OCEAN DUMPING OF WASTE MATERIALS

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
FISHERIES AND WILDLIFE CONSERVATION

AND THE

SUBCOMMITTEE ON OCEANOGRAPHY

OF THE

COMMITTEE ON
MERCHANT MARINE AND FISHERIES
HOUSE OF REPRESENTATIVES

NINETY-SECOND CONGRESS

FIRST SESSION

ON

H.R. 285, H.R. 336, H.R. 337, H.R. 548, H.R. 549, H.R. 805, H.R. 807, H.R. 808, H.R. 983, H.R. 1095, H.R. 1329, H.R. 1381, H.R. 1382, H.R. 1383, H.R. 1661, H.R. 1674, H.R. 2581, H.R. 3662, H.R. 4217, H.R. 4218, H.R. 4247, H.R. 4359, H.R. 4360, H.R. 4361, H.R. 4584, H.R. 4719, H.R. 4723, H.R. 5049, H.R. 5050, H.R. 5239, H.R. 5268, H.R. 5477, H.R. 5705, H.R. 6305, H.R. 6582, H.R. 6610, H.R. 6771, H.R. 7619, and H.R. 8039

APRIL 5, 6, 7, 1971

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OCEAN DUMPING OF WASTE MATERIALS

MONDAY, APRIL 5, 1971

House of Representatives,
Joint Subcommittees on Oceanography and Fisheries
and Wildlife Conservation,
Washington, D.C.

The joint subcommittee met, pursuant to notice, at 10 a.m. in room 1334, Longworth House Office Building, Hon. Alton Lennon (chairman of the Subcommittee on Oceanography) and Hon. John D. Dingell (chairman of the Subcommittee on Fisheries and Wildlife Conservation) presiding.

Mr. Lennon. The Joint Subcommittee on Oceanography and Fisheries and Wildlife Conservation of the Committee on Merchant Marine and Fisheries are now convened.

This morning these two subcommittees will begin joint hearings on the series of bills designed to regulate the dumping of waste material in our coastal and off-shore waters.

It seems that no one knows the volume—and I think that is really an understatement—of wastes that have been dumped in the oceans in the past years. In fact, until recently, the question was scarcely asked and then only by an obscure group of scientists, known as ecologists.

Fortunately, however, in the last few years the entire question of ocean disposal of waste material has been thrust into prominence, and I think appropriately so, by the recently disclosed dumping of nerve gas and oil wastes off the coast of Florida, by the dumping of sewage and other municipal wastes off New York Harbor, and a number of other and similar instances, all of which I am delighted to report were the subject of hearings and investigation by these two subcommittees during the 91st Congress.

In October of 1970, the Council of Environmental Quality, which was created as a result of legislation reported by one of these committees, published an excellent report entitled "Ocean Dumping—A National Policy." That report forms the basis for the hearings we are beginning today, and points up the immediacy and the severity of the problems that we may be creating.

These problems may perhaps best be exemplified by reference to the international conference held on the Island of Malta last summer, dealing with the necessity of and techniques for protecting the oceans from ill-advised actions by man. One scientist, regrettably but not surprisingly from the United Nations International Atomic Energy Agency, put the problem into a certain perspective by asking at one point if perhaps the highest and best use of the oceans might not be to serve as a dump for man's waste.

I must say that I personally find such an attitude distressing, and I am gratified to note that a position paper, adopted by most of the scientists at that Conference, stated that:

> Until better evidence is available that irreversible changes are not taking place, reason demands that we proceed more carefully, with greater concern for the health of the seas.

I will ask at this time unanimous consent that this position paper be included in the record at the conclusion of my remarks.

The most recent statistics from the Food and Agricultural Organization of the United Nations indicates that in 1969, the latest year for which we have complete figures, for the first time in 25 years the total fisheries catch from the world's oceans declined by over 1 million metric tons, as compared to the 1968 high of 64.3 million metric tons. I would hasten to remind all those here today that this happened at a time when our efforts to increase the ocean catch were intensifying and at a time when it is becoming increasingly important to provide needed protein to a hungry, growing world population. None of us are prepared to say that the decline was due solely to America's ocean dumping policies nor to those of other nations, but I do feel that this is certainly a very ominous sign, and increases the incentives upon this committee and the Congress to see that this country does nothing to decrease the perhaps fragile productivity of the world's seas.

Simply stated then, we can no longer afford the illusion that out of sight is out of mind, and that the oceans may safely be treated as a gigantic dump. They are, or rather should be, a resource—not an infinite resource, but one of given magnitude—and they must be treated with care and respect.

The main bill under consideration by the two subcommittees during these hearings is the administration bill, H.R. 4723, introduced by the distinguished chairman of our full committee, Congressman Garmatz, and an identical bill introduced by Congressman Pelly, the ranking minority member of this committee; and identical bills introduced by Congressman Kemp; Congressman Ruppe, a distinguished member of this committee; Congressman Chamberlain; and Congressman Gerald Ford, the minority leader of the House.

There are a number of other bills to be heard during these hearings—in fact, a total of 36 in number—some of which are very similar to the administration bill, some of which contain, however, several provisions of the administration bill, and some of which contain provisions and cover areas not included in the administration bill. We will not take the time this morning to enumerate the bill numbers and authors at this time, but Mr. Dingell and I would like to make it clear that these hearings will cover all bills pending before the committee that have to do with ocean dumping of waste material.

Let the bills and departmental reports appear in the record at this point.

(The bills and departmental reports follow:)

[Executive Communication No. 434]

ENVIRONMENTAL PROTECTION AGENCY,
Washington, D.C., March 13, 1971.

Hon. CARL B. ALBERT,
Speaker, House of Representatives,
Washington, D.C.

DEAR MR. SPEAKER: In accordance with Section 102(2)(C) of the National Environmental Policy Act of 1969, enclosed herewith are the environmental impact statements for the four legislative proposals of the Environmental Protection Agency.

This proposed legislation is part of the President's environmental program as announced in his environmental message to the Congress of February 8, 1971, and was transmitted to you on February 10, 1971. We understand that those legislative proposals to amend the Federal Water Pollution Control Act, as amended, were referred to the Committee on Public Works and that the proposed "Marine Protection Act of 1971" was referred to the Committee on Merchant Marine and Fisheries.

Sincerely yours,

WILLIAM D. RUCKELSHAUS,
Administrator.

Enclosures. Environmental impact statements for EPA legislative proposals

PROPOSED AMENDMENTS TO SECTION OF THE FEDERAL WATER POLLUTION CONTROL ACT, AS AMENDED, RELATING TO STATE AND INTERSTATE PROGRAM GRANTS (PREPARED IN COMPLIANCE WITH SECTION 102(2)(C) OF THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (PL 91–190), FEBRUARY 8, 1971)

1. NATURE OF THE PROPOSED BILL

This proposal, in the nature of an amendment to Section 7 of the Federal Water Pollution Control Act, as amended, would provide the EPA Administrator with flexibility in funding signficant pollution control projects in the State program grant context, would provide for bonuses for State achievement of specific program improvements, and would extend and increase the authorization, for the State program grant authority through Fiscal Year 1975.

Key provisions of this proposal would authorize increased appropriations for an additional four years on a sliding scale from $15 million for FY 1972 to $30 million for FY 1975. Ten million dollars of these sums would continue to be available for the basic State and interstate programs. The proposal would also add five grant bonus categories for an improved program consisting of five components: (1) a permit system; (2) a sewage treatment facilities program; (3) training and development of personnel; (4) State recruitment and personnel system; and (5) a planning capability.

2. ENVIRONMENTAL IMPACT OF PROPOSED BILL

Over the past years, we have identified a need for the EPA to increase its support to the States and interstate agencies to enable them to carry out and accelerate their own programs of water quality standards enforcement and implementation. This need becomes even more acute with the implementation of the recently published construction grant regulations, the accelerated construction of waste treatment facilities, and the Refuse Act permit program. The proposed strengthening of the State program grant authority would have a decidedly beneficial impact upon water quality.

3. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

As this proposal is aimed at upgrading State water quality enhancement programs, we can foresee no unavoidable adverse environment effects growing out of this proposal.

4. ALTERNATIVES TO THE PROPOSED BILL

One obvious alternative to the provision of Federal funds for specific State program elements would be the provision of additional Federal funds for general program development and implementation. The option we have chosen, to direct Federal expenditures toward specific State program achievements, is designed to encourage the development of those aspects of State programs which will make the greatest contribution toward water quality protection and enhancement, thereby making the most of both Federal and State investments.

5. RELATION BETWEEN LOCAL SHORT-TERM USES AND LONG-TERM PRODUCTIVITY OF THE ENVIRONMENT

In both the short and long term, this proposal is expected to protect and enhance the environment.

6. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

No natural resources will be committed pursuant to this proposal. The financial resources authorized for this program will be justified by the beneficial environmental effects to be derived from the State program grants.

Proposed Amendments to Section 8 of the Federal Water Pollution Control Act, as Amended, Relating to Waste Treatment Facility Construction

(Prepared in Compliance With Section 102(2) (C) of the National Environmental Policy Act of 1969 (PL 91–190) February 8, 1971)

1. NATURE OF PROPOSED BILL

The proposal, in the nature of an amendment to section 8 of the Federal Water Pollution Control Act, as amended, seeks to assist States and municipalities in financing the construction of needed waste treatment facilities necessary to comply with water quality requirements of the President's environmental program. Specifically, the proposal would authorize appropriations for grants for treatment works construction in an aggregate amount of $6 billion over a period of three fiscal years beginning with fiscal year 1972. In addition, the bill would revise the allocation formula to allocate funds to States on the basis of relative population, availability of State matching funds, outstanding reimbursables, and water pollution control needs.

The bill would direct the Administrator to encourage grantees to achieve institutional and financial capability to maintain, expand and replace necessary treatment works, and would provide for an increased Federal share of project costs if the grantee has made provision to achieve such institutional and financial capability. The bill would authorize grants for the costs of treating industrial wastes only if the grantee makes provision for full cost recovery of construction costs allowable to industrial wastes.

2. ENVIRONMENTAL IMPACT OF PROPOSED BILL

This proposal is prompted by the over-riding need among States and their political subdivisions for additional financial assistance for needed sewage treatment plant construction. Accelerated plant construction will enable States to meet water quality standards established for their waterways for a variety of beneficial water uses as well as to comply with national planning and treatment requirements. It is the provision of these treatment works which is at the foundation of the Federal effort to maintain a high level of water quality nationwide. The environmental impact on water is expected to be entirely beneficial.

3. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Although this proposal is directed toward water quality enhancement, we anticipate that the construction of additional treatment facilities may increase the potential for adverse environmental effects associated with the movement of soil as plant sites are readied and facilities are placed into operation. The placement of such facilities could potentially interfere with recreational, residential and aesthetic land use considerations. To identify such conflicts, grantees will be obliged to provide the Administrator with an environmental assessment of the project so that such adverse effects can be eliminated or minimized. Further, through the river basin, regional, and metropolitan plans that would be supported by this proposal, we will have an effective tool whereby any adverse environmental effects associated with a project will be identified and eliminated or minimized. It will be incumbent upon Federal, State, and local environmental protection authorities to monitor the construction and operating plans and activities of each jurisdiction to ensure compliance, to the extent possible, with all environmental protection requirements.

4. ALTERNATIVES TO THE PROPOSED BILL

Financial studies conducted by the Environmental Protection Agency, including the Water Quality Office's *Cost of Clean Water*, point to the need for an additional Federal financial support for waste treatment facility construction. This proposal is thought to be the most workable solution to this problem of financial need, providing for State, local and Federal sharing of costs, and providing for the achievement of water quality standards goals by 1974.

5. RELATION BETWEEN LOCAL SHORT-TERM USES AND LONG-TERM PRODUCTIVITY OF THE ENVIRONMENT

Both in the short and long term, this proposal is directed toward environmental enhancement and protection. Local short-term adverse impact associated with by-passing of existing treatment works during the construction of additions of alterations of the plant will no longer be tolerated. Grantees will be required, pursuant to regulations, to provide for the same level of treatment during construction as that which was obtained prior to the initiation of construction.

6. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Although this proposal involves a large commitment of financial resources, we expect the benefits to be derived from such investment in terms of water quality improvement to be more than commensurate.

PROPOSED AMENDMENTS TO SECTION 10 OF THE FEDERAL WATER POLLUTION CONTROL ACT, AS AMENDED, RELATING TO ENFORCEMENT AND WATER QUALITY STANDARDS (PREPARED IN COMPLIANCE WITH SECTION 102(2)(C) OF THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (PL 91–190), FEBRUARY 8, 1971)

1. NATURE OF PROPOSED BILL

The proposal would amend section 10 of the Federal Water Pollution Control Act to strengthen and clarify the authority of the Administrator in the establishment and enforcement of water qualify standards, and would add new authorities relating to monitoring, surveillance, citizens' suits, and abatement of pollution from hazardous substances.

