailed analysis is required

¹⁰ Substantial questions exist as to the legal basis in international law for and nature of U.S. authority to assert jurisdiction over deepwater port facilities and operations beyond its territorial waters. However, this problem is brushed aside in the DEIS with the assertion that regulations of such activities "will be consistent with international obligations of the United States." (DEIS, I-3). A more detailed analysis of these issues is required.

regarding the adequacy of present regulations and need as well as possibilities for developing new technologies to eliminate these risks.

Conclusion

In conclusion we would reemphasize the need to proceed with caution in evaluating the need and, if appropriate, the means for development of deepwater ports in the United States. The need for caution is underscored by the facts that, even assuming maximum oil import levels, only a few deepwater ports would be required and that the level of oil imports is intimately related to the shape of United States energy policy, which is undergoing substantial reexamination at the present time.

Development of offshore port facilities represents a major new endeavor in the marine environment and may pose unprecedented threats and challenges to the integrity of our coastal waters and lands. It should thus only be allowed to proceed when adequate information and institutional capacity are available to resolve the environmental, energy policy, economic, and land use issues at stake, and then only in the context of a comprehensive, multi-interest planning and institutional framework for management of the coastal zone. The Act in its present form is patently inadequate to meet these needs and objectives. Similarly, the DEIS in its present form is inadequate since it is primarily a justification of the proposed legislation and deepwater port development.

If you have any questions concerning or need any further information about the comments contained herein, please contact either of the undersigned.

Very truly yours,

ROBERT M. HALLMAN,
ELDON V. C. GREENBERG,

*Attorneys for Environmental Defense Fund, Natural Resources
Defense Council, National Parks and Conservation Association.*

Mr. DE LUGO. Our next and final witness for the day is Mr. Emilio Soler, the chairman of the board of directors of the Legal Institute of Puerto Rico.

Mr. Soler, it is a pleasure for the committee to welcome you here today. And we look forward to hearing your testimony.

STATEMENT OF EMILIO SOLER, CHAIRMAN, BOARD OF DIRECTORS, LEGAL INSTITUTE OF PUERTO RICO

Mr. SOLER. Thank you very much.

My name is Emilio Soler. I am a lawyer in San Juan, P.R. And I am chairman of the board of the Legal Institute of Puerto Rico. And I will represent here the Industrial Commission of Puerto Rico, which is the largest environmental group in Puerto Rico. And I represent too, the Institute of Environmental Studies of the Bar Association of Puerto Rico.

I was invited to appear only last Friday. And you can see that in 2 days I did not have time to prepare a written statement. I will testify following a specific outline of what I have made up for this occasion.

For the purposes of my testimony here I want to illustrate the necessity of a well-established policy toward deepwater ports in accordance with the national oil policy of this country.

I urge the chairman here and the members who will not be here that the Institute or myself will be glad to get in touch and if there is more interest in the testimony, we would be willing to talk to these other persons.

I begin by telling the necessity that you have in the United States for petroleum. There has been a change in the pattern, so that the United States is growing from an oil exporting country to an oil

importing country. As a result of that basic change you have had to enter into adjustments toward your national oil policy. I would say that from an economic standpoint that a very logical solution would be to cut the costs of transportation as an oil importing nation. So I believe that there should be a very thorough study of the economics and all the other aspects of super tankers and oil complexes that grow around this policy that you should establish.

However, the United States has been very cautious in handling this policy concerning the super ports and oil companies, realizing, I think, the very delicate effects that these oil complexes and deep water ports have on health, environment, and general ecology of the place.

In the meantime, while this has been going on here, this slow process, we see that Puerto Rico has taken advantage of this delay and has acted to establish a super port and oil complex in Puerto Rico. I will describe later in my testimony the different actions that already have been taken in Puerto Rico toward developing a super port and an oil complex.

We know how you must feel about the serious environmental and health effects of such development on your east coast. I understand it is a place which is very much limited in territory and which has about the highest population density in the whole Western Hemisphere, so you must know how we must feel about such a development, especially its effect, its social and environmental impact, on the rest of the Puerto Rican country.

I will briefly describe Puerto Rico. Puerto Rico is located in the Caribbean Sea. It is the biggest of the smaller Antilles. Its size is a hundred miles long, 30 miles wide. It has three or four outer islands which surround Puerto Rico and which are part of the territory of Puerto Rico. It has been a historic agricultural country which in the last 45 years has changed from an agricultural country to an industrial country. It has rich agricultural valleys. It has a mild average temperature of about 80°. It has sunny weather, blue water, and clear beaches.

It has developed quite a big tourist industry. In addition to the tourist industry, there are commercial fisheries and sport fisheries on the island of Puerto Rico.

It is located in a cyclone area, and there has been in the last 50 years quite an experience in earthquakes. We have had earthquakes that have affected Puerto Rico, especially in the region in which it is planned to put this complex.

The Governor of Puerto Rico about a month ago in a public televised statement, declared its policy toward establishing a superport and an oil complex in Puerto Rico and especially an island.

In the *Journal of Commerce*, which is a publication of the United States, in the last Thursday edition, had a special supplement regarding this superport complex. I must tell you that it said there the decision was to put this oil complex, deep-water facility on an island which is called Mona Island, located from 30 to 40 miles to the west of the main island of Puerto Rico. It is an uninhabited island. It is located midway between the island of Hispaniola and Puerto Rico; that is, the Dominican Republic.

The topography—

Mr. DE LUGO. Excuse me, Mr. Soler. We have to go to vote on the floor, and we will recess and reconvene as soon as we have voted.

I might say that I am very much interested in hearing your presentation. I am going to stay with you and I am going to chat with you during the recess.

Mr. SOLER. Very good.

[A recess was taken.]

Mr. DE LUGO. We will go back on the record.

Let the record show that our chairman, Mr. Udall, is still in the conference committee that is working on the Alaska pipeline. And my colleagues, Mr. Bingham, of New York, who is with us, should be presiding at this time. He is the senior member to me. But he very graciously insisted that I continue to preside, knowing that I would enjoy it, since we have the pleasure of having a neighbor from Puerto Rico in the witness chair, Mr. Soler.

So would you continue, Mr. Soler?

Mr. SOLER. The last thing we were discussing was that there was news that the Government has selected for the establishment of a super port and oil complex an island which is called Mona Island. Mona Island is an uninhabited island. It is midway between the Dominican Republic and Puerto Rico. It has about 16,000 acres. It has a passage of water that is very famous for its turbulence due to the currents that come from the Atlantic Ocean into the Caribbean and cold waters meeting with warmer waters, so that there is always turbulence in that water passage. It is called Mona Passage.

The island itself is somewhat of a coral surface. And there are many caves in it. About three-fourths of the island is composed of cliffs. It does not have beaches.

Mona, due to its peculiar situation, has been uninhabited. And on it there are six to seven species of plants that have survived that you cannot find anywhere else except there. The species of plants that exist there are very old. Botanists find that they are very interesting on account of their ancestry, since they do not exist anywhere else. The same with iguanas. There are several different kinds. The iguana is an animal that is found in several tropical countries. And this particular type of iguana, due to the characteristics of the island, you will find the species there that you will not find any place in the world. It is the oldest species of iguana. It goes back 2,000 years ago. And it still exists there.