The Water Quality Improvement Act of 1970 provided important new authorities for the enhancement of water quality. These new authorities will assist in controlling water pollution caused by oil and hazardous substances, in carrying out an important new State-Federal program for the prevention of water pollution from federally licensed or permitted activities, and in other areas. However, strengthening of the Act is now necessary to enable the Environmental Protection Agency to play a more active role in working with State and local governments to prevent and abate pollution of our Nation's waters.

Key provisions of the proposed bill would extend Federal jurisdiction for pollution abatement to include expressly ground waters, tributaries of interstate and navigable waters, pollution of waters of the contiguous zone which adversely affects water quality in the territorial sea, and pollution of the high seas resulting from discharges of matter transported from United States territory. The proposed bill would also more adequately define water quality standards to mean water quality standards established under existing law, and in additional, water use designations, water quality criteria, effluent limitations, and plans of implementation and enforcement established pursuant to new requirements contained in the bill.

The proposal would also require the Administrator to publish regulations establishing specifications for water quality criteria and effluent limitations. In doing so, the uncertainty and confusion which have resulted from a lack of guidance to the States in this respect and the delays caused in the establishment of enforceable standards would be eliminated. Water quality standards under the proposed legislation would include two elements not previously specified: water use designations and effluent limitations. Water quality standards in all States would be required to be revised to include these new elements. It would provide the Administrator with clear authority to establish standards in areas of exclusive Federal jurisdiction or where the States do not have jurisdiction, after public hearings. The proposed bill would also eliminate the existing enforcement conference. The Administrator would be authorized to abate pollution and enforce water quality standards through the issuance of orders following notice to violators. Such orders would be legally enforceable. Appeal from and judicial review of such orders would be provided.

The Administrator could also call a fact-finding hearing to be conducted with State participation, and, where he finds a threat to health or welfare, he may initiate the speedy revision of water quality standards. Civil penalties of up to $25,000 per day of violation of a final order would be provided. Further provisions would provide the Administrator with authority to establish effluent limitations for hazardous substances, to compel the attendance and testimony of witnesses, to enter and inspect facilities, and to require dischargers to perform effluent monitoring. Court action by citizens would also be authorized to enforce water quality standards or to compel the Administrator to perform non-discretionary acts.

2. ENVIRONMENTAL IMPACT OF PROPOSED BILL

This proposal would greatly strengthen the regulatory tools at the command of the Environmental Protection Agency for water pollution control and would give private citizens a larger role in the enforcement process. Its impact on the environment is anticipated to be a wholly beneficial one. Specific provisions of the bill are designed to broaden the scope of application of water quality standards, increase water quality requirements, provide for speedy, just, and effective enforcement procedures, and allow for public participation through hearings and citizen suits. In short, the proposal would give the EPA the added authority it needs to more effectively carry out its mission of water quality protection and enhancement. All of these provisions are directed toward water quality protection and enhancement.

3. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

We do not foresee any unavoidable adverse effects to the environment which might result from the enactment of this proposal. Its purpose is to expand and increase presently existing regulatory controls over water pollution situations, and its environmental effects, therefore, are expected to be entirely beneficial with respect to environmental quality.

4. ALTERNATIVES TO THE PROPOSED BILL

This proposal reflects the recommendations of Federal, State, and local enforcement officials in the water pollution control field as to the needs in the upgrading of water quality standards and enforcement procedures. We feel this is the best and most comprehensive proposal in the enforcement field which can be submitted at this time. If enacted, we intend to review the operation of these

new procedures to ascertain their adequacy and with a view toward additional refinement that may be indicated by implementation of these provisions.

5. RELATION BETWEEN LOCAL SHORT-TERM USES AND LONG-TERM PRODUCTIVITY OF THE ENVIRONMENT

Since this proposal is wholly directed toward water quality protection and enhancement both legitimate, local, short-term uses and long-term productivity of the environment will benefit from this proposal.

6. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Since this proposal would strengthen the regulatory authority of the EPA, its effect upon natural resources would be one of enhancement, not exploitation or commitment.

PROPOSED AMENDMENT TO SECTION 23 OF THE FEDERAL WATER POLLUTION CONTROL ACT, AS AMENDED, TO INCLUDE AMERICAN SAMOA AND THE TRUST TERRITORY OF THE PACIFIC ISLANDS WITHIN THE MEANING OF "STATE"

(Prepared in compliance with section 102(2)(c) of the National Environmental Policy Act of 1969 (P.L. 91–190), February 8, 1971)

1. NATURE OF PROPOSED BILL

The proposed bill will amend the definition of "State" in Section 23 of the Federal Water Pollution Control Act, as amended, to include American Samoa and the Trust Territory of the Pacific Islands within the meaning of this definition. These areas were included in the definition of "State" for purposes of the 1970 amendments to that Act, dealing with oil pollution, hazardous polluting substances, vessel sewage, training grants and contracts and scholarships. However, these areas are still unable to benefit from or participate in many important EPA programs, including: (1) water quality standards program; (2) waste treatment construction grant program; (3) research, development, and demonstration grant program; (4) performance standards and other requirements of Executive Order 11507, dealing with the prevention, control, abatement of air and water pollution from Federal facilities. In order to obtain consistency with the Act and to extend the pollution control efforts of the Environmental Protection Agency to all areas of United States responsibility, this proposed legislation is offered.

2. ENVIRONMENTAL IMPACT OF PROPOSED BILL

The Southwest Regional Office of the Water Quality Office, Environmental Protection Agency, has received repeated requests from the Governments of American Samoa and the Pacific Trust Territory that they be made eligible for grants and other programs administered by EPA. Officials of these governments are greatly concerned with the deterioration of the quality of their waters and are anxious to participate in programs which would help them protect and enhance water quality in those jurisdictions. This bill would provide such waterway protection and improvement.

3. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Since this proposed bill is designed to bring American Samoa and the Pacific Trust Territory entirely within the purview of the Environmental Protection Agency, there would not appear to be any significant unavoidable adverse environmental effects resulting from such action. In particular, the inclusion of these jurisdictions under the water quality standards and other programs would help these areas protect and upgrade the quality of their waterways.

4. ALTERNATIVES TO THE PROPOSED BILL

The most obvious alternative to the proposed bill is to do nothing. This would perpetuate a situation already identified as unsatisfactory for the effective protection of environmental values in these areas of American responsibility.

5. RELATION BETWEEN LOCAL SHORT-TERM USES AND LONG-TERM PRODUCTIVITY OF THE ENVIRONMENT

Both in the short and long terms, this proposed legislation would bring jurisdictions within the water quality management and planning process and is intended to provide for the enhancement of water resources in those areas.

6. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed bill makes no commitments of natural resources. Rather than committing resources, the proposal is intended to make high quality water resources available in an area where they are presently suffering degradation.

PROPOSED MARINE PROTECTION ACT OF 1971 PREPARED IN COMPLIANCE WITH SECTION 102(2)(C) OF THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (P.L. 91–190), FEBRUARY 8, 1971

A. NATURE OF THE PROPOSAL

The proposed legislation would regulate the dumping of material into the oceans and coastal and other waters. It would bar the transportation of material from the United States for dumping in the oceans, coastal waters, and the Great Lakes and the actual dumping of material in our territorial waters or in the Contiguous Zone, except as authorized by permits issued by the Administrator of the Environmental Protection Agency (EPA). The Administrator would establish and apply criteria for evaluating dumping applications, and in establishing such criteria would consider specified environmental considerations. Additionally, the Administrator would be empowered to ban ocean dumping of certain materials and to designate recommended safe disposal sites. Transportation for dumping or dumping without a permit or in violation of a permit would be subject to civil and criminal penalties. The Coast Guard would perform surveillance and other appropriate enforcement activity.

B. ENVIRONMENTAL SETTING AND HISTORY OF THE PROPOSAL

The proposed legislation would implement the recommendations of the report "Ocean Dumping—A National Policy." That report, requested by the President in his April 15, 1970, message on waste disposal, was prepared by the Council on Environmental Quality and made public by the President on October 7, 1970. The Council was materially assisted in preparing the report by the members of a Federal Task Force, established to provide guidance in formulating the recommended policy. Helpful assistance was also received from agencies and individuals in State and local government and from scientists and academicians, including the National Academy of Sciences and the National Academy of Engineering.

C. ANALYSIS OF ENVIRONMENTAL CONSEQUENCES

(1) The environmental impact of the proposed legislation

(*a*) The proposed bill would establish for the first time a comprehensive, unified Federal regulatory scheme to meet the serious threat of pollution in the oceans and similar waters. It would permit implementation of an anti-dumping policy which has its focus on prevention of damage, and would allow action to be taken before the problem of ocean dumping becomes acute.

The Council report points out that there is a critical need for a national policy on ocean dumping. Many of the wastes now being dumped are heavily concentrated and contain materials that have a number of adverse effects. Many are toxic to human and marine life, deplete oxygen necessary to maintain the marine ecosystem, reduce populations of fish and other economic resources, and damage aesthetic values. In some areas such as the New York Bight, the environmental conditions created by ocean disposal of wastes are serious.

The Council study indicates that the volume of waste materials dumped in the ocean is growing rapidly. Because the capacity of land-based waste disposal sites is becoming exhausted in some coastal cities, communities are looking to the ocean as a dumping ground for their wastes. Faced with higher water quality standards, industries may also look to the oceans for disposal. The result could be a massive increase in the already growing level of ocean dumping. If this occurs, environmental deterioration will become widespread.

In most cases, feasible and economic land-based disposal methods are available for wastes currently being dumped in the ocean. In fact, many alternatives to ocean dumping, such as land reclamation and recycling to recover valuable waste components, can be applied to obtain positive environmental benefits, such as the maintenance and enhancement of valuable associated living marine resources.

Current regulatory activities and authorities are not adequate to handle the problem of ocean dumping. States do not exercise extensive control over ocean dumping, and generally their authority extends only within the three-mile territorial sea. The greater part of current dumping occurs outside these waters. The Army Corps of Engineers has regulatory authority over ocean dumping but, again, this is largely confined to the territorial sea. The Corps also has responsibility to facilitate navigation, chiefly by dredging navigation channels. As such, it is in the position of regulating activities over which it also has operational responsibility. The Coast Guard enforces several Federal laws regarding pollution but has no direct authority to regulate ocean dumping. The authority of the Environmental Protection Agency does not provide for issuance of permits to control ocean dumping. And, the Atomic Energy Commission has authority only for disposal of radioactive materials. New legislative authority is necessary.

Taken together, present responsibilities are dispersed, and operational agencies exercise responsibility to regulate themselves and entities performing work consistent with their primary mission. It is now necessary that responsibility for ocean dumping be centralized in an agency whose chief role is control of pollution.

(*b*) The proposed bill would enable EPA to regulate the dumping of materials in the oceans and similar waters by not only private persons or entities but also all Federal, State, and in appropriate cases, foreign, governmental organizations employees and agents. Thus, even sister Federal organizations would have to comply with the permit and standard-setting provisions of the proposal.

(*c*) The proposed bill sets out specific considerations to be used by EPA in developing criteria for ocean dumping. These considerations would permit EPA to refine and modify the criteria as additional knowledge respecting the effect of ocean dumping is developed.

(*d*) The proposal would enhance the ability of the Federal government to engage in productive research efforts to understand the effects of materials dumped or spilled into the oceans and to develop means of monitoring and controlling such disposal. In developing the criteria and enforcement programs EPA and the Coast Guard would have the impetus to work not only with each other but also to use their present research authority to develop relevant research programs in conjunction with such other agencies as the National Oceanic and Atmospheric Administration.

(*e*) The authority contained in the proposal and the policy contained in the Council's report which would be implemented by the authority, would have an estimated impact on present dumping practices as follows:

About 48 million tons of wastes were dumped at sea in 1968. These wastes included dredge spoils, industrial wastes, sewage sludge, construction and demolition debris, solid waste, explosives, chemical munitions, radioactive wastes, and miscellaneous other materials, the present degree of regulation for these materials varies considerably.

(*i*) As the following table indicates, dredge spoils accounted for 80 per cent by weight of all ocean dumping:

OCEAN DUMPING: TYPES AND AMOUNTS 1968 (66)

[In tons]

Waste type	Atlantic	Gulf	Pacific	Total	Percent of total
Dredge spoils	15,808,000	15,300,000	7,320,000	38,428,000	80
Industrial wastes	3,013,200	696,000	981,300	4,000,500	10
Sewage sludge	4,477,000	0	0	4,477,000	9
Construction and demolition debris	574,000	0	0	574,000	<1
Solid waste	0	0	26,000	26,000	<1
Explosives	15,200	0	0	15,200	<1
Total	23,887,400	15,966,000	8,327,300	48,210,700	100

The Corps of Engineers estimates that about 34 per cent (13 million tons) of this material is polluted. Disposal of this material at sea can be a serious source of ocean pollution. Dumping of unpolluted material can also be harmful particularly if it occurs in biologically active areas such as shellfish beds.

Present regulatory control over dredge spoil disposal is vested in the Corps, both as a consequence of its authority to regulate dredging and dumping in navigable waters, and as a result of its self-regulation of the dredge spoil produced by its own activity.

Granting EPA a permit authority over the dumping of dredge spoil, even where it is generated by the Corps' own activities, would allow EPA to phase out the ocean disposal of polluted dredge spoils and to base selection of disposal sites for unpolluted material primarily on environmental factors, with a resulting considerable gain in alleviating marine environmental degradation.

The policy on dumping dredge spoil which the legislative proposal is designed to implement may result in carrying out fewer and smaller dredging operations. Most polluted dredge spoil may be appropriate for disposition at land sites, and development and use of these sites would involve greater costs than ocean or other marine dumping sites. Greater disposal costs may be incurred for even unpolluted dredge spoil. Appropriate dumping sites may not exist in close proximity to the dredging area and considerable costs may be incurred in transporting the spoil to suitable areas.

Reducing the amount of dredging may be of some benefit to the environment, for dredging normally involves increasing the turbidity of the relevant waters and suspending some of the pollutants which are present in material being dredged. This would also have a beneficial effect in reducing dredge spoil that might be dumped on coastal marsh areas which are often unique and productive of waterfowl and other shore birds and often serve as the nutrient base for food chains of valuable estuarine living marine resources.

The proposal would allow implementation of the Council's recommendations to bar as soon as possible the dumping of industrial wastes, especially those which are toxic, and undigested sewage sludge. Dumping of digested or other stabilized sludge would be phased out as environmentally-sound land-based alternatives were developed.

Other land-oriented materials which under the proposal and new anti-dumping policy could not be dumped at sea or in similar waters include high-level radioactive wastes and chemical warfare agents. Dumping of other materials, such as explosive munitions, would be phased out.

(2) *Adverse environmental effects which cannot be avoided should the bill be enacted*

(*a*) Each decision not to permit the dumping of material in the ocean or similar waters would to some degree enhance the quality of those waters. Yet, the waste disposal problem would only shift to another part of the environment if long-term alternatives cannot be developed to increase recycling of waters, to conserve resources, and to manage solid wastes effectively from an economic and environmental standpoint.

Nevertheless, the bill seeks to vest the permit authority with the Administrator of EPA, who, because of his responsibility in the areas of air and water pollution control, radiation standard-setting, and solid-waste management research, is probably better qualified than any other Federal government official to choose between competing disposal modes.

(*b*) Arguably, the assumption of an active regulatory role by the Federal government would lead States and local governments to abandon their current efforts to control dumping. However, State and local regulatory efforts of a comprehensive nature have only begun to be developed, and the bill would explicitly save these nascent efforts from preemption.

In California, for example, the San Francisco Bay Area Water Quality Control Board has passed stringent anti-dumping rules which were effective January 1, 1971. These efforts, and those of a similar nature, could be revised to reflect the newly strengthened Federal authority.

(*c*) The bill would repeal or restrict the scope of several existing Federal statutes and add requirements to others. These actions are not expected to have adverse environmental effects.

In its subsections 11(a) and 11(b), the bill would repeal the Supervisory Harbors Act of 1888, as amended (33 U.S.C. § 441–451b), and the provision of the Rivers and Harbors Act of 1899 (33 U.S.C. § 418) which preserves the Super-

visory Harbors Act from supersession by the 1899 Act. The Supervisory Harbors Act provides a special authority to control transit in and from the harbors of New York, Baltimore, and Hampton Roads, Virginia. This authority has been used to regulate ocean dumping. The proposed Act would replace that authority. A portion of the Act of August 5, 1886 (33 U.S.C. § 407a), which pertains to deposits of debris from mines and stamp works, and which is covered by this bill or the Refuse Act, is also repealed. A provision contained in the Rivers and Harbors Act of 1905 (33 U.S.C. § 419), which has been used to buttress the Corps of Engineers' authority to regulate ocean dumping, is superseded, insofar as it authorizes action that would be regulated by this proposal. Lastly, section 13 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 407), commonly known as the Refuse Act, is superseded, but only insofar as it applies to dumping of material in the waters covered by subsection 4(b) of this proposal.

Another portion of the proposed bill, section 7, deals with the relationship of this proposed legislation to other laws. Generally, except as provided in subsections 7(b) and 7(c), it provides that after the Act's effective date, existing licenses, permits, or authorizations would be terminated to the extent they authorize activity covered by this proposal, and that further licenses, permits, or authorizations of a similar nature could not be issued.

Subsection 7(b) maintains present responsibility and authority contained in the Atomic Energy Act of 1954, and provides that the prohibitory provisions of this proposal do not apply to actions taken under that Act. However, the AEC must consult with the Administrator before issuing a permit to conduct any activity otherwise regulated by this proposal. Moreover, the AEC must comply with the radioactive-material standards set by the Administrator, and the Administrator is directed to consider the policy expressed in this proposal along with the proposed criteria-basing factors in setting such standards for the waters covered by this proposal.

Subsection 7(c) relates to authorities contained in the Rivers and Harbors Act of 1899, respecting dredging, filling, harbor works, and maintenance of navigability. The powers are exercised by the Secretary of the Army and the Chief of Engineers. Except for the limited supersession respecting the Refuse Act discussed earlier, the Rivers and Harbors Act authorities are not negated or abrogated, nor are existing licenses or permits issued under the Act terminated. Rather, in situations where this bill would but for the provisions of 7(a) and (c) also apply to dumping of material in connection with a dredge and fill or other permit issued by the Corps of Engineers, such permit is conditioned upon a certification by the Administrator of EPA that the activity is in conformity with this proposal and any regulations issued under it. The Administrator would not issue a separate permit.

(3) Alternatives to the proposed bill

(*a*) The Federal government's present, scattered regulatory authority over dumping in the oceans and other similar waters could be retained, but each official responsible for administration of a part of the mosaic of laws could implement the policy reflected in the Council's report. Such an approach would give direction to the presently largely uncoordinated regulatory efforts, but it would mean that serious jurisdictional gaps in Federal authority would remain. Most of the relevant Federal laws are not written to reach activity which occurs beyond United States territorial sea. Yet most dumping takes place beyond these waters, notwithstanding the fact that the dumped material originates within the United States.

(*b*) Greater responsibility could be placed on the States through development of a regulatory system akin to that found in the Federal Water Pollution Control Act, where States would develop criteria and procedures for dumping permits, and the Federal government would approve suitable State systems. But, the interstate character of the oceans and the direct effect upon them by actions taken in such similar areas as estuaries suggests that a unified control is desirable. Also, the authority of the States is limited to their territorial seas.

(*c*) A complete ban on all dumping in the oceans, Great Lakes, and other similar waters could be declared and enforced. This alternative, however, would have unnecessary and undesirable environmental effects. It would force all disposal to land modes and create undue air and water pollution problems as well as hamper land use of some areas which would have to be used as solid waste and dredge spoil disposal sites. Such action would arbitrarily place the oceans

and similar waters in a preferred environmental position at the expense of other portions of our surroundings.

(*d*) A system of taxes on massive disposal could be used in lieu of a permit system. At present, such a tax approach would be difficult to administer because the relative impact of the different materials dumped is difficult to determine. When the variable of dumping locations is added, as would be necessary, the rate of taxation to be assessed for a dumping action seems almost impossible to determine.

(*e*) The present permit system could be modified to incorporate a requirement that the Administrator of EPA consult with the Secretaries of the Interior (Fish and Wildlife Service) and Commerce (National Oceanic and Atmospheric Administration) respecting each permit application. Such a requirement would ensure that added environmental expertise was brought to bear on the application of criteria as well as in the development and modification of the criteria. However, the added administrative burden of mandatory comment in each permit application could be overly burdensome. The proposal now gives the Administrator discretion to consult when he deems such consultation to be necessary.

(*4*) *Relationship between local short-term uses of man's environmental and the maintenance of long-term productivity*

The proposal provides adequate authority to protect the oceans and similar waters from the degradation resulting from dumping wastes in them. In the short term, adoption of the proposed bill would involve (1) markedly increased dredging costs, particularly for areas where the dredge spoil was polluted, (2) increased expenditures for sewage treatment facilities, especially in the New York area where much undigested sewage sludge is dumped at sea, (3) increased funding demands for both public and private solid waste disposal and research, and (4) development of methods to detoxify or render harmless the nation's outdated chemical and explosive munitions. The oceans would no longer be a least-cost, convenient sink for many wastes. In the short term the proposed bill would increase pressures on land disposal sites and may also contribute to some air and water pollution.

In the long term, advances in recycling and resource development technology should decrease the pressures placed on land-based disposal, except perhaps in the case of polluted dredge spoil. Presently, alternatives to diked land disposition of such spoil appear limited, but research and management efforts are being stepped up, as evidenced by the program contained in Section 123 of the recently-enacted River and Harbor Act of 1970 (P.L. 91–611).

(*5*) *Any irreversible or irretrievable commitments of resources*

The bill would commit Federal funds to the administration of the new regulatory machinery. It would also require increased Federal and private financing of efforts to develop alternative means of waste treatment and disposal. Certain activities such as dredging would become sufficiently expensive in some cases that the dredging either might not be done to the detriment of navigation, or might take a greater show of Federal or private funds than at present. And, it would force industries and municipalities to construct new and environmentally desirable methods of disposing of wastes on land.

D. COORDINATION WITH OTHER AGENCIES

The proposed bill was prepared by the Council on Environmental Quality with the guidance and assistance of an interagency task force including representatives of the Office of Management and Budget.

Enclosure.

[H.R. 285, H.R. 983, 92d Cong., 1st sess.]

A BILL

To amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by requiring the designation of certain water and submerged lands areas where the depositing of certain waste materials will be permitted, to authorize the establishment of standards with respect to such deposits, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Fish and Wildlife Coordination Act (16 U.S.C.
4 661 et seq.) is amended by inserting immediately following
5 section 5A thereof the following new section:
6 "SEC. 5B. (a) The Secretary of the Interior, acting
7 through the United States Fish and Wildlife Service, shall

1 designate those portions of the navigable waters of the United
2 States and those portions of the waters above the Outer Con-
3 tinental Shelf as defined in the Outer Continental Shelf Lands
4 Act, and those portions of the submerged lands beneath the
5 navigable waters and beneath the waters above the Outer
6 Continental Shelf into and onto which he determines sewage,
7 sludge, spoil, or other waste can be safety discharged. In
8 making such designation he shall consider all ecological and
9 environmental factors, including, but not limited to, the effect
10 of such discharging on the marine and wildlife ecology.
11 "(b) No designation shall be made by the Secretary of
12 the Interior under authority of subsection (a) of this section
13 for the two-year period beginning on the date of enactment
14 of this section. During such two-year period the Secretary of
15 the Interior, in cooperation with the Secretary of the Army
16 acting through the Chief of Engineers, shall make a full and
17 complete investigation and study of potential water and sub-
18 merged lands areas for designation and shall identify those
19 areas most suitable for such designation.
20 "(c) As soon as practicable after the designation of an
21 area under subsection (a) of this section, the Secretary of the
22 Interior shall establish standards which shall be applicable to
23 the discharge of material within such designated area. Such
24 standards shall be for the purpose of insuring that no damage
25 to, or loss of, any wildlife or wildlife resources or pollution of

1 the navigable waters of the United States will result from any
2 such activity. Such standards shall be applicable to all of the
3 departments, agencies, and instrumentalities of the Federal
4 Government, and, except as otherwise provided in this sec-
5 tion, in the case of a designated area containing any sub-
6 merged lands within the jurisdiction of the States, to the
7 States and their agencies, including any person having any
8 license, permit, or other authorization from such State or
9 agency for any such activity with respect to any of such sub-
10 merged lands.