It is a natural habitat for tortoise. That is where they lay their eggs. About 5,000 tortoises are born a year there. And it is the only island where you have that situation in the Caribbean.

In Puerto Rico, Mona is used as a wilderness area. That is, many people from Puerto Rico go there for camping and for scientific and sport purposes.

It is always regarded as an escape valve for the population of Puerto Rico, that is, being outside of Puerto Rico, which is so densely populated. It has always been regarded as a special outlet for recreation and perhaps at a later date for future controlled immigration.

Puerto Rico has other islands in its region, like Culebra and Vieques. But these islands have been very much affected. For example, Culebra has 25 percent of its territory on armed forces bases. The same thing for

Viaques, which is a larger island. More than 50 percent of its territory is used for armed forces purposes.

So as you can see, the picture is that really the surrounding islands are needed very much for this expansion and for the population, the necessities of Puerto Rico.

The history of the project and of the oil complex and super port mainly has been taken from three sources. Which is a report called "Development of Mona Island, Petro Chemical Processing Center." It was issued by the Puerto Rican Development Administration when Mr. Manuel Casienco was there, dated December 1972. And there are three other technical reports which have been used, the base company report, which mainly deals with economics, the Van Hooten report, which mainly deals with marine engineering, and the other, a research department report.

The Mona Island report specifically describes the project the following way.

There are going to be 11 berths and back water facilities.

There is going to be a port industrial zone that will take about 700 acres.

There will be a desalination plant. And a powerplant, that is, electric powerplant.

A waste treatment facility that will take a hundred acres.

A transshipment terminal, and a tank farm zone, which will take 1,000 acres.

A refinery zone, which is planned to take 1,400 acres.

There is going to be an airfield that will take 400 acres.

A residential and recreational zone is planned that will take 2,300 acres.

And there will be highways surrounding the whole island, and a highway that will cross the island.

It is well to point out that this report does not enter into the petrochemical project which is related to this same project. According to the plan in this report, the industrial complex, together with the residential complex, will occupy about 40 percent of the total land of the island, 6,500 acres of land. You remember that the island had about 16,000 acres of land. The initial project will take and occupy about 50 percent of the total coastline of the island.

Based upon the project as such, there are big environmental considerations that we have to ponder and study before making any decision on such a project.

As for the actual construction, we have large volume dredging activities for this deep water port in the shoreline and estuaries which will undoubtedly affect the volume and dredging of currents. This will affect the stratification and turbulence of the water.

There is a planned pipeline construction that will go from the island to the main island of Puerto Rico. And the jetting operation will disrupt the growth of vegetation in the immediate area, and vegetation in the immediate path of the waterway will be affected.

Then aside from the construction as such of the project, we have the continuous, I would say, danger of oil spills. And some of the respected members know of the oil spills in Puerto Rico that we had some years ago which affected most of our beaches and our tourism. And we had another one just 6 months ago, a Greek ship. It was in

the western part of the island. And it had environmental effect upon the commercial fisheries of the island, the seaside and beach facilities.

Oil spills occur for many reasons. One, the failure of the tanker as such. There is the danger of tankers running aground. And there is the tanker collision. There is the spill that occurs on transfer from one tanker to the port facility, the rupture of hoses and supply lines. There can be equally a failure of storage, tank leakage, or human error, or carelessness.

We know that normal tanker operations bring pollutions that besides the oil spill will tend to cause pollution in the waters, such as sewage, the domestic waste of the tanker as such, the garbage and other type of trash.

There is a need in a refinery such as the one that I have mentioned here, of about 500,000 barrels a day for about 3 million gallons of fresh water daily. If we considered that that is going to take place in Mona Island, it has to be taken from deep wells down. And as the fresh water is taken from these deep wells, the salt water comes down, and it replaces the fresh water wells. So in an operation which initially gives three million gallons of fresh water daily in an island of such limited size as Mona there is that imminent danger.

I think the members of this committee know very well the result of air pollution from refineries and electric powerplants. This island is an uninhabited island. And it is planned that 3,000 or 4,000 persons will go to live there. And undoubtedly there is a plan for new housing—more people, more cars, more sewage in such an island.

We have to consider too, in an island like Puerto Rico the effect on tourism, the effect upon wildlife, the effect upon the tropical vistas as such. You have to—

Mr. DE LUGO. Mr. Soler, would you yield just a moment?

A moment ago you made a statement, you said we have to take into account the effects to tourism in Puerto Rico, and so forth. And I thought that that would be a good point for me to interrupt and state this for the record.

It must be understood that this committee would not in any way interfere in the internal affairs of Puerto Rico. It appears to me that this is a matter to be determined by the elected Government of Puerto Rico and the people of Puerto Rico.

Also, it is a matter of concern to me that the legislation before us does not address itself to the project that you are describing, which is the Mona Island super port and refinery. As I understand it, the Mona Island port would be an offshore port, and this legislation before us addresses itself to super ports that are beyond the 3-mile limit. So, therefore, it would be determined by the laws of Puerto Rico and the people of Puerto Rico and the planning board of Puerto Rico, at the same time taking into consideration the Federal laws meeting the EPA. Environmental Protection Agency standards, and so forth. I would like that clearly understood. We are receiving your testimony as a courtesy to see in what way this would give us some input in programs broadening our legislation, but in no way are we attempting to interfere in the internal affairs of Puerto Rico, the Commonwealth of Puerto Rico.

Mr. CRONIN. Would the chairman yield?

Mr. DE LUGO. Yes, sir.

Mr. CRONIN. I would like to associate myself with your remarks and point out that I am very interested in the witness' comments, and look forward to reading the statement he will be sending along for the record. Certainly your problems are unique, and they help us in our general background of the entire question.

Thank you.

Mr. SOLER. I will agree with you, Mr. deLugo, in the sense that this legislation considers super ports and oil complexes outside the 3-mile limit. Precisely what we are stressing is the need for a more comprehensive legislation that will include the 3-mile limit coastline. Because as you can see, within 3 miles in such a huge development like a superport and oil complex like we are talking about, and what the legislation considers, it is very important that the considered effects on water pollution and the effects on air pollution, go within not only 3 miles but for 100 miles, or 200 miles. I think that there is an interest that should be taken within that frame of 3 miles, and there should be some jurisdiction and some regulations. That is one of the points in my conclusion I will bring forth that precisely this legislation should contemplate.

Mr. DE LUGO. Mr. Soler, as I have stated, your point is well taken. But I would say to the people of Puerto Rico this is something for them to study. And I am sure that my good friend, Gov. Hernandez Colon, has agonized at great length on this. I know the Governor well, and I know of his deep concern for the welfare of the people of the Commonwealth of Puerto Rico. And I am sure that he is taking this into consideration.

Mr. DE LUGO. Mr. Bingham.

Mr. BINGHAM. Has the Government of Puerto Rico as such taken a position on this project? Is it firm?

Mr. SOLER. Yes, there have been some affirmative actions to establish the complex. And more than that, there have been public statements by the Governor and by the President of the Senate and the House of Representatives recommending the project as such.

Mr. BINGHAM. Then really, what you are asking the Congress to do is to take steps which would in effect reverse the action taken by the Government of Puerto Rico, is that correct?