11 "(d) If a State establishes within one year after the
12 date that a Federal standard is established under subsection
13 (c) of this section its own standard with respect to the
14 activity covered by such Federal standard, such standard
15 shall be applicable to such activity within the jursidiction
16 of such State if within such one-year period the Secretary,
17 after public hearing, determines that such State standard
18 is equal to or more stringent than the Federal standard
19 established under this section with respect to such activity
20 and that there are adequate procedures for the State to en-
21 force such standard, then such State standard shall apply to
22 such activity within the State's jurisdiction, and the Federal
23 standard shall not apply. If he determines that such State
24 standard is not as stringent as the Federal standard, then

1 the Federal standard shall apply to such activity in such
2 State.
3 "(e) Whenever a State's standard is applicable within
4 the jursidiction of that State it shall continue to be applicable
5 until the Secretary, after public hearing, determines that it
6 is not as stringent as the comparable Federal standard. He
7 shall review all of the standards of each State for this purpose
8 at least once each calendar year.
9 "(f) The Secretary is authorized to issue new stand-
10 ards and to amend existing standards from time to time as
11 he determines necessary, and such new or amended stand-
12 ards shall be considered as initial standards issued under
13 subsection (c) of this section for the purpose of their
14 application to the States under this section.
15 "(g) The district courts of the United States shall
16 have jurisdiction to restrain violations of this section. Ac-
17 tions to restrain such violations shall be brought by, and in,
18 the name of the United States. In case of contumacy or
19 refusal to obey a subpena upon any person under this sub-
20 section, the district court of the United States for any
21 district in which such person is found or resides or transacts
22 business, upon application by the United States and after
23 notice to such person, shall have jurisdiction to issue an
24 order requiring such person to appear and give testimony
25 or to appear and produce documents, and any failure to obey

1 such order of the court may be punished by such court as
2 a contempt thereof.
3 "(h) Every department, agency, and instrumentality
4 of the Federal Government and of the States, and every per-
5 son applying for a license, permit, or other authorization from
6 the United States or from any State to discharge or otherwise
7 dispose of any material in an area designated under subsection
8 (a) of this section shall establish and maintain such records,
9 make such reports, and provide such information as the
10 Secretary may reasonably require to assist him in establishing
11 standards under this section and in determining whether
12 such department, agency, instrumentality, or person has
13 acted or is acting in compliance with this section and shall,
14 upon request by the Secretary, permit him at reasonable
15 times to have access to and to copy such records. All informa-
16 tion reported to, or otherwise obtained by, such Secretary
17 or his representative pursuant to this subsection which con-
18 tains or relates to a trade secret or other matter referred to
19 in section 1905 of title 18 of the United States Code shall
20 be considered confidential for the purpose of that section,
21 except that such information may be disclosed to other officers
22 or employees concerned with carrying out the provisions of
23 this section.
24 "(i) (1) Whoever discharges (including, but not lim-
25 ited to, any spilling, leaking, pumping, pouring, emitting,

1 emptying, or dumping) any sewage, sludge, spoil, or other
2 waste into or upon any waters or submerged lands within
3 the jurisdiction of the United States and not within an area
4 designated under subsection (a) of this section shall be
5 subject to a civil penalty of not more than $10,000 for each
6 offense. Any such civil penalty may be compromised by the
7 Secretary referred to in subsection (k) (1) of this section.
8 "(2) Whoever violates any standard established under
9 subsection (c) of this section shall be liable to a civil penalty
10 of not more than $10,000 for each such violation. In the
11 case of a continuing violation of such a standard, each day
12 of violation shall be considered a separate offense for the
13 purposes of this subsection. The Secretary of the Interior
14 may assess and may mitigate, remit, or compromise any
15 such penalty. In taking any penalty action for violation of
16 a standard, the gravity of the violation, and the demonstrated
17 good faith of the person charged in attempting to achieve
18 rapid compliance, after notification of a violation, shall be
19 considered by the Secretary of the Interior.
20 "(j) Upon the designation of waters or submerged lands
21 under subsection (a) of this section, all licenses, permits, or
22 authorizations which have been issued by any officer or em-
23 ployee of the United States under authority of any other
24 provision of law shall be terminated and of no effect to the
25 extent they authorize any activity prohibited by subsection

1 (i) of this section. Thereafter no license, permit, or author-
2 ity shall be issued by any officer or employee of the United
3 States which would authorize any activity prohibited by
4 subsection (i) of this section.

5 "(k) (1) The Secretary of the department in which
6 the Coast Guard is operating, acting through the Coast
7 Guard, shall enforce subsection (i) (1) of this section.

8 "(2) The Secretary of the Interior shall enforce sub-
9 section (i) (2) of this section."

[H.R. 336, H.R. 548, H.R. 1382, H.R. 1674, H.R. 6305, 92d Cong., 1st sess.]

A BILL

To require the Council on Environmental Quality to make a full and complete investigation and study of national policy with respect to the discharging of material into the oceans.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Council on Environmental Quality established by
4 Public Law 91–190 shall make a full and complete investiga-
5 tion and study of all aspects of existing national policy with
6 respect to the discharge of any material of any kind into
7 the waters of the Atlantic and Pacific Oceans, the Gulf of
8 Mexico, and any other waters within the territorial sea and
9 the contiguous zone of the United States. Upon completion
10 of such investigation and study the Council shall report to

1 the President and Congress the results thereof, its recom-
2 mendations for a national policy with respect to discharges
3 into such waters including any treaties, agreements, and
4 legislation necessary in connection therewith.

[H.R. 337, H.R. 549, H.R. 1381, 92d Cong., 1st sess.]

A BILL

To prohibit the discharge into any of the navigable waters of the United States or into international waters of any military material without a certification by the Council on Environmental Quality approving such discharge.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That after the date of enactment of this Act, no person shall
4 discharge, directly or indirectly, into any of the navigable
5 waters of the United States or into international waters any
6 munition, or any chemical, biological, or radiological war-
7 fare agent, or any other military material except in accord-

1 ance with a certificate issued by the Council on Environ-
2 mental Quality established by Public Law 91–190 permit-
3 ting such discharge and establishing the terms, conditions,
4 and limitations applicable thereto.

[H.R. 805, H.R. 807, H.R. 808, H.R. 1329, H.R. 2581, H.R. 5705, H.R. 7619, H.R. 8039, 92d Cong., 1st sess.]

A BILL

To amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by providing for the orderly regulation of dumping in the ocean, coastal, and other waters of the United States.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Fish and Wildlife Coordination Act (16 U.S.C. 661
4 et seq.) is amended by inserting immediately following sec-
5 tion 5A thereof the following new section:

1 "SEC. 5B. For the purposes of this section:

2 (1) the term "ocean, coastal, and other waters"
3 means oceans, gulfs, bays, salt-water lagoons, salt-water
4 harbors, other coastal waters where the tide ebbs and
5 flows, the Great Lakes, and all waters in a zone con-
6 tiguous to the United States extending to a line twelve
7 nautical miles seaward from the baseline of the terri-
8 torial sea as provided in article 24 of the Convention on
9 the Territorial Sea and the Contiguous Zone.

10 (2) the term "Administrator" means the Admin-
11 istrator of the Environmental Protection Agency.

12 "(b) The Administrator and the Secretary of the In-
13 terior (acting through the United States Fish and Wildlife
14 Service) in consultation with the Secretary of the Army
15 (acting through the Chief of Engineers of the United States
16 Army Corps of Engineers), shall establish standards which
17 apply to the deposit or discharge into the ocean, coastal, and
18 other waters of the United States of all industrial wastes,
19 sludge, spoil, and all other materials that might be harmful
20 to the wildlife or wildlife resources or to the ecology of these
21 waters. Such standards shall be for the purpose of insuring
22 that no damage to the natural environment and ecology in-
23 cluding but not limited to marine and wildlife ecology of
24 the ocean, coastal, and other waters of the United States
25 will result from any such activity. Such standards shall

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1 require, in part, that any person before depositing or dis-
2 charging of such materials into the ocean, coastal, and other
3 waters of the United States must present sufficient evidence
4 to sustain a burden of proof that such materials in the loca-
5 tion in which they are to be deposited will not endanger
6 the natural environment and ecology of these waters, and
7 to meet such additional requirements as the Administrator
8 may deem necessary for the orderly regulation of such
9 activity.

10 "(c) Such standards shall be adopted and enforced by
11 any department, agency, or instrumentality of the Federal
12 Government or any State department, agency, or instru-
13 mentality that issues any license, permit, or other authori-
14 zation for any such activity with respect to any of such
15 coastal waters.

16 "(d) Such standards shall be applicable to all of the
17 departments, agencies, and instrumentalities of the Federal
18 Government, to the States and their agencies, including
19 any person having any license, permit, or other authorization
20 from such State or agency for any such activity with respect
21 to any of such ocean, coastal, and other waters.

22 "(e) After the date that a Federal standard is estab-
23 lished under this section, a State may establish its own stand-
24 ard with respect to the activity covered by such Federal
25 standard, except that the State standard must be more strin-

1 gent than the Federal standard and must provide adequate
2 procedures for enforcement. Such a State standard shall
3 apply to such activity within the State's jurisdiction and the
4 Federal standard shall not apply. If the Administrator
5 determines that such State standard is not as stringent as
6 the Federal standard, or is not being enforced, then the
7 Federal standard shall apply.

8 "(f) Every department, agency, and instrumentality of
9 the Federal Government and of the States, and every person
10 applying for a license, permit, or other authorization from
11 the United States or from any State to discharge or other-
12 wise dispose of any material in the coastal waters of the
13 United States shall establish and maintain such records, make
14 such reports, and provide such information as the Adminis-
15 trator may reasonably require to assist him in establishing
16 standards under this section and in determining whether
17 such department, agency, instrumentality, or person has
18 acted or is acting in compliance with this section and shall,
19 upon request by the Administrator, permit him to have ac-
20 cess to and copy such records.

21 "(g) The district courts of the United States shall have
22 jurisdiction to restrain violations of this section. Actions to
23 restrain such violations shall be brought by, and in the name
24 of, the United States. In case of contumacy or refusal to obey
25 a subpena upon any person under this subsection, the district

1 court of the United States for any district in which such
2 person is found or resides or transacts business, upon applica-
3 tion by the United States and after notice to such person,
4 shall have jurisdiction to issue an order requiring such person
5 to appear and give testimony or to appear and produce
6 documents, and any failure to obey such order of the courts
7 may be punished by such court as a contempt thereof.
8 "(h) Whoever violates any standard established under
9 subsection (b) of this section shall be liable to a civil penalty
10 of not more than $10,000 nor less than $5,000 for each viola-
11 tion. In the case of a continuing violation of such a standard,
12 each day of violation shall be considered a separate offense for
13 the purposes of this section.
14 "(i) Upon the effective date of this section, all licenses,
15 permits, or authorizations which have been issued by any
16 officers or employee of the United States under authority of
17 any other provision of law shall be terminated.

[H.R. 1095, 92d Cong., 1st sess.]

A BILL

To amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by requiring the designation of certain water and submerged land areas where the depositing of certain waste materials is prohibited, to require the establishment of standards with respect to such deposits in all other areas, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Fish and Wildlife Coordination Act (16 U.S.C. 661

1 et seq.) is amended by inserting immediately following sec-
2 tion 5A thereof the following new sections:
3 "SEC. 5B. (a) The Secretary of the Interior, acting
4 through the United States Fish and Wildlife Service, shall
5 designate those portions of the navigable waters of the United
6 States and those portions of the waters above the Outer
7 Continental Shelf as defined in the Outer Continental Shelf
8 Lands Act, and those portions of the submerged lands be-
9 neath the navigable waters of the United States and beneath
10 the waters above the Outer Continental Shelf and those lands
11 beneath international waters into and onto which he deter-
12 mines sewage, sludge, spoil, landfill, heated effluents, or any
13 other waste or substance (solid, liquid, or gas) cannot be
14 safely discharged. Areas designated under this section shall
15 be known as "marine sanctuaries".
16 "(b) In making such designation the Secretary of the
17 Interior shall—
18 "(1) consider the overall effect on the marine and
19 wildlife ecological balance which discharging of such
20 materials has had or will have in the area,
21 "(2) consider all effects of such discharges which
22 he may find to be dangerous to the mating, spawning,
23 and other necessary life processes of species of fish,
24 shellfish, and all other forms of marine animal and plant
25 life,

1 "(3) consider all other ecological and environ-
2 mental factors, including, but not limited to, the eco-
3 logical effect of discharging heated effluents into the
4 area, and
5 "(4) consult with the appropriate Federal, State,
6 and local agencies and officials, and with public or
7 private organizations, institutions, agencies, and indi-
8 viduals with expertise in the sciences of ecology, marine
9 biology, oceanography, and other related disciplines in
10 the physical and biological sciences.
11 "(c) No designation shall be made by the Secretary of
12 the Interior under authority of subsection (a) of this section
13 during the one-year period beginning on the date of enact-
14 ment of this section. During such one-year period the Secre-
15 tary of the Interior, in cooperation with the Secretary of the
16 Army acting through the Chief of Engineers, shall make a
17 full and complete investigation and study of potential water
18 and submerged land areas for designation and shall identify
19 those areas most suitable for such designation.
20 "(d) Upon the designation of areas under subsection
21 (a) of this section, all licenses, permits, or authorizations
22 which have been issued by any officer or employee of the
23 United States under authority of any other provision of law
24 shall be terminated and of no effect to the extent they author-
25 ize any activity prohibited by subsection (e) of this section.

1 Thereafter no license, permit, or authority shall be issued by
2 any officer or employee of the United States which would
3 authorize any activity prohibited by subsection (e) of this
4 section.

5 "(e) Whoever discharges spills, leaks, pours, emits,
6 empties, dumps, or in any other way introduces, any sewage,
7 sludge, spoil, landfill, heated effluents, or any other waste or
8 substance (solid, liquid, or gas) into or upon any of the
9 waters designated under subsection (a) of this section shall
10 be fined not more than $10,000 for each offense.

11 "(f) The Secretary of the department in which the
12 Coast Guard is operating, acting through the Coast Guard,
13 shall enforce this section.

14 "SEC. 5C. (a) Within one hundred and eighty days
15 after the designation of areas under subsection (a) of section
16 5B of this Act, the Secretary of the Interior shall establish
17 standards which, after notice, shall be applicable to the dis-
18 charge of any sewage, sludge, spoil, landfill, heated effluents,
19 or any other waste or substance (solid, liquid, or gas), in-
20 cluding but not limited to pesticide, herbicide, silt, and fer-
21 tilizer runoff, within any area not designated under subsection
22 (a) of section 5B of this Act. Such standards shall be for the
23 purpose of insuring that no damage to, or loss of, any marine
24 life or wildlife or other resources necessary for the ecological
25 balance of the area or pollution of the navigable waters of

1 the United States will result from any such activity. Such
2 standards shall require, in part, that any person before de-
3 positing or discharging such materials into the navigable and
4 coastal waters of the United States and into any international
5 waters must present sufficient evidence that discharging such
6 materials in the location in which they are to be deposited
7 will not endanger the natural environment and ecology of
8 these waters. Such standards shall further include the
9 following:

10 "(1) No sewage or industrial waste shall be dis-
11 charged (directly or indirectly) into any area subject to
12 standards issued under subsection (a) of this section
13 after January 1, 1973, unless such sewage or industrial
14 waste has received "at least" primary treatment "or
15 such other treatment equal to primary treatment" in
16 accordance with standards and regulations established by
17 the Secretary of the Interior.

18 "(2) No sewage or industrial waste shall be dis-
19 charged (directly or indirectly) into any area subject
20 to standards issued under subsection (a) of this section
21 after January 1, 1975, unless such sewage or industrial
22 waste has received "at least" primary and secondary
23 treatment "or such other treatment equal to primary and
24 secondary treatment" in accordance with standards and
25 regulations established by the Secretary of the Interior.

1 "(3) No sewage or industrial waste shall be dis-
2 charged (directly or indirectly) into any area subject
3 to standards issued under subsection (a) of this section
4 after January 1, 1977, unless such sewage or industrial
5 waste has received "at least" primary, secondary, and
6 tertiary treatment "or such other treatment equal to
7 primary, secondary, and tertiary treatment" in accord-
8 ance with standards and regulations established by the
9 Secretary of the Interior.
10 In addition, such person, prior to such discharging, must meet
11 such additional requirements as the Secretary of the Interior
12 may deem necessary for the orderly regulation of such
13 activity. Such standards shall be applicable to all of the
14 departments, agencies, and instrumentalities of the United
15 States Government. Except as otherwise provided in this
16 section, in the case of an area containing any submerged
17 lands within the jurisdiction of the States, such standards
18 shall be applicable to the States and their agencies, includ-
19 ing any person having any license, permit, or other author-
20 ization from such State or agency for any such activity with
21 respect to any of such submerged lands.
22 "(b) Every department, agency, and instrumentality
23 of the Federal Government and of the States, and every
24 person applying for a license, permit, or other authorization
25 from the United States or from any State to discharge or

1 otherwise dispose of any material in any area subject to
2 standards issued under subsection (a) of this section shall
3 establish and maintain such records, make such reports,
4 and provide such information as the Secretary of the Inte-
5 rior may reasonably require to assist him in establishing
6 standards under this section and in determining whether such
7 department, agency, instrumentality, or person has acted
8 or is acting in compliance with this section. Upon request,
9 the Secretary of the Interior shall, at reasonable times, have
10 access to examine and copy such records. All information
11 reported to, or otherwise obtained by, the Secretary of the
12 Interior, or his representative, pursuant to this subsection
13 which contains or relates to a trade secret or other matter
14 referred to in section 1905 of title 18 of the United States
15 Code shall be considered confidential for the purpose of
16 that section, except that such information may be disclosed
17 to other officers or employees concerned with carrying out
18 the provisions of this section. Officers or employees duly
19 designated by the Secretary of the Interior, upon presenting
20 appropriate credentials to the department, agency, instru-
21 mentality or person in charge, are authorized to enter at
22 reasonable times, for the purpose of inspecting any plant,
23 establishment or other property of such department, agency,
24 instrumentality, or person to determine whether such depart-

1 ment, agency, instrumentality, or person has acted or is
2 acting in compliance with this section.
3 "(c) The Secretary of the Interior is authorized to
4 issue new standards and to amend existing standards from
5 time to time as he determines necessary. Such new or
6 amended standards, after notice, shall be considered as initial
7 standards issued under subsection (a) of this section for the
8 purpose of their application to the States under this section.
9 "(d) If a State, within one year of the date that a
10 Federal standard is established under subsection (a) of this
11 section, establishes its own standard with respect to the
12 activity covered by such Federal standard which the Secre-
13 tary of the Interior determines, after public hearing, is equal
14 to or more stringent than such Federal standard, and if the
15 Secretary of the Interior determines that there are adequate
16 State enforcement procedures for such State standard, then
17 such State standard shall apply to such activity within the
18 State's jurisdiction, and the Federal standard shall not apply.
19 If the Secretary of the Interior determines that such State
20 standard is not as stringent as the Federal standard, then
21 the Federal standard shall apply to such activity in such
22 State.
23 "(e) Whenever a State's standard is applicable within
24 the jurisdiction of that State it shall continue to be applicable
25 until the Secretary of the Interior, after public hearing, de-

1 termines either that it is not as stringent as the comparable
2 Federal standard or that there is not adequate State enforce-
3 ment of such standard. He shall review all of the standards
4 of each State for this purpose at least once during each cal-
5 endar year.

6 "(f) Upon the issuance of standards under subsection
7 (a) of this section applicable to any area, all licenses, per-
8 mits, or authorizations which have been issued by any officer
9 or employee of the United States under authority of any other
10 provision of law with respect to discharges in an area shall
11 be terminated and of no effect to the extent they authorize
12 any activity prohibited by subsection (g) of this section.

13 "(g) Whoever discharges any waste or substance in
14 violation of the standards established under subsection (a)
15 of this section shall be subject to a civil penalty of not more
16 than $10,000 for each violation. In the case of a continuing
17 violation, each day of violation shall be considered a separate
18 offense for the purposes of this subsection. The Secretary
19 of the Interior may assess and may mitigate, remit, or com-
20 promise any such penalty. In taking any penalty action for
21 violation of a standard, the gravity of the violation, and the
22 demonstrated good faith of the person charged in attempting
23 to achieve rapid compliance, after notification of a violation,
24 shall be considered by the Secretary of the Interior.

1 "(h) The Secretary of the Interior shall enforce sub-
2 section (g) of this section.
3 "(i) The district courts of the United States shall have
4 jurisdiction to restrain violations of this section and of sec-
5 tion 5B of this Act. Actions to restrain such violations shall
6 be brought by, and in, the name of the United States. In case
7 of contumacy or refusal to obey a subpena upon any person
8 under this subsection, the district court of the United States
9 for any district in which such person is found or resides or
10 transacts business, upon application by the United States
11 and after notice to such person, shall have jurisdiction to
12 issue an order requiring such person to appear and give tes-
13 timony or to appear and produce documents, and any failure
14 to obey such order of the court may be punished by such
15 court as a contempt thereof.
16 "SEC. 5D. (a) Within one hundred and eighty days
17 after the date of enactment of this section, the Secretary of
18 Defense, acting through the Secretaries of the military
19 departments, shall make a complete inventory of all existing
20 munitions, chemical, biological, and radiological warfare
21 agents, and other military materials, the ultimate disposition
22 of which (other than for the purpose for which acquired)
23 may present a danger to man, the environment, or to fish
24 and wildlife, and with respect to each item on such inventory
25 shall determine the date beyond which such items cannot

1 be safely retained. The Secretary shall submit to the Secre-
2 tary of Interior, Council on Environmental Quality, the
3 Environmental Protection Agency, and to the Congress an
4 adequate plan (supported by the technology to carry out
5 such plan), along with the inventory list and disposition
6 dates provided for under the preceding sentence, for the
7 demilitarization, detoxification, or decontamination of each
8 such item in order to ultimately dispose of such items.

9 "(B) Prior to the acquisition, after the date of enactment
10 of this Act, of any munitions, chemical, biological, or radio-
11 logical warfare agents, or other military materials, the ulti-
12 mate disposition of which (other than for the purpose for
13 which acquired) may present a danger to man, the environ-
14 ment, or to fish and wildlife, the Secretary of Defense,
15 acting through the Secretaries of the military departments,
16 shall determine the date beyond which such munition, agent,
17 or material cannot be safely retained, and shall submit to the
18 Secretary of Interior, Council on Environmental Quality,
19 and to the Congress an adequate plan (supported by the
20 technology to carry out such plan) for the demilitarization,
21 detoxification, or decontamination of such munition, agent,
22 or material in order to ultimately dispose of such munition,
23 agent, or material.

24 "(C) Notwithstanding any other provision of law, after
25 the date of enactment of this Act it shall be unlawful for any

1 Federal official to discharge or dispose of, or cause to be
2 discharged or disposed of, either directly or indirectly, any
3 munitions, chemical, biological, or radiological warfare
4 agents, or any other military materials, that may present a
5 danger to man, the environment, or to fish and wildlife,
6 into any navigable or coastal waters of the United States or
7 into any international waters."

[H.R. 1383, 92d Cong., 1st sess.]

A BILL

To amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by providing for the orderly regulation of dumping in the coastal waters of the United States.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Fish and Wildlife Coordination Act (16 U.S.C.
4 661 et seq.) is amended by inserting immediately following
5 section 5A thereof the following new section:
6 "SEC. 5B. (a) The Secretary of the Interior, acting
7 through the United States Fish and Wildlife Service, and
8 in consultation with the Chief of Engineers of the United
9 States Army, shall establish standards which apply to the

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1 deposit or discharge into the coastal waters of the United
2 States of all industrial wastes, sludge, spoil, and all other
3 materials that might be harmful to the wildlife or wildlife
4 resources or to the ecology of these waters. Such standards
5 shall be for the purpose of insuring that no damage to the
6 natural environment and ecology including but not limited
7 to marine and wildlife ecology of the navigable waters of
8 the United States will result from any such activity. Such
9 standards shall require, in part, that any person before
10 depositing or discharging of such materials into the coastal
11 waters of the United States must present sufficient evidence
12 to sustain a burden of proof that such materials in the loca-
13 tion in which they are to be deposited will not endanger
14 the natural environment and ecology of these waters, and
15 to meet such additional requirements as the Secretary of the
16 Interior may deem necessary for the orderly regulation of
17 such activity.

18 "(b) Such standards shall be adopted and enforced by
19 any department, agency, or instrumentality of the Federal
20 Government or any State department, agency, or instru-
21 mentality that issues any license, permit, or other authori-
22 zation for any such activity with respect to any of such
23 coastal waters.

24 "(c) Such standards shall be applicable to all of the
25 departments, agencies, and instrumentalities of the Federal

1 Government, to the States and their agencies, including
2 any person having any license, permit, or other authorization
3 from such State or agency for any such activity with respect
4 to any of such coastal waters.

5 "(d) After the date that a Federal standard is estab-
6 lished under this section, a State may establish its own stand-
7 ard with respect to the activity covered by such Federal
8 standard, except that the State standard must be more strin-
9 gent than the Federal standard and must provide adequate
10 procedures for enforcement. Such a State standard shall
11 apply to such activity within the State's jurisdiction and the
12 Federal standard shall not apply. If the Secretary of the
13 Interior determines that such State standard is not as strin-
14 gent as the Federal standard, or is not being enforced, then
15 the Federal standard shall apply.

16 "(e) Every department, agency, and instrumentality of
17 the Federal Government and of the States, and every person
18 applying for a license, permit, or other authorization from
19 the United States or from any State to discharge or other-
20 wise dispose of any material in the coastal waters of the
21 United States shall establish and maintain such records, make
22 such reports, and provide such information as the Secretary
23 may reasonably require to assist him in establishing stand-
24 ards under this section and in determining whether such de-
25 partment, agency, instrumentality, or person has acted or

1 is acting in compliance with this section and shall, upon re-
2 quest by the Secretary, permit him to have access to and
3 copy such records.

4 "(f) The district courts of the United States shall have
5 jurisdiction to restrain violations of this section. Actions to
6 restrain such violations shall be brought by, and in the name
7 of, the United States. In case of contumacy or refusal to obey
8 a subpena upon any person under this subsection, the district
9 court of the United States for any district in which such
10 person is found or resides or transacts business, upon applica-
11 tion by the United States and after notice to such person,
12 shall have jurisdiction to issue an order requiring such person
13 to appear and give testimony or to appear and produce
14 documents, and any failure to obey such order of the courts
15 may be punished by such court as a contempt thereof.

16 "(g) Whoever violates any standard established under
17 subsection (b) of this section shall be liable to a civil penalty
18 of not more than $10,000 nor less than $5,000 for each viola-
19 tion. In the case of a continuing violation of such a standard,
20 each day of violation shall be considered a separate offense for
21 the purposes of this section.

22 "(h) Upon the effective date of this section, all licenses,
23 permits, or authorizations which have been issued by any
24 officers or employee of the United States under authority of
25 any other provision of law shall be terminated.

[H.R. 1661, H.R. 5049, H.R. 5050, 92d Cong., 1st sess.]