Mr. SOLER. No, I have not finished yet. Most of these actions, is if you study them and see them, have not followed a pattern of the environmental acts which exist and apply to Puerto Rico, including the Commonwealth one and including the Clean Air Act and the Pollution Act, all of these actions which have been taken by the Government do not fall within the context of law. And that is a matter of a special judiciary concern.

Mr. DE LUGO. Let me interrupt you right there, Mr. Soler. My concern at this point is that—I am well aware that this is a very controversial subject in Puerto Rico. And certainly I am interested, being a neighbor of Puerto Rico, in the development of this superport and petrochemical complex. But as you just pointed out, there are laws, both the laws of Puerto Rico and the Federal environmental laws, that must be met. And there is some concern about the way we are proceeding today in my mind, that it might appear that you are appealing to this committee to override what is being done in Puerto Rico. And, of course, we would not consider that at all.

Mr. SOLER. No; not at all, because I do not think—I am not suggesting this. What I am trying to bring to the knowledge of this committee is that in their legislation they should consider that standards should be put within the 3-mile limit, you see.

Mr. DE LUGO. I see. Across the entire United States. And you are putting forward your concerns in connection with Puerto Rico as something that we can learn from?

Mr. SOLER. Yes.

Mr. DE LUGO. As I understand it, your presentation is more for the committee's edification rather than to come before us and say, well, the Government of Puerto Rico is proceeding with the Mona Island proposition, and we want you to intervene. You are not asking for us to intervene at all?

Mr. SOLER. No.

Mr. DE LUGO. And this committee is not considering that.

Mr. SOLER. Another point that I want to stress—and then I think I will conclude—and it is very relevant to this—is precisely the moratorium. If nothing is done, a lot of action like the one that I have described already, will go through, without any legislation at all. But there is a need to establish a developed policy which will cover this type of action so that this type of actions that have happened will not happen. And the solution, as I see it, to the problems are so complex that no development should come, and we should at least hold elections on superports, until there is a uniform piece of legislation that will regulate the whole complex situation.

Mr. DE LUGO. Is this actually going to be a superport? Is this going to be able to take ships of 93 foot draft? In other words, is it going to be from 110 to 120 feet deep?

Mr. SOLER. Yes.

Mr. DE LUGO. So that it can really accommodate supertankers? Is it not just going to be a large port?

Mr. SOLER. No; it is a deepwater port, and is specifically referred to in the specific reports that have been quoted here as a deepwater port.

Mr. BINGHAM. Mr. Chairman—

Mr. DE LUGO. Mr. Bingham.

Mr. BINGHAM. Do you have specific recommendations to make with respect to the bill before us?

Mr. SOLER. Yes, sir.

Mr. BINGHAM. As to changes that should be made in the bill?

Mr. SOLER. Yes. I have the following specific recommendations.

Congress should adopt a policy of holding all super-port actions, including those within the 3-mile limit, until we establish a comprehensive policy and until this delicate and important matter is defined finally, so that we will not have this type of situations.

And as a matter of record, I would like to say not only for the moratorium as a request, but I would also suggest that in order to have a clear and comprehensive policy on this act, that it should include legislation within the 3-mile limit.

Mr. DE LUGO. Does that conclude your testimony?

Mr. SOLER. Yes.

Mr. DE LUGO. Mr. Soler, I certainly want to commend you on taking your very valuable time to come before the committee and give us your

thoughts on this legislation. I can assure you that they will be given full consideration.

And please say hello to all my friends in Puerto Rico when you return.

I would like to ask unanimous consent that our colleague Commissioner Benitez be allowed to place in the record any comments that he might have on this matter.

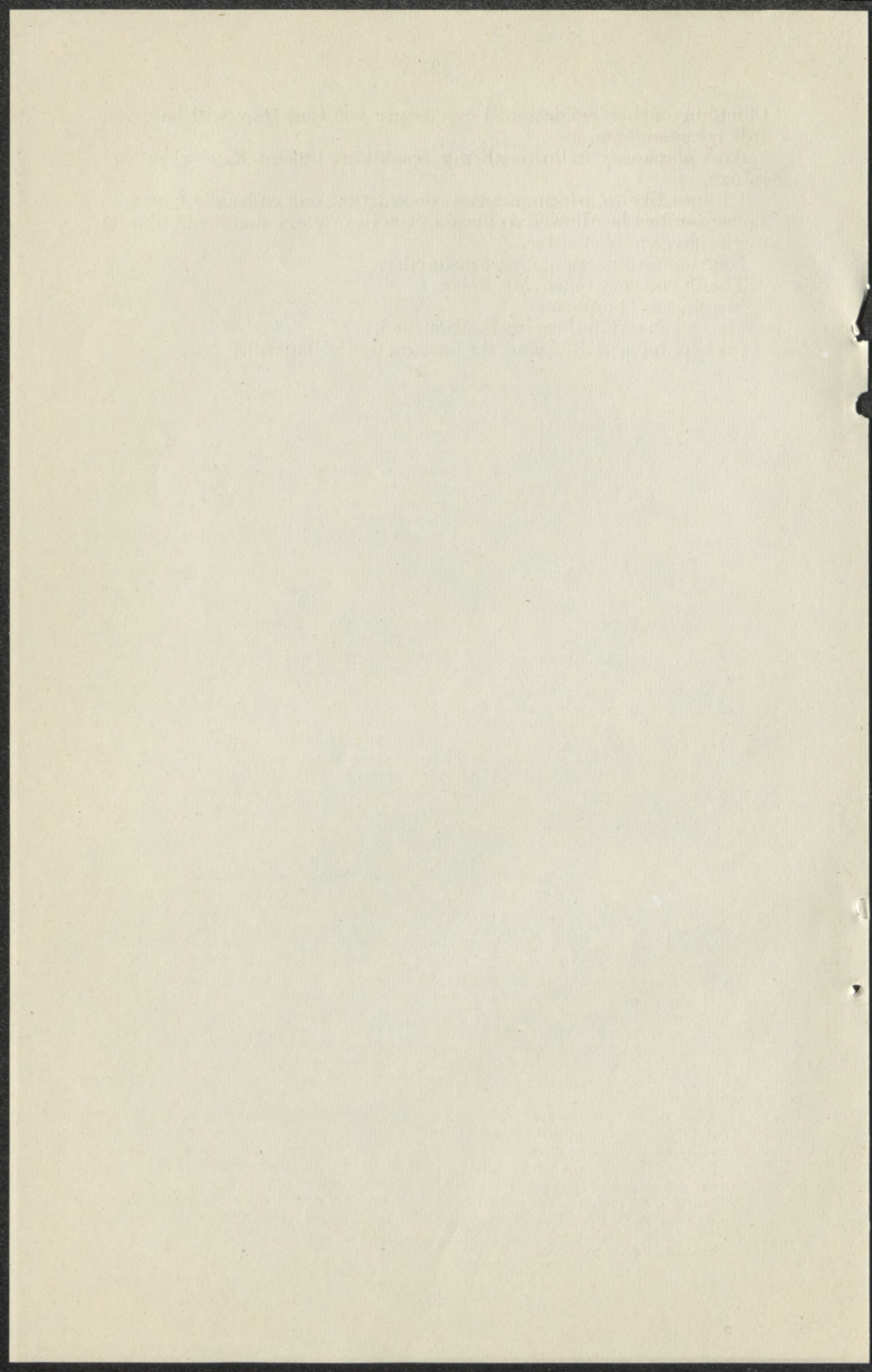
Hearing no objection, it is so ordered.

Thank you very much, Mr. Soler.

Mr. SOLER. Thank you.

Mr. DE LUGO. This hearing is adjourned.

[Whereupon, at 3:35 p.m., the hearing was adjourned.]



APPENDIX

STATEMENT OF HON. JACK EDWARDS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ALABAMA

Mr. Chairman, members of the committee, I am appearing today to present my thoughts on the need for deep water ports in America and on the corresponding need for the Congress and this committee to continue to exercise leadership in this important area. I commend the chairman and the members of this committee for the interest you have already shown in the subject of deepwater port facilities.

Our acute energy shortage has been brought to the attention of every American in recent months. We have learned just how much we rely on petroleum products to keep the country and the economy moving. We have seen how our fuel needs, our balance of payments, the strength and stability of the dollar, the health of our domestic economy, and our national defense posture are so tightly interwoven that if one strand frays, all the others are affected.

We rely heavily on oil imports to satisfy our energy needs. This reliance will not diminish in the foreseeable future, and many experts believe it will increase significantly. It is an urgent priority, then, that the United States have the best, most economical port system to handle oil imports.

Deepwater Ports will be needed because the fuel will reach the United States in supertankers of unprecedented size. Since our natural ports cannot handle these huge vessels, we must construct offshore terminals which can cope with supertankers. The Maritime Administration reports that if we do not build our own deepwater port facilities, we will have to rely on transshipment through neighboring foreign terminals, such as in Canada, the Bahamas or elsewhere. This would heighten our already dangerous reliance on outside sources and our unfavorable outflow of dollars.

Mr. Chairman, I believe the need for deepwater ports is both evident and immediate. I urge this committee to move expeditiously toward legislation which will accelerate the construction of superports. We need legislation which insures the environmental soundness of ports, setting up stringent but reasonable environmental criteria to protect our beaches and marine life. Just as the secondary economic benefits of deepwater ports (refineries, general industrialization, petrochemical plants) must be considered, so must the corresponding secondary environmental impact be evaluated.

While it may not be the specific task of this committee to consider the sites for deepwater port facilities, I will touch briefly on the advantages of the Ameraport, off the coast of Alabama and Mississippi. A July report of the U.S. Army Corps of Engineers found after extensive study that the development of deepwater ports along the Gulf Coast is economically and environmentally feasible, that in fact two or three ports in the Gulf Coast area are economically desirable.

The Ameraport off Alabama and Mississippi is uniquely qualified within the Gulf Coast area. Transportation costs to the Southeastern and Eastern states would be reduced. Completion of the Tennessee-Tombigbee Waterway and a deepwater port in the Gulf of Mexico should fall into approximately the same construction-completion time frame. The Tennessee-Tombigbee Waterway, joining forces with the waterways, highways, and railroads of the area, will connect the Gulf of Mexico with mid-America by a strong, reliable, balanced transportation system.

Ameraport embodies sound national security since its location off Alabama and Mississippi would disperse refineries rather than crowding them into areas already heavily populated with these facilities. Ameraport provides better nautical safety and reduced possibility of oil spills by minimizing the traffic of supertankers in areas with numerous oil and gas production platforms.

Many other arguments could be offered in favor of deepwater ports generally and Ameraport specifically. But perhaps the important entreaty to make to this

committee is that a bill be reported in the near future which will provide the legislative fuel to drive the deepwater port issue to the point that the United States leads the world in super-port capability and efficiency.

STATEMENT OF HON. DALE MILFORD, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF TEXAS

Mr. Chairman, I appreciate this opportunity to address this Committee on the importance of swift passage of H.R. 9329 or a similar deep-water port bill so that the U.S. may get on about the business of reducing the crude oil crisis.

As I am sure this Committee is aware, no deep water ports now exist at which a super tanker carrying 200,000 to 500,000 pounds may enter and unload. Ships of this size and capacity are being constructed in order that the cost of shipping crude oil in great quantities may be reduced.

Such super ports require a depth of 90 feet to allow importations in this quantity. With such a depth requirement, most superports would need to be constructed outside the three mile limit. Currently, organizations in both Texas and Louisiana are doing the groundwork in anticipation of such legislation.

As written into H.R. 9329, identical in wording to H.R. 7501, Mr. Chairman, I believe it is necessary to leave licensing in the hands of the Secretary of the Interior for the protection of the citizens of the United States. With such licensing requirements, then builders and operators of superports—whether they be the state or the private sector—must adhere to environmental protection precautions.

With the provisions in my bill, I am acknowledging that United States law must reign supreme, that users of superports shall be under international navigational laws and that states will retain the right to govern—except when state laws are in contradiction to national and international laws. However, the ports will not be subject to state taxes.

Yet while we acknowledge the critical need for facilitating crude oil imports and the reduced price estimated to occur—estimates ranging up to \$10 a barrel reduction—in H.R. 9329, we also claim the necessity for protecting the environment of the sea and contiguous sea shores.

By adhering to the Environmental Protection Act of 1969, by requiring an environmental impact study as a prerequisite for licensing, and by allowing states to tack on even further protections, I believe, Mr. Chairman, that the environment would be practically protected—a protection that allows progress for our people.

Thank you, and I urge your consideration of H.R. 9329 to amend the Outer Continental Shelf Lands Act and to authorize the Secretary of the Interior to regulate the construction and operation of deepwater port facilities.

Subsequent to my filing of H.R. 9329, the Subcommittee on Energy of the Public Works Committee has been holding hearings on this same subject. Being a member of that Subcommittee, I have learned additional facts about deepwater ports. These new facts have prompted me to revise H.R. 9329 (H.R. 7501) from its original version.

AMENDMENTS TO H.R. 7501

P. 4, line 2, immediately after "miles" insert "seaward".

P. 4, line 16, immediately after "No" insert "State or".

P. 4, line 23, immediately after "any" insert "State or any".

P. 4, strike out line 25 and insert in lieu thereof the following: deepwater port facility. The Secretary shall not issue any license to any citizen until after the end of the 60-day period beginning on the date of enactment of this Act. If during such 60-day period any State applies for such a license, the Secretary may not issue a license to construct or operate a deepwater port facility in such State to any citizen until a license is either issued or denied to such State. If a license is issued to such State, no other license may be issued to construct or operate a deepwater port in such State until the end of the one-year period beginning on the date such license is issued to such State. In any case, the Secretary shall not issue any license to any State or citizen until he first determines—

P. 6, line 18, immediately after "Act" insert "and that the original licensee retains no control over or interest in the "transferee".

P. 7, line 14, immediately after "consult" insert "and coordinate".

P. 7, beginning on line 21, strike out "Hearings held pursuant to this Act shall be consolidated insofar as practicable with hearings held by other agencies."

P. 7, after line 23, insert the following:

(d) The Secretary shall being consolidated agency hearings, with respect to any application filed with him for a license under this Act, (including all agencies having jurisdiction over any part of the construction or operation of a deepwater port) no later than 120 days after such application is filed with the Secretary.