A BILL

To regulate the discharge of wastes in territorial and international waters.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That no owner or master of a vessel may load, or permit
4 the loading of, any waste on such vessel while such vessel
5 is in any port of the United States, if such waste is to be
6 discharged in ocean waters, unless such owner or master
7 first—

1 (1) obtains a permit from the Administrator of
2 the Environmental Protection Agency (hereafter
3 referred to in this Act as the "Administrator") which
4 authorizes the loading of such waste; and
5 (2) notifies the Coast Guard of such loading as
6 prescribed in section 3.
7 SEC. 2. (a) The Administrator shall issue to any owner
8 or master of a vessel a permit authorizing the loading of
9 waste on such vessel if the Administrator finds that the dis-
10 charge of such waste in any ocean waters will not damage
11 the ecology of the marine environment. In making any such
12 finding, the Administrator shall consider the effect of such
13 discharge on human health and welfare (including possible
14 adverse effects on economic, recreational and esthetic values)
15 and on the marine ecosystem, taking into account the
16 proposed location of such discharge and the concentration
17 and volume of the waste to be discharged.
18 (b) In no event shall any permit be issued for the
19 discharge of any waste whatever between the Continental
20 Shelf and the coast of the United States.
21 (c) The Administrator shall have the authority to ban
22 the loading, transporting and dumping of any specific matter
23 deemed damaging to the marine environment or to human
24 health and welfare.

1 (d) The Administrator shall have the authority to
2 designate ocean dumping sites.
3 (e) Each permit issued under subsection (a) shall
4 specify—
5 (1) the amount and type of waste authorized to be
6 loaded and discharged;
7 (2) the exact coordinates of the location at which
8 such discharge is permitted and a statement of the route
9 to that location;
10 (3) such provisions as the Administrator deems
11 necessary to insure that such waste will be transported
12 to the discharge site without accidental spillage or leak-
13 age; and
14 (4) such other provisions as the Administrator
15 deems necessary to carry out the purposes of this Act.
16 SEC. 3. (a) Any owner or master of a vessel who is
17 issued a permit under section 2 must notify the Coast Guard
18 and the Army Corps of Engineers of the exact location where
19 the waste covered by such permit is to be discharged. Such
20 notification must be given to the Coast Guard and the Army
21 Corps of Engineers in such manner as the Administrators of
22 the Department in which the Coast Guard is operating shall
23 prescribe and not later than four hours before the departure
24 of the vessel.

1 (b) The Administrator of the Department in which the
2 Coast Guard is operating shall conduct surveillance and
3 other appropriate enforcement activity to prevent violations
4 of this Act.

5 SEC. 4. (a) Any owner or master of a vessel who vio-
6 lates the first section of this Act or who violates any pro-
7 vision of a permit issued under section 2 of this Act shall be
8 liable to a civil penalty of not more than $50,000 for the
9 first violation, and not more than $100,000 for each subse-
10 quent violation. No penalty shall be assessed until the
11 person charged shall have been given notice and an oppor-
12 tunity for a public hearing on such charge. Upon failure of
13 an offending party to pay the penalty, the Administrator
14 may request the Attorney General to commence an action
15 in the appropriate district court of the United States for
16 such relief as may be appropriate.

17 (b) A vessel, other than a vessel owned or bargeboat
18 chartered by the United States, or other property used in
19 a violation shall be liable in rem for any civil penalty
20 assessed under this section and may be proceeded against
21 in any district court of the United States having jurisdic-
22 tion thereof.

23 SEC. 5. As used in this Act—

24 (1) The term "discharge" means to place, release,

1 discharge, or by any means whatsoever to dispose, of waste
2 in ocean waters.
3 (2) The term "master" includes any person acting in
4 the capacity of a master.
5 (3) The term "ocean waters" means any estuarine
6 area, coastal waters, Great Lakes, territorial waters, and
7 the high seas adjacent to the territorial waters.
8 (4) The term "owner" includes any private individ-
9 ual or corporate owner and any public owner, whether a
10 department, agency, or instrumentality of a State or a
11 political subdivision thereof, of an interstate governmental
12 entity, or of the Federal Government.
13 (5) The term "United States" means the States, the
14 District of Columbia, the Commonwealth of Puerto Rico,
15 Guam, and American Samoa.
16 (6) The term "vessel" includes any vessel, scow, or
17 boat, whether or not documented under the laws of the
18 United States, capable of being used to transport waste in
19 ocean waters.
20 (7) The term "waste" means matter of any kind or
21 description, including, but not limited to, dredge spoil, spoil
22 waste, garbage, sewage sludge, munitions, chemical, biologi-
23 cal and radiological warfare agents, radioactive materials,
24 wrecked or discarded equipment, rock, sand, cellar dirt, and
25 industrial wastes.

1 SEC. 6. This Act shall take effect immediately upon final
2 passage as provided by law.
3 SEC. 7. On and after the effective date of this Act, any
4 license, permit, or authorization issued by any officer or
5 employee of the United States under the authority of any
6 other provision of law shall be terminated and be of no effect
7 whatsoever to the extent that such license, permit, or
8 authorization authorizes any activity to which this Act
9 applies.

92D CONGRESS
1ST SESSION

H. R. 3662

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 4, 1971

Mr. ROGERS (for himself, Mr. DINGELL, Mr. PELLY, Mr. MCCLOSKEY, Mr. KEITH, Mr. MOSS, and Mr. CONTE) introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

A BILL

To amend the Fish and Wildlife Coordination Act in order to protect marine environment by regulating the dumping of wastes in the coastal and ocean waters of the United States.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Fish and Wildlife Coordination Act (16 U.S.C.
4 661 et seq.) is amended by inserting immediately following
5 section 5A thereof the following new section:
6 "SEC. 5B. (a) No person may dump waste material
7 into the ocean waters of the United States, or transport such
8 material through such waters, unless he has first obtained a

1 permit from the Administrator of the Environmental Protec-
2 tion Agency (hereafter referred to in this section as the 'Ad-
3 ministrator') authorizing such dumping.

4 "(b) (1) Except as provided in paragraph (4) of this
5 subsection, the Administrator may issue a permit to any
6 person authorizing such person to dump waste material into
7 ocean waters of the United States if the Administrator finds
8 that such dumping will not damage the ecology of the marine
9 environment. In making such finding, the Administrator
10 shall take into account such factors as he deems appropriate,
11 including the following:

12 "(A) The need for the proposed dumping.

13 "(B) The effect of such dumping on human health
14 and welfare, including economic, esthetic, and recrea-
15 tional values.

16 "(C) The effect of such dumping on fisheries re-
17 sources.

18 "(D) The effect of such dumping on marine eco-
19 systems, particularly with respect to—

20 "(i) the transfer, concentration, and dispersion
21 of such material and its byproducts through biologi-
22 cal, physical, and chemical pathways,

23 "(ii) potential changes in marine ecosystems
24 diversity and stability, and

1 "(iii) species and community population
2 dynamics.
3 "(E) The persistence and permanence of the effects
4 of the dumping.
5 "(F) The effect of dumping of particular volumes
6 and concentrations of such materials.
7 "(G) Appropriate locations and methods of dis-
8 posal, including land-based alternatives.
9 "(2) The Administrator may establish and issue various
10 categories of permits, including general permits for the dis-
11 charge of any class of waste material which he determines
12 will have a de minimis impact.
13 "(3) Each permit issued under the authority of this
14 section shall specify—
15 "(A) the type and amount of waste material author-
16 ized to be dumped;
17 "(B) the location at which such dumping is per-
18 mitted;
19 "(C) the length of time for which the permit is
20 valid and its expiration date;
21 "(D) any special provisions deemed necessary by
22 the Administrator for the monitoring and surveillance of
23 the dumping; and

1 "(E) such other provisions as the Administrator
2 deems necessary to carry out the purposes of this section.
3 "(4) (A) The Administrator may not issue any permit
4 authorizing the dumping of the following waste materials
5 in the ocean waters of the United States:
6 "(i) Radioactive wastes;
7 "(ii) Toxic industrial wastes; and
8 "(iii) Chemical and biological warfare materials.
9 "(B) After January 1, 1972, no permit shall be issued
10 by the Administrator for the dumping of sewage or industrial
11 waste, unless such sewage or industrial waste has received
12 primary treatment in accordance with standards and regula-
13 tions established by the Administrator.
14 "(C) After January 1, 1974, no permit shall be issued
15 by the Administrator for the dumping of sewage or indus-
16 trial waste, unless such sewage or industrial waste has
17 received primary and secondary treatment in accordance
18 with standards and regulations established by the Adminis-
19 trator.
20 "(D) After January 1, 1976, no permit shall be issued
21 by the Administrator for the dumping of sewage or indus-
22 trial waste, unless such sewage or industrial waste has
23 received primary, secondary, and tertiary treatment in
24 accordance with standards and regulations established by the
25 Administrator.

1 "(5) The Administrator may suspend, revoke, revise,
2 or condition, partially or entirely, any permit issued by him
3 for the dumping of waste material if he finds that such dump-
4 ing cannot or will not be carried out in conformity with the
5 provisions of such permit.

6 "(6) The Administrator may, considering the factors
7 set forth in paragraph (1) of this subsection, designate
8 recommended sites for the dumping of materials.

9 "(c) The Secretary of the department in which the
10 Coast Guard is operating shall conduct surveillance and
11 other appropriate enforcement activities in order to prevent
12 violations of this section.

13 "(d) (1) Whoever violates any provision of this sec-
14 tion, of any regulation promulgated under this section, or of
15 any permit issued under this section, shall be liable to a
16 civil penalty of not more than $50,000 for each violation, to
17 be assessed by the Administrator. No penalty shall be
18 assessed until the person charged shall have been given
19 notice and an opportunity for a public hearing on such
20 charge. In determining the amount of the penalty, or the
21 amount agreed upon in compromise, the gravity of the
22 violation and the demonstrated good faith of the person
23 charged in attempting to achieve rapid compliance after
24 notification of a violation shall be considered by the Admin-
25 istrator. Thereafter, upon failure of the offending party to

1 pay the penalty, the Administrator may request the Attorney
2 General to commence an action in the appropriate district
3 court of the United States for such relief as may be appro-
4 priate.

5 "(2) In addition to any action which may be brought
6 under paragraph (1) of this subsection, whoever knowingly
7 violates any provision of this section, of any regulation
8 promulgated under this section, or of any permit issued
9 under this section, shall be fined not more than $50,000,
10 or imprisoned for not more than one year, or both.

11 "(3) For the purpose of imposing civil penalties and
12 criminal fines under this subsection, each day of a periodic
13 violation shall constitute a separate offense, and one-half of
14 the penalties and fines recovered shall be payable to the
15 informer who provides the information resulting in the
16 penalties or fines and who may sue for the same.

17 "(4) The Attorney General or his delegate may bring
18 actions for equitable relief to redress violations of this sec-
19 tion, of any regulation promulgated under this section, or
20 of any permit issued under this section, and the district courts
21 of the United States shall have jurisdiction to grant such re-
22 lief as the equities of the case may require.

23 "(5) A vessel, other than a vessel owned or bareboat
24 chartered by the United States, or other property used in a
25 violation shall be liable in rem for any civil penalty assessed

1 and may be proceeded against in any district court of the
2 United States having jurisdiction thereof; except that no
3 vessel or other property shall be liable unless it shall appear
4 that the owner was at the time of the violation a consenting
5 party or privy thereto.

6 "(e) (1) On and after the effective date of this section,
7 any license, permit, or authorization issued by any officer
8 or employee of the United States under the authority of any
9 other provision of law shall be terminated and be of no effect
10 whatsoever to the extent that such license, permit, or author-
11 ization authorizes any activity to which this section applies.
12 After such effective date, no license, permit, or authoriza-
13 tion shall be issued by any officer or employee of the United
14 States other than the Administrator which would authorize
15 any activity to which this section or regulations issued here-
16 under apply.

17 "(2) Nothing in this section shall be construed as abro-
18 gating or negating any existing responsibility or authority
19 contained in the Rivers and Harbors Act of 1899; except
20 that on and after the effective date of this section, any Federal
21 license or permit proposed to be issued under the authority
22 of such Act of 1899 to conduct any activity otherwise regu-
23 lated by this section and the regulations issued hereunder,
24 shall be conditioned upon certification by the Administrator

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1 that the activity proposed to be conducted is in conformity
2 with this section.
3 "(3) Before issuing any permit under this section, where
4 it appears to the Administrator that the disposition of the
5 waste material to be discharged may affect navigation in
6 the navigable waters of the United States or may create an
7 artificial island on the Outer Continental Shelf, the Admin-
8 istrator shall consult with the Secretary of the Army and no
9 permit shall be issued if the Secretary of the Army deter-
10 mines that navigation will be unreasonably impaired.
11 "(f) Nothing in this section shall be construed as pre-
12 empting any State or subdivision thereof from imposing more
13 stringent requirements or liabilities regarding the discharge
14 of any waste material (1) having its origin in such State
15 or subdivision or (2) in any area where such State or sub-
16 division has competent jurisdiction.
17 "(g) As used in this section—
18 "(1) The term 'waste material' means all solid and
19 liquid products or byproducts of industrial processes (in-
20 cluding tailings, sediment, and like materials resulting
21 from marine mining or dredging activities), industrial
22 waste acids, chemicals, sewage, sludge, garbage, dredge
23 spoils, radioactive materials, construction and demolition
24 debris, military ordnance, explosives, and any other
25 form of discarded material or equipment.