Redesignate succeeding subsection accordingly.

P. 15, immediately after line 8, insert the following:

(b) The Secretary may revoke any license issued under this Act to any State or citizen if such State or citizen fails to begin construction of the deepwater port for which such license was issued within one year after the date of issuance of such license, or fails to begin operation of such deepwater port within three years after the date of issuance of such license.

P. 18, immediately after line 26, insert the following:

Sec. 14. Any crude oil brought to any deepwater port, constructed or operated under a license issued under this Act, from outside the United States shall be subject to all the limitations and licensing requirements of the Export Administration Act of 1969 (50 U. S. C. 2401-2413).

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, D.C., October 5, 1973.

HON. MORRIS K. UDALL,

Chairman, Subcommittee on Environment, House Interior and Insular Affairs Committee

DEAR MO: In connection with your subcommittee's work on H.R. 7501 to regulate the construction and operation of deepwater port facilities, I want to bring to your attention a resolution recently passed by the California State Legislature.

As you will note, the attached resolution urges federal legislation to require authorization for the construction of offshore superports from the coastal state or states adjacent to whose shore such superports would be located.

I want you to know I have advised the State Legislature of your subcommittee's fine work in this area.

Best personal regards.

Sincerely,

DON EDWARDS,
Member of Congress.

ASSEMBLY JOINT RESOLUTION No. 42

Adopted in Assembly June 28, 1973.

Adopted in Senate September 5, 1973.

Resolution Chapter

Assembly Joint Resolution No. 42—Relative to offshore superports.

LEGISLATIVE COUNSEL'S DIGEST

AJR 42, Sieroty. Offshore superports.

Memorializes the President to support, and the Congress to enact, legislation which would require authorization for the construction of offshore superport for deep-draft tankers from the coastal state or states adjacent to whose shores such superport would be located whether or not it would be located within the boundary of such state or states.

Whereas, A variety of recent circumstances have stimulated the development of crude petroleum transportation systems which include the transport of such petroleum products in large quantities to onshore refineries by means of new transport vehicles; and

Whereas, Modern technological advances have led to the development of very large deep-draft ocean tankers in excess of 250,000 dead-weight tons; and

Whereas, These very large deep-draft tankers will require port depths in excess of 90 feet; and

Whereas, There are no existing ports in California capable of accommodating such very large deep-draft tankers; and

Whereas, The United States Army Corps of Engineers is currently conducting a study as to the possible location on the West Coast of ports, sometimes called "superports," capable of handling these very large deep-draft tankers; and

Whereas, The existing data seems to indicate that such superports will most likely be constructed and operated at offshore locations; and

Whereas, The likelihood of such superports actually being constructed adjacent to California's coastline in the near future is great; and

Whereas, The location and operation of any such superport near the coast of California is of significant and vital concern and interest to the state and its people; and

Whereas, It appears possible that the actual location of such offshore superports may be outside the legal jurisdiction of the State of California; Now, therefore, be it

Resolved by the Assembly and Senate of the State of California, jointly, That the Legislature respectfully memorializes the President to support, and the Congress of the United States to enact, legislation which would require authorization for the construction of such offshore superports from the coastal state or states adjacent to whose shores such superport would be located whether or not it would be located within the boundary of such state or states; and be it further

Resolved, That the Chief Clerk of the Assembly transmit copies of this resolution to the President and Vice President of the United States, to the Speaker of the House of Representatives, and to each Senator and Representative from California in the Congress of the United States.

BATON ROUGE, LA., July 24, 1973.

CHAIRMAN, HOUSE INTERIOR COMMITTEE
House of Representatives
Washington, D.C.

DEAR SIR: Attached is a copy of my letter of July 14, 1973 to Senator Henry M. Jackson, Chairman of the Senate Committee on Interior and Insular Affairs. I ask that this letter and the attachment¹ be made a part of the official record of your hearing.

I am vitally concerned about the productivity of the Gulf of Mexico fisheries that depend on the estuaries for their continued existence. The on-shore supportive facilities for the LOOP, Inc. Superport, and the other secondary developments associated with the main off shore facility are scheduled to be placed on marsh and swamp land masses in the vicinity of the Barataria Bay estuarine area. Just some of the secondary effects are: the Lafitte-Larose Highway, the Lafourche Jump Waterway, the Barataria Bay Waterway, the auxiliary refineries and associated air and water pollution, etc. An environmental report by the Corps of Engineers on the channel and jump waterway that would run 30 miles from Larose to Leeville, has been released. This report shows that the waterway would destroy oyster-producing water bottoms and adversely affect the water supply of Houma, Louisiana. This facility, by the way, will be discussed on August 1, 1973 at a public hearing being held by the Corps of Engineers at Galliano, Louisiana.

Estuarine-dependent species of fish, including shrimp, crab, oyster, menhaden, and various industrial bottom fish, make up about 98 percent of the total catch of the Gulf States. Some very interesting statistics may be found in "Fisheries of the United States, 1971", U.S. Department of Commerce, NOAA, National Marine Fisheries Service, Current Fishery Statistics, No. 5900, March, 1972. This publication indicates that Louisiana ranked first in total commercial landings with 1,396,214,000 pounds, which was 28 percent of the total U.S. landings. It also indicates that Louisiana ranked second in the value of these landings (\$72,630,000). With these statistics you can see why I feel such a concern for the need of sound planning for the so very important coastal resources of the state of Louisiana.

Sincerely yours,

DORIS FALKENHEINER.

¹ Attachment is in committee files.

STATEMENT OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES, SUBMITTED
BY PAUL A. AMUNDSEN, EXECUTIVE DIRECTOR

Mr. Chairman and members of the subcommittee, the American Association of Port Authorities consists of those boards, commissions, authorities and similar agencies of local government responsible for public port development throughout the United States. There are some 85 such agencies in the United States responsible for deepwater port development, all of which are AAPA members. Virtually all other ports of this Hemisphere, Latin America and Canada, also maintain AAPA membership for interchange of technical information.

Our United States ports are a highly competitive group, very sensitive to the flow of commerce, and keenly alert to measures which might affect such flow.

The port industry endorses the concept of superport development on a regional basis, provided that such developments are confined to the handling of liquid bulk cargo superships with dimensions, particularly drafts, so excessive that it would be physically and economically impracticable to accommodate them at existing harbors, even if they were improved through a national program to maximum feasible depth. However, we do not see passenger, container, break-bulk general cargo, petroleum "light product" and many lesser dry bulk cargo vessels in this lack of channel depth predicament. Thus, for such categories of ships, we oppose the regional concept as unnecessary and continue to support the Federal harbor improvement programs they may from time to time require.

The port industry therefore, to the extent and for the purposes indicated, supports regional deepwater port development for the handling of liquid bulk cargo supertankers. However, it is essential that all relevant factors be taken into consideration, including the need to safeguard the environment for the "host area", assurance that the benefits from such development are shared down to the consumer level in price and supply and that the ports to be served from any such development derive equitable benefits in a manner that will not cause shifts in their industrial structures, employment or basic economics to the advantage of one area and the disadvantage of one or more other areas.

We note that most of the legislation taking shape goes to the issuance of licenses for the development of offshore port facilities, these to be issued by an appropriate Federal agency. We feel that this concept is basically sound and offers avenues for private and local initiative such as have been traditional with the large scale movements of bulk cargoes. Terminal facilities for bulk purposes are basically links in a processing-distribution cycle. Bulk cargo facilities are generally financed, developed and operated by private enterprise. The additional requirement of Federal licensing will, hopefully, resolve the various complex issues which have surrounded the offshore terminal concept, permitting much-needed development. Such licensing legislation should, in our opinion, meet the basic tests of:

1. Required consultation with affected States, and:
2. Required consultation with affected and interested Federal agencies.

In its endorsement of regional deepwater bulk port development where genuinely needed to meet the problems mentioned above, the port industry opposes any termination, slowdown, suspension or underfunding of existing, authorized Federal navigation construction projects during the course of Federal deepwater port development efforts unless studies establish to the satisfaction of the local interests affected, that regional deepwater bulk port development is necessary in the area involved and will be a timely and viable substitute.

STATEMENT OF P. J. MILLS, EXECUTIVE DIRECTOR, DEEP DRAFT HARBOR AND
TERMINAL AUTHORITY, STATE OF LOUISIANA

Mr. Chairman, gentlemen of the committee, I am P. J. Mills, Executive Director of the Louisiana Deep Draft Harbor and Terminal Authority, which is commonly referred to as the Louisiana Superport Authority.

It is a pleasure for me to represent Governor Edwin Edwards and present the position of the State of Louisiana with regard to deepwater ports to this committee. We, in Louisiana, have the distinction of having established the first state agency in the United States created for the purpose of planning, promoting, and developing a deepwater port, or "superport" as they have come to be known, off the coast of Louisiana.

I am accompanied here today by Mr. Randolph Parro, Associate Director of the Louisiana Superport Authority, Mr. Charles K. Reasonover, of the New Orleans firm of Deutsch, Kerrigan and Stiles, Legal Counsel for the Authority, and Mr. Roger Wallihan, of Kaiser Engineers, our technical and management consultants. Each of us will be available for questions after my testimony.

I shall concentrate my comments here today on what we feel is the soundest and most equitable approach to the licensing procedure for offshore deep draft facilities which would be established in the Executive Branch of the Federal Government by various bills before the Congress.

Much has been said and written in the last year about the energy shortage facing this country and numerous means offered to solve that shortage, some for the short term and some for the long. One of the alternatives, pending development of an alternate and environmentally acceptable energy source to oil and natural gas, is the importation, of foreign crude oil primarily from the oil-rich Persian Gulf area of the Middle East.

In order to accomplish such importation in the very large crude carriers (VLCC) which are the most economic means of moving vast quantities of liquid cargo, it is necessary for the United States to develop deepwater port facilities offshore from the continental United States.

Louisiana has had a major role in national and international water transportation since long before there was a United States. It continues that role today, particularly through the Port of New Orleans which is the second largest port in the United States and third largest in the world. However, even that outstanding facility is unable to handle the new supertankers because of depth limitations in entering the Mississippi River. The same is true at ports all along the East Coast and Gulf Coast of the United States.

Recognizing the coming demand for offshore deepwater ports to accommodate changes in technology, numerous Louisiana citizens called on Governor Edwards to begin planning even before he took office as Governor, for the role Louisiana should play in offshore deepwater facility development.

Consequently, on February 6, 1972, only 5 days after he was elected Governor, he named an ad hoc Task Force to begin work on a direction our state should take in this vital subject area. An outgrowth of the Task Force's work was legislation creating the Deep Draft Harbor and Terminal Authority.

That agency was created by the Legislature in 1972, and charged with the responsibility for planning, promoting and developing any offshore deepwater terminal envisioned off the coast of Louisiana. (A copy of the Act of the 1972 Regular Session of the Louisiana Legislature is enclosed with the supplementary material accompanying this statement).

From its inception in September of last year, the Louisiana Superport Authority has operated with a plan of action that envisions (1) an overall deepwater port developed offshore in stages as technology and economics dictate; and (2) an oil terminal developed as the first phase with development and operation resting in the private sector subject to Federal and State regulation.

In line with the latter, a consortium of 14 major oil and pipeline companies have formed a Louisiana corporation known as LOOP Inc. (Louisiana Offshore Oil Port) for purposes of building and operating an oil terminal off the coast of Louisiana. That consortium has also testified before various committees of the House and Senate and outlined in detail the plan they envision for the Louisiana offshore oil port.

The Louisiana Superport Authority and Louisiana state government have given assistance to the LOOP organization in their planning and will continue to do so. The Superport Authority has been asked by LOOP to include their plans for oil terminal development, as the first phase of overall Superport development off the Louisiana coast.

The Superport Authority Board has that request under advisement at this time, and as more detailed and specific data relating to the facility is delivered and our environmental protection plan developed, the Authority will take appropriate action on the request. The fact that LOOP has chosen Louisiana for its proposed development is complementary to our state and to the planning we are doing in the area of offshore port development.

In order to assure those concerned with the environment that we in Louisiana do not pursue the superport goal for economic reasons alone, the legislation creating the Superport Authority embodied some of the most comprehensive language enacted to date by any state with regard to environmental safeguards.

The Act calls for development of an Environmental Protection Plan which is to become an administrative rule of the Superport Authority to govern environ-

mental factors within the jurisdiction of the State of Louisiana resulting from superport construction and operation. The statute surpasses the requirements of the National Environmental Policy Act (NEPA). It not only requires assessment of actual and potential environmental impacts from such a facility, but also requires a continuous monitoring of environmental stresses from the planning stages to time of operation and beyond.

The Plan is designed to minimize actual or potential impacts to the environment. However, if any loss does occur one of the principal features of the Plan provides for a funding program to compensate the coastal environment.

There is a strong principle in the Civil Code of Louisiana which requires that when one causes another to suffer a loss, that loss must be compensated by the one who has caused it. That principle is applied once again in this Environmental Protection Plan because we realize too well in Louisiana the value of our unique coastal marshes to our fishing and shellfish industry, to our fur industry and to the millions of sportsmen who gain untold hours of enjoyment from fishing and hunting our coastal areas. (The details of the requirements for the Environmental Protection Plan are included in the statute which has been filed with this statement.)

Copies of two studies which have been made on offshore terminal facilities by the Louisiana State University Center for Wetland Resources, are also included as supplements to this statement. One study was made for the Louisiana Superport Task Force and one for the President's Council on Environmental Quality (CEQ).

The implementation of the Environmental Protection Plan called for in the statute creating our Superport Authority is well underway and the finished plan will be ready for promulgation by the end of January, 1974, as required in the statute. Data gathering is being conducted by the Louisiana State University Center for Wetland Resources and Henry J. Kaiser Company. The final data will be adopted as a rule of the Superport Authority after drafting by the Authority's counsel and public hearings on the subject.

In keeping with our belief that economic benefits can be won without sacrificing environmental integrity, we in Louisiana have walked a middle road in the planning associated with this project. We are undertaking one of the most comprehensive environmental planning programs associated with any project to our knowledge, and at the same time we have assessed the potential economic impact of the oil terminal to see that the project will indeed be worth the effort and expenditure that must be made by both the State and private enterprise.