1 "(2) The term 'ocean waters' means any estuarine
2 area, coastal waters, the Great Lakes, and waters above
3 the Outer Continental Shelf.
4 "(3) The term 'estuarine area' means an estuary
5 and those transitional areas which are consistently influ-
6 enced or affected by waters from the estuary such as, but
7 not limited to, salt marshes, coastal and intertidal areas,
8 bays, harbors, lagoons, inshore waters, and channels.
9 "(4) The term 'estuary' includes all or part of
10 the mouth of a navigable or interstate river or stream
11 or other body of water having an unimpaired natural
12 connection with the open sea and within which the sea
13 water is measurably diluted with fresh water derived
14 from land drainage.
15 "(5) The term 'coastal waters' means the waters
16 lying seaward of the line of ordinary low water along
17 that portion of the coast which is in direct contact with
18 the open sea and the line marking the seaward limit of
19 inland waters to a distance of three miles from such
20 lines.
21 "(6) The term 'Outer Continental Shelf' means land
22 extending from the three mile territorial limit out to the
23 200-meter depth contour.
24 "(7) The term 'United States' means the States,

1 the District of Columbia, the Commonwealth of Puerto
2 Rico, Guam, and American Samoa.
3 "(8) The term 'person' means any individual, cor-
4 poration, firm, association, or other entity and shall in-
5 clude any officer, department, agency, or instrumentality
6 of any State, interstate, or local unit of government, and
7 any officer, department, agency, or instrumentality of the
8 Federal Government.
9 "(9) The term 'dumping' means to place, release,
10 discharge, or by any means whatsoever dispose of ma-
11 terial into ocean, coastal, or other waters.
12 "(h) The Administrator shall direct and conduct such
13 investigation and research with respect to the marine ecology
14 as is necessary to carry out the purposes of this section. To
15 support such research and investigation, there is authorized
16 to be appropriated $1,000,000 for the fiscal year beginning
17 July 1, 1971, and a like sum for each fiscal year thereafter."
18 SEC. 2. (a) Section 6 of the Fish and Wildlife Coordi-
19 nation Act is amended by inserting after "Act" the first time
20 it appears therein the following: "(other than section 5B
21 (h))".
22 (b) Section 7 of such Act is amended by inserting after
23 "Act" the following: "(other than a rule or regulation
24 promulgated pursuant to section 5B)".

[H.R. 4217, H.R. 4218, H.R. 4719, H.R. 6610, 92d Cong., 1st sess.]

A BILL

To prohibit the discharge into any of the navigable waters of the United States or into international waters of any military material or other refuse without a certification by the Environmental Protection Agency approving such discharge.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That after the date of enactment of this Act, no person shall
4 discharge, directly or indirectly, into any of the navigable
5 waters of the United States or into international waters (A)
6 any munition, or any chemical, biological, or radiological
7 warfare agent, or any other military material or (B) any

1 other refuse matter of any kind or description whatever ex-
2 cept in accordance with a certificate issued by the Adminis-
3 trator of the Environmental Protection Agency permitting
4 such discharge and establishing the terms, conditions, limita-
5 tion, and penalties applicable thereto.

[H.R. 4247, H.R. 4723, H.R. 5239, H.R. 5268, H.R. 5477, H.R. 6582, H.R. 6771, 92d Cong., 1st sess.]

A BILL

To regulate the dumping of material in the oceans, coastal, and other waters and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Marine Protection Act of
4 1971".

5 FINDING POLICY AND PURPOSE

6 SEC. 2. (a) Unregulated dumping of material into the
7 oceans, coastal, and other waters endangers human health,
8 welfare, and amenities, and the marine environment, ecologi-
9 cal systems, and economic potentialities.

10 (b) Congress declares that it is the policy of the United
11 States to regulate the dumping of all types of material in the

1 oceans, coastal, and other waters and to prevent or vigorous-
2 ly limit the dumping into the oceans, coastal, and other wa-
3 ters of any material which could adversely affect human
4 health, welfare, or amenities, or the marine environment,
5 ecological systems, or economic potentialities. To this end,
6 it is the purpose of this Act to regulate the transportation of
7 material from the United States for dumping into the oceans,
8 coastal, and other waters, and the dumping of material by any
9 person from any source if the dumping occurs in waters over
10 which the United States has jurisdiction.

11 DEFINITIONS

12 SEC. 3. For the purposes of this Act the term—

13 (a) "Administrator" means the Administrator of the
14 Environmental Protection Agency.

15 (b) "Oceans, coastal, and other waters" means oceans,
16 gulfs, bays, salt water lagoons, salt water harbors, other
17 coastal waters where the tide ebbs and flows, and the Great
18 Lakes.

19 (c) "Material" means matter of any kind or description,
20 including, but not limited to, dredge spoil, solid waste, gar-
21 bage, sewage sludge, munitions, chemical, biological, and
22 radiological warfare agents, radioactive materials, wrecked
23 or discarded equipment, rock, sand, cellar dirt, and industrial
24 waste: *Provided,* That it does not mean oil within the mean-
25 ing of section 11 of the Federal Water Pollution Control Act

1 or sewage from vessels within the meaning of section 13 of
2 said Act.
3 (d) "United States" includes the several States, the Dis-
4 trict of Columbia, the Commonwealth of Puerto Rico, the
5 Canal Zone, the territories and possessions of the United
6 States and the Trust Territory of the Pacific Islands.
7 (e) "Person" means any private person or entity, any
8 employee, agent, department, agency, or instrumentality of
9 any State or local unit of government, or foreign government,
10 and, except as to the provisions of section 6, any employee,
11 agent, department, agency, or instrumentality of the Federal
12 Government.
13 (f) "Dumping" means a disposition of material: *Pro-*
14 *vided,* That it does not mean a disposition of any effluent
15 from any outfall structure, or a routine discharge of effluent
16 incidental to the propulsion of vessels: *And provided fur-*
17 *ther,* That it does not mean the intentional placement of
18 any device in the oceans, coastal, or other waters or on the
19 submerged land beneath such waters, for the purpose of
20 using such device there to produce an effect attributable
21 to other than its mere physical presence.
22 (g) "District Court of the United States" includes the
23 District Court of Guam, the District Court of the Virgin
24 Islands, the District Court of the Canal Zone, and in the
25 case of American Samoa and the Trust Territory of the

1 Pacific Islands, the District Court of the United States for
2 the District of Hawaii, which court shall have jurisdiction
3 over actions arising therein.

4 PROHIBITED ACTS

5 SEC. 4. Except as such transportation or dumping or
6 both may be authorized in a permit issued by the Admin-
7 istrator:

8 (a) No person shall transport material from the United
9 States for the purpose of dumping it into the oceans, coastal,
10 and other waters, and

11 (b) No person shall dump material (1) in that part of
12 the oceans, coastal, and other waters which is within the
13 territorial jurisdiction of the United States, or, (2) in a zone
14 contiguous to the territorial sea of the United States, ex-
15 tending to a line twelve nautical miles seaward from the base
16 line of the territorial sea as provided in Article 24 of the
17 Convention on the Territorial Sea and the Contiguous Zone,
18 to the extent that it may affect the territorial sea or the terri-
19 tory of the United States.

20 PERMITS

21 SEC. 5. (a) The Administrator may issue permits to
22 transport material for dumping into the oceans, coastal, and
23 other waters, or to dump material into the waters described
24 in subsection 4(b), or both, where the applicant presents
25 information respecting the proposed activity which in the

1 judgment of the Administrator indicates that such trans-
2 portation, or dumping, or both will not unreasonably de-
3 grade or unreasonably endanger human health, welfare, or
4 amenities, or the marine environment, ecological systems,
5 or economic potentialities. The Administrator shall establish
6 and apply criteria for reviewing and evaluating such permit
7 applications, and, in establishing or revising such criteria,
8 shall consider, but not be limited in his consideration to, the
9 following—

10 (1) the likely impact of the proposed dumping on
11 human health, welfare, and amenities, and on the ma-
12 rine environment, ecological systems, and economic po-
13 tentialities, including an assessment of—

14 (A) the possible persistence or permanence of
15 the effects of the proposed dumping,

16 (B) the volume and concentration of materials
17 involved, and

18 (C) the location proposed for the dumping.

19 (2) alternative locations and methods of disposal,
20 including land-based alternatives; the probable impact
21 of requiring the use of such locations or methods of dis-
22 posal on considerations affecting the public interest; and
23 the probable impact of issuing or denying permits on
24 considerations affecting the public interest.

25 In establishing or revising such criteria, the Administrator

1 shall consult with the Secretaries of Commerce, Interior,
2 State, Defense, Agriculture, Health, Education, and Welfare,
3 and Transportation, the Atomic Energy Commission, and
4 other appropriate Federal, State, and local officials. With
5 respect to such criteria, as may affect the civil works pro-
6 gram of the Department of the Army, the Administrator
7 shall also consult with the Secretary of the Army. In review-
8 ing applications for permits, the Administrator shall make
9 such provision for consultation with interested Federal and
10 State agencies as he deems useful or necessary. No permit
11 shall be issued for a dumping of material which will violate
12 applicable water quality standards.

13 (b) (1) The Administrator may establish and issue
14 various categories of permits, including the general permits
15 described in subsection (e).

16 (2) The Administrator may require an applicant for
17 a permit under subsection (a) to provide such information
18 as the Administrator may consider necessary to review and
19 evaluate such an application.

20 (c) Permits issued under subsection (a) may desig-
21 nate and include (1) the type of material authorized to be
22 transported for dumping or to be dumped; (2) the amount
23 of material authorized to be transported for dumping or to
24 be dumped; (3) the location where such transport for
25 dumping will be terminated or where such dumping will

1 occur; (4) the length of time for which the permits are
2 valid and their expiration date; and (5) such other matters
3 as the Administrator deems appropriate.

4 (d) The Administrator may prescribe such processing
5 fees for permits and such reporting requirements for ac-
6 tions taken pursuant to permits issued under subsection (a)
7 as he deems appropriate.

8 (e) Notwithstanding any other provision of this Act,
9 the Administrator may issue general permits for the trans-
10 portation for dumping, or dumping, or both, of classes of
11 materials which he determines will have a minimal impact,
12 considering the factors, stated in subsection (a).

13 (f) The Administrator may limit or deny the issuance
14 of permits, or may alter or revoke partially or entirely the
15 terms of permits issued by him under this Act, for the trans-
16 portation for dumping, or the dumping, or both, of specified
17 material, where he finds that such material cannot be
18 dumped consistently with the criteria established pursuant
19 to subsection (a). No action shall be taken under this subsec-
20 tion unless the affected person or permittee shall have been
21 given notice and opportunity for hearing on such action as
22 proposed.

23 (g) The Administrator may, considering the criteria
24 established pursuant to subsection (a), designate recom-
25 mended sites for the dumping of specified materials.

1 (h) Nothing in this Act shall prohibit any transporta-
2 tion for dumping or dumping of material where such trans-
3 portation or dumping is necessary, in an emergency, to safe-
4 guard human life. Such transportation or dumping shall
5 be reported to the Administrator within such times and
6 under such conditions as he may prescribe by regulation.

7 PENALTIES

8 SEC. 6. (a) A person who violates section 4 of this
9 Act, or regulations promulgated under this Act, or a per-
10 mit issued under this Act by the Administrator shall be
11 liable to a civil penalty of not more than $50,000 for each
12 violation to be assessed by the Administrator. No penalty
13 shall be assessed until the person charged shall have been
14 given notice and an opportunity for a hearing on such
15 violation. Any such civil penalty may be compromised
16 by the Administrator. In determining the amount of the
17 penalty, or the amount agreed upon in compromise, the
18 gravity of the violation and the demonstrated good faith
19 of the person charged in attempting to achieve rapid com-
20 pliance after notification of a violation shall be considered
21 by said Administrator. Upon failure of the offending party
22 to pay the penalty, the Administrator may request the
23 Attorney General to commence an action in the appropriate
24 district court of the United States for such relief as may
25 be appropriate.