We have made that economic impact assessment and have found that the efforts of the State are well justified. (A copy of the economic impact statement on the offshore oil terminal has also been included with the statement filed with the Committee.)

Section 103(e) of H.R. 7501 now before the Committee states that:

"The Secretary shall consult with the Governor of any State off whose coasts the facility is proposed or be located to insure that the operation of the facility and directly related land-based activities would be consistent with the State land-use program."

We feel that the intent of this provision is sound and recognizes the vital interests which the coastal states have in any facility that is developed off their individual shores. To my knowledge, however, none of the states which have expressed an interest in offshore facility development off the coast of their individual states have developed comprehensive land-use plans at this time.

Section 103(e) in effect, merely requires consultation by the Secretary (of Interior) with the Governor of the affected coastal state to insure that offshore operation is consistent with the State's land-use plan. It is essential that there be more than mere consultation. In the case where a coastal state has not yet developed such a plan, but is desirous of having offshore facilities developed off its coast, considerable problems could arise. Not the least of these problems is the development of offshore facilities which might not be ultimately compatible with the onshore land-use plan developed by the affected state.

With that major concern in mind, we in Louisiana would like to take the thesis that recognizes the concern and interest of affected coastal states one step further. We would propose amending H.R. 7501 in such a way that the legislation would grant to coastal states the right to apply for whatever license is to be issued to the exclusion of all others with respect to the proposed facilities offshore from that particular state. In this way, the affected state may either exercise the right contained in the act by obtaining the license, or not exercise

the right. For those states, such as Louisiana, which would exercise such a right, the provisions currently contained in H.R. 7501 permitting transfer of the license to a third party would be very beneficial.

The LOOP organization, to which I referred earlier, would provide an excellent vehicle to accomplish actual construction and operation of such a facility as an offshore oil terminal, while the State would be assured that onshore planning for industrial development and related land-use and coastal zone management would be coordinated with the planning undertaken by the transferee to both onshore and offshore.

While on the subject of onshore planning by the coastal states, I would like to mention that we in Louisiana have, over the past two years, been working at the administrative level of State government to develop a program for coastal zone management in Louisiana. By act of the 1971 Louisiana Legislature (Act 35 of the 1971 Regular Session), a Louisiana Advisory Commission on Coastal and Marine Resources was specifically directed to consider all aspects of management of the coastal zone of Louisiana, as defined in the Act, and made a final recommendation for action last month. (Act 35 and a copy of the 1973 interim report of the Louisiana Advisory Commission on Coastal and Marine Resources, "Wetlands '73; Toward Coastal Bone Management in Louisiana" is attached to this statement for the record).

The importance of this function of state government, and funding of the programs of the states is, in our opinion, vital to the role of the coastal states in onshore planning for such developments as offshore deepwater facilities. Further effort in this area is important to Louisiana and other coastal states, and the funding of state programs at the Federal level would enable comprehensive coastal zone programs to be undertaken.

In this way, the benefits to be derived from offshore developments, and related onshore activity, would be far more meaningful in that they would be coordinated between the affected states and the plans of those engaged in offshore developments. Accordingly, the national interest would be served, and the demand for imported oil met, while at the same time the peculiar concerns of the individual coastal states would be recognized and guarded.

This proposal follows a positive approach, in that it calls for the states to take positive action to claim the license. It does not put the state in a position of having to veto an action which might have been approved by a Federal agency. It runs counter to our appreciation of the Federal system to give the states a "carte blanche", to veto proposed offshore facilities, when such facilities are proposed in the overall national interest.

However, to give the states the right to act positively, or not to act at all is, it appears to me, a strong manifestation of federalism at its best. For we already know that some states offshore from which facilities would be proposed, would act at once to see them built; others would not act because of the particular interests of that state. But the overall national interest would be served by those states which would act affirmatively, and that interest would be served without demeaning in any way the interests of any individual state.

This proposed legislation recognizes the role of the states in the Federal system and particularly in this type development. The proposal we make strengthens that role without diminishing the national purpose of the measure. Some say specific protection for the coastal states is not required, because the states can stop such offshore development if they choose, particularly in the case of offshore oil terminals, where pipeline rights of way are required, and onshore storage terminals are needed.

But for those states wishing to stop such development, it would become necessary to use the hammer, when the proposal we make to the committee today substitutes the more palatable velvet glove of negotiation. We in Louisiana obviously welcome the opportunity to assist in the development of an offshore oil terminal and, later, facilities for other type cargo.

Some other states do not share this interest. Our proposal gives each of us an equal opportunity to pursue our individual destinies. It would appear that the intent of Section 103 (g) of H.R. 7501 is to permit precisely what we propose here today. That section says:

"Licenses issued hereunder may be transferred after the Secretary determines that the transferee meets the requirements of this Act."

In the case of offshore oil terminal facilities, it is fairly well recognized that the private oil companies and consortiums of various companies have proven worldwide their expertise in the building and operation of such facilities. By giving the license to the state offshore from which such a facility is to be built,

and continuing the right of transfer as contained in Section 103(g), a partnership between the states and the private sector could be developed for the benefit of the private sector, the public and the national interest.

The act as presently drawn envisions the transfer of the license when "the transferee meets the requirements of the Act." This would mean, in the case of almost any oil terminal development, that in the final sense the transferee would be that group from the private sector which proposes to develop such an offshore facility.

That is certainly the case in Louisiana where the only proposal for development of an offshore oil terminal facility has come from the LOOP organization referred to earlier. The same is true off the coast of our neighboring state of Texas, where a consortium known as Seadock is making a similar proposal to that State.

It seems logical to us in Louisiana that if a license is to be issued by a Federal agency that a state offshore from which the permitted facility is to be located should be considered first. The responsibilities of the states for broad-based planning and representation of the public interest, far exceed those of the private groups to whom a license would ultimately be issued.

Transcending the proposal for exclusive license for the states in a Federal licensing procedure for offshore facilities, is the role of the Federal government in regulating and administering the licensing procedure. In the case of H.R. 7501, the Interior Department would be the Federal agency charged with issuing licenses for operation of deepwater facilities.

Interior would have original and paramount regulatory powers over both the licensee and any ultimate transferee under the provisions of the act. Thus, if the states were given the license under this legislation, the Federal agency charged with issuing those licenses, and regulating offshore operations could, in effect, use the individual states as "agents" of the Federal government to assure protection of the public interest and compliance with all regulations. At the same time, the particular interests of the individual states—whether they exercise the option contained in this proposed amendment or not—would be protected.

Under this proposal, the license which would be issued by the Interior Department would go to the state offshore from which the facility is to be built, and would be granted when the affected state makes application to receive it.

If the state plans to build and operate the facility to be constructed, then all Federal requirements would have to be met by the state. However, if the state transfers rights under its license to another to build and/or operate the facility, then the transferee would be required to meet all Federal requirements imposed under the act.

Many will ask "Why?" to the proposition of an exclusive license to the coastal states. Louisiana asks, "Why not?"

The Federal government has seen fit, at least through the intent of this legislation, and announced government policy on the subject, not to finance in whole or in part the construction of offshore facilities. It has, likewise, indicated it does not desire to operate such facilities through any Federal agency. It would then appear that the likely place for primary licensing would be with the affected coastal states.

The justification for this lies in the fact that those states such as Louisiana which have shown an interest in this subject, have moved ahead with the appropriation of state funds to explore the feasibility of such a project. Funds have been expended in Louisiana to assess potential environmental impact and to regulate activities to minimize environmental impact through development of an Environmental Protection Plan.

State funds have been spent to assess the economic impact on the State and generally to promote the concept so that the public can understand the ideas involved and what their State is doing to insure that the impact of such a facility is planned.

Because of the approach that is being taken at the Federal level to the operation of offshore facilities, responsibility rests heavily on the coastal states to do everything possible to have a strong voice in whatever is done off their shores. For what is done off the shores of our State in the development of offshore facilities, greatly affects not only the future economic development of Louisiana, but also contributes to social and physical needs which must be anticipated if they are to be met.

The natural environment varies from state to state, particularly in the coastal regions of each state. An offshore facility, although possibly located outside the territorial jurisdiction of a coastal state, still contributes heavily to the burden that state must assume in having such a facility off its coast.

For those states wishing to assume that burden, and the attendant costs that go with extensive environmental planning and regulation, there should be more than an intangible ability to deter unfavorable development once it reaches shore. By having the exclusive license as a point of departure, coastal states will be able to coordinate the physical planning of the offshore facility with the planning needs of the state.

Also, the state will be able to have a definite say in who and how, when and where things are done offshore which will greatly affect the state onshore. The states can do these things and meet their challenges without having to resort to the negative approach that stops planned projects. The states can have a hand in the planning and, rather than be stumbling blocks to offshore development, they can be partners in that development.

Louisiana has taken the first step on the long road to development of offshore facilities. In fact, we took that step a full year before the Federal government began establishing a position on the subject. Other coastal states are moving in a similar direction. Each state has spent, and is spending, state funds to assure the soundness of the development that occurs both on and off shore.

In the absence of stated Federal policy specifically to build and operate such facilities, Louisiana respectfully suggests that the coastal states should be granted the license that would be issued under provisions of this Act if adopted. This would afford the states an excellent opportunity to work with private interests to build offshore deepwater facilities, with the states providing environmental safeguards, and private industry, the economic development.

Louisiana stands ready to play its role in assisting in the solving of this national problem. We ask your help in making that possible, and strongly urge that you accept our theory as one which will make offshore development not only possible but meaningful to the affected coastal states.

AMERICAN COMMERCIAL LINES, INC.,
Houston, Tex., August 8, 1973.

Hon. MORRIS UDALL,
House of Representatives,
Washington, D.C.

DEAR CONGRESSMAN UDALL: With reference to the recent hearings before the Subcommittee of the House Committee of Interior and Insular Affairs dealing with the deep water port problem I respectfully request that you include the following comments in the records of these hearings:

The recommendations of the U.S. Corps of Engineers as well as those of the Secretary of the Interior with respect to methods for developing facilities to handle V.L.C.C. (Very Large Cargo Carrier) ships contain serious errors. The need for a number of ports having capability of handling 200,000 d.w.t. ships, especially tankers, is indisputable. However the failure to analyze the economic advantages of using modern trailing suction dredges as are now available throughout the world has led to false conclusions as to preferred methods.

The thrust of most governmental proposals is directed, in order of preference, toward the use of single point monobuoy moorings located offshore or, as an alternate, the reliance on foreign nations' deep harbors, with subsequent transshipment to U.S. ports in small vessels. The apparent indifference to the needs of the greatest economic power in the world for deep protected harbors and, instead, reliance on exposed pieces of marine plumbing is incomprehensible.

The disadvantages of the monobuoy are:

(1) Launches required for mooring line handling cannot operate when waves exceed 6 to 8 feet and when waves reach 10 to 12 feet the floating hoses must be discontinued from the ship's manifold in order to avoid damage to the hoses.

(2) Offshore facilities are extremely vulnerable to sabotage and destruction by hostile forces or terrorists.

(3) In the southern parts of the Atlantic Coast, and the Gulf Coast, winds blow on shore during most of the year, hence the inevitable normal spills would end up on the beaches.

(4) Monobuoys can be used only for pumpable liquids, and have no value for the import of ores, or the export of grain. They do not serve a broad spectrum of the economy.

(5) The capital cost and operating cost of the monobuoy system is greater than these costs for a deep channel in areas where bottom material does not consist of hard clays and rock. For instance taking Freeport, Texas as an example, the capital costs excluding shore storage facilities would be \$104,000,000 for a 1,000 foot wide channel with a depth of 80 feet and ten to one slope as reliably estimated by owners of large dredges available from abroad. This figure includes a 2 mile long innerharbor, 2,000 feet wide and 80 feet deep. Representatives of oil companies have testified that a monobuoy installation off Freeport, Texas excluding shore facilities would cost an investment of \$400,000,000. Annual costs including interest on investment would be \$47,000,000 for the monobuoy vs \$23,000,000 for the channel.

(6) The annual tonnage capacity of the deep channel is for practical purposes unlimited.

(7) The dredging of a channel can be performed in depth stages so that a prompt, progressive use of larger and larger ships can be used as the channel is progressively deepened.

(8) The use of a deep channel terminating at an enclosed slip permits the confinement of oil spills during discharging cargo, tank cleaning, hose connection, etc. by means of the use of floating booms and one-the-scene clean-up equipment. Channel location in the Gulf will permit separation of the V.L.C.C. ships from general marine traffic except for a small area of intersection. Furthermore in the immediate future, again looking at the Gulf Coast, traffic will be chiefly loaded inbound, hence the empty V.L.C.C. ships can use the normal channels outbound, thereby eliminating collision possibilities with loaded tankers in the deep channels.

(9) Expanding the economic justifications for the use and accommodations of the big ships, consideration must be given to the industrial expansion of certain types on shore which can inure to the benefit of our own economy rather than that of foreign nations *only* if these superships can be safely berthed in a protected harbor. Shipbuilding, hull and propeller repair, machinery maintenance and repair, dry docking, tug service and marine supplies are a few of the major enterprises, directly shiprelated, which only a deep channel can make possible.

In summary, the defeatist or penurious attitude reflected in the testimony of many government officials is inimical to the development of our nation's ports and consequently its basic economy as we grow more and more dependent on liquid and dry bulk raw materials. The recommendations for the transshipment from nearby foreign countries in obsolete sized tankers, and consequently our dependence on the vagaries of international relations for transport of these critical materials is unworthy of even cursory attention. It constitutes a valid analogy to compare this suggestion with a proposal that passengers to and from U.S. cities fly in jumbo jets to Montreal or Nassau, then transfer to DC-3s for delivery to destinations in the United States. It is a reasonable surmise that this recommendation, like that for offshore mooring and pumping systems reflects the dominating influence of the Office of Management and Budget, for the two ill-advised proposals have one obvious thing in common; namely in both cases the Federal Treasury can escape an immediate commitment. The larger oil companies have proposed to build, finance and own the monobuoy facilities. In the latter case we would pay for our improvidence on the installment plan in the form of higher freight charges.

In conclusion, may I state that supporting figures can be supplied relative to items 5 above at the request of your committee.

Respectfully yours,

J. W. HERSHEY,
Chairman of the Board.