1 (b) In addition to any action which may be brought
2 under subsection (a), a person who knowingly and will-
3 fully violates section 4 of this Act, regulations promulgated
4 under this Act, or a permit issued under this Act by the
5 Administrator shall be fined not more than $50,000 or
6 imprisoned for not more than one year, or both.
7 (c) For the purpose of imposing civil penalties and
8 criminal fines under this section, each day of a continuing
9 violation shall constitute a separate offense.
10 (d) The Attorney General or his delegate may bring
11 actions for equitable relief to redress a violation by any
12 person of this Act, regulations promulgated under this Act,
13 and permits issued under this Act by the Administrator, and
14 the district courts of the United States shall have jurisdiction
15 to grant such relief as the equities of the case may require.
16 (e) A vessel, except a public vessel within the meaning
17 of subsection 13 (a) (3) of the Federal Water Pollution
18 Control Act or other public property of a similar nature,
19 used in a violation shall be liable in rem for any civil penalty
20 assessed or criminal fine imposed and may be proceeded
21 against in any district court of the United States having juris-
22 diction thereof: *Provided*, That no vessel shall be liable unless
23 it shall appear that the owner was at the time of the violation
24 a consenting party or privy to such violation.
25 (f) If the provisions of any permit issued under sub-

1 section (a) of section 5 are violated, the Administrator may
2 revoke the permit or may suspend the permit for a specified
3 period of time. No permit shall be revoked or suspended
4 unless the permittee shall have been given notice and oppor-
5 tunity for a hearing on such violation and proposed suspen-
6 sion or revocation.

7 RELATIONSHIP TO OTHER LAWS

8 SEC. 7. (a) After the effective date of this Act, all
9 licenses, permits, or authorizations which have been issued
10 by any officer or employee of the United States under
11 authority of any other provision of law shall be terminated
12 and of no effect to the extent they authorize any activity
13 regulated by this Act. Thereafter, except as hereafter pro-
14 vided, no license, permit, or authority shall be issued by any
15 officer or employee of the United States other than the
16 Administrator which would authorize any activity regu-
17 lated by this Act or the regulations issued hereunder.

18 (b) Nothing in this Act shall abrogate or negate any
19 existing responsibility or authority contained in the Atomic
20 Energy Act of 1954, as amended, and section 4 and sub-
21 section 7 (a) of this Act shall not apply to any activity
22 regulated by that Act: *Provided,* The Atomic Energy Com-
23 mission shall consult with the Administrator prior to issuing
24 a permit to conduct any activity which would otherwise be
25 regulated by this Act. In issuing any such permit, the Atomic

1 Energy Commission shall comply with standards set by
2 the Administrator respecting limits on radiation exposures
3 or levels, or concentrations or quantities of radioactive mate-
4 rial. In setting such standards for application to the oceans,
5 coastal, and other waters, or for specific portions of such
6 waters, the Administrator shall consider the policy ex-
7 pressed in subsection 2 (b) of this Act and the factors stated
8 in subsections 5 (a) (1) and 5 (a) (2) of this Act.

9 (c) (1) The provisions of subsection (a) shall not
10 apply to actions taken before or after the effective date
11 of this Act under the authority of the Rivers and Harbors
12 Act of 1899 (33 U.S.C. 401 et seq.).

13 (2) Except as provided in subsection 11 (e), nothing
14 in this Act shall be construed as abrogating or negating
15 any existing responsibility or authority contained in the
16 Rivers and Harbors Act of 1899: *Provided,* That after
17 the effective date of this Act, no Federal license or permit
18 shall be issued under the authority of the Rivers and Har-
19 bors Act of 1899 to conduct any activity otherwise regu-
20 lated by section 4 of this Act and the regulations issued
21 hereunder, unless the Administrator has certified that the
22 activity proposed to be conducted is in conformity with
23 the provisions of this Act and with the regulations issued
24 hereunder.

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1 (3) Where a license or permit to conduct an activity
2 has been granted under the authority of subsections (c) (1)
3 and (c) (2) of this section and of the Rivers and Har-
4 bors Act of 1899, no separate permit to conduct such ac-
5 tivity shall be required under this Act.

6 (d) Prior to issuing any permit under this Act, where
7 it appears to the Administrator that the disposition of the
8 material to be transported for dumping or to be dumped may
9 affect navigation in the navigable waters of the United States
10 or may create an artificial island on the Outer Continental
11 Shelf, the Administrator shall consult with the Secretary of
12 the Army and no permit shall be issued if the Secretary of
13 the Army determines that navigation will be unreasonably
14 impaired.

15 (e) Nothing in this Act shall be construed as preempt-
16 ing any State, Federal territory or commonwealth, or
17 subdivision thereof from imposing any requirement of
18 liability.

19 ENFORCEMENT

20 SEC. 8. (a) The Administrator may, whenever appro-
21 priate, utilize by agreement, the personnel, services, and
22 facilities of other Federal departments, agencies, and instru-
23 mentalities, or State agencies or instrumentalities, whether
24 on a reimbursable or a nonreimbursable basis.

1 (b) The Administrator may delegate responsibility and
2 authority for reviewing and evaluating permit applications,
3 including the decision as to whether a permit will be issued,
4 to an officer of the Environmental Protection Agency, or he
5 may delegate, by agreement, such responsibility and author-
6 ity to the heads of other Federal departments or agencies,
7 whether on a reimbursable or nonreimbursable basis.

8 (c) The Secretary of the department in which the
9 Coast Guard is operating shall conduct surveillance and
10 other appropriate enforcement activity to prevent unlawful
11 transportation of material for dumping or dumping.

12 REGULATIONS

13 SEC. 9. In carrying out the responsibilities and author-
14 ity conferred by this Act, the Administrator is authorized
15 to issue such regulations as he may deem appropriate.

16 INTERNATIONAL COOPERATION

17 SEC. 10. The Secretary of State, in consultation with
18 the Administrator, shall seek effective international action
19 and cooperation to ensure protection of the marine environ-
20 ment, and may for this purpose, formulate, present, or sup-
21 port specific proposals in the United Nations and other com-
22 petent international organizations for the development of
23 appropriate international rules and regulations in support
24 of the policy of this Act.

1 REPEAL AND SUPERSESSION

2 SEC. 11. (a) The second proviso to the last paragraph
3 of section 20 of the Act of March 3, 1899 (30 Stat. 1154),
4 as amended (33 U.S.C. 418), is repealed.

5 (b) Sections 1, 2, 3, 4, 5, 6, and 7 of the Act of
6 June 29, 1888 (25 Stat. 209), as amended (33 U.S.C.
7 441–451b), are repealed.

8 (c) Section 2 of the Act of August 5, 1886 (24 Stat.
9 329; 33 U.S.C. 407a), is repealed.

10 (d) To the extent that it authorizes action regulated by
11 this Act, section 4 of the Act of March 3, 1905 (33 Stat.
12 1147; 33 U.S.C. 419), is superseded.

13 (e) Section 13 of the Rivers and Harbors Act of 1899
14 (30 Stat. 1152), as amended (33 U.S.C. 407), is super-
15 seded insofar as it applies to dumping, as defined in subsec-
16 tion 3 (f) of this Act, of material in the waters covered by
17 subsection 4 (b) of this Act.

18 EFFECTIVE DATE AND SAVINGS PROVISION

19 SEC. 12. (a) This Act shall take effect six months after
20 its enactment.

21 (b) No legal action begun, or right of action accrued,
22 prior to the effective date of this Act shall be affected by any
23 provision of this Act.

1 AUTHORIZATION FOR APPROPRIATIONS

2 SEC. 13. There is hereby authorized to be appropriated,
3 out of any moneys in the Treasury not otherwise appro-
4 priated, such sums as may be necessary for the purposes and
5 administration of this Act.

[H.R. 4359, H.R. 4360, H.R. 4361, 92d Cong., 1st sess.]

A BILL

To amend the Act of August 3, 1968 (82 Stat. 625), to protect the ecology of estuarine areas by regulating dumping of waste materials, to authorize the establishment of a system of marine sanctuaries, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That section 1 of the Act of August 3, 1968 (82 Stat. 625),
4 is amended by adding at the end thereof the following:
5 "Congress further finds and declares that many estu-
6 aries of the Nation are being subjected to severe ecological
7 degradation through the unregulated dumping into the
8 oceans and into the coastal waters of the United States of
9 polluted dredge spoils, industrial wastes, sewage, and refuse

1 in ever-increasing quantities; that such dumping should not
2 be permitted except when it has been determined that the
3 material cannot adversely affect the ecology of the oceans
4 and of the coastal waters and estuaries of the United States,
5 and that portions of the Nation's tidelands, Outer Conti-
6 nental Shelf, seaward areas and land and waters of the
7 Great Lakes should be preserved as marine sanctuaries
8 where industry development and extraction of the nonliving
9 resources of the seabed and subsoil thereof and dumping of
10 any kind should be prohibited."

11 SEC. 2. Section 6 of the Act of August 3, 1968 (82
12 Stat. 628), is amended to read as follows:

13 "After the effective date of this section, no citizen of the
14 United States or other person shall dispose of waste materials
15 into the oceans, coastal waters, and estuarine areas of the
16 United States or into the Great Lakes unless he shall have
17 first secured a permit from the Administrator of the Environ-
18 mental Protection Agency under authority of this Act for
19 the transportation and dumping or disposal by whatever
20 means contemplated of such waste material."

21 SEC. 3. The Act of August 3, 1968 (82 Stat. 625 et
22 seq.), is amended by inserting immediately following sec-
23 tion 6 thereof the following new sections:

24 "SEC. 7. (a) The Administrator of the Environmental
25 Protection Agency may issue permits authorizing the dump

1 ing or disposal of waste material into the oceans, coastal
2 waters, and estuarine areas of the United States, and into
3 the Great Lakes under such terms and conditions as he deter-
4 mines necessary to insure that such dumping or disposal will
5 not damage the ecology of the marine environment.
6 "(b) In determining whether any dumping or disposal
7 for which a permit is sought will damage the ecology of the
8 marine environment, the Administrator shall consider among
9 other factors the following:
10 "(1) Present and future impact on the marine en-
11 vironment, human health, welfare, and amenities;
12 "(2) Irreversibility of the impact of dumping or
13 disposal;
14 "(3) Volume and concentration of materials
15 involved;
16 "(4) Location of disposal, depth, and potential
17 impact of one location relative to others;
18 "(c) No permit shall be issued by the Administrator for
19 the dumping or disposal of the following materials:
20 "(1) Radioactive wastes;
21 "(2) Toxic industrial wastes;
22 "(3) Chemical and biological warfare materials.
23 "(d) After January 1, 1972, no permit shall be issued
24 by the Administrator for the dumping or disposal of sewage
25 or industrial waste, unless such sewage or industrial waste

1 has received primary treatment in accordance with standards
2 and regulations established by the Administrator.
3 "(e) After January 1, 1974, no permit shall be issued
4 by the Administrator for the dumping or disposal of sewage
5 or industrial waste, unless such sewage or industrial waste
6 has received primary and secondary treatment in accordance
7 with standards and regulations established by the
8 Administrator.
9 "(f) After January 1, 1976, no permit shall be issued
10 by the Administrator for the dumping or disposal of sewage
11 or industrial waste, unless such sewage or industrial waste
12 has received primary, secondary, and tertiary treatment in
13 accordance with standards and regulations established by the
14 Administrator.
15 "(g) The Administrator of the Environmental Protec-
16 tion Agency may by regulation prohibit the disposal or
17 dumping of any waste material which he determines may
18 damage the ecology of the marine environment, and in
19 making such determination he may rely upon whatever
20 indicators are currently available to him, regardless of the
21 fact that such indicators may not be conclusive.
22 "SEC. 8. (a) Whoever violates the provisions of section
23 6 of this Act shall be fined not less than $2,000 nor more
24 than $10,000 for the first offense, and not less than
25 $10,000 nor more than $25,000 for each succeeding offense.

1 In the case of a continuous disposal extending over a period
2 of time, each day that such disposal occurs shall be con-
3 sidered a separate offense. Any vessel or barge engaged in
4 the dumping or disposal of waste material in violation of
5 this Act shall be forfeited to the United States.

6 "(b) The Administrator of the Environmental Protec-
7 tion Agency, the Secretary of the Department in which
8 the Coast Guard is operating acting through the Coast Guard,
9 and the Secretary of the Army acting through the Corps of
10 Engineers shall enforce section 6 of this Act under regula-
11 tions and operational directives jointly agreed to. The Coast
12 Guard is hereby empowered to stop, search, and detain in
13 the territorial sea or contiguous zone of the United States
14 any vessel or barge which appears to be engaged in dumping
15 operations or which appears to be transporting waste mate-
16 rial for the purpose of determining whether such vessel or
17 barge is covered by a permit issued under authority of this
18 Act. There is hereby authorized to be appropriated such sums
19 as may be necessary to carry out the enforcement activities
20 authorized by this subsection.

21 "(c) The district courts of the United States shall have
22 jurisdiction to restrain violations of section 6 of this Act. Ac-
23 tions to restrain such violations shall be brought by, and in,
24 the name of the United States. In the case of contumacy or

1 refusal to obey a subpena upon any person, the district court
2 of the United States for any district in which such person is
3 found or resides or transacts business, upon application by the
4 United States, and after notice to such person, shall have
5 jurisdiction to issue an order requiring such person to appear
6 and give testimony or to appear and produce documents, and
7 any failure to obey such order of the court may be punished
8 by such court as a contempt thereof.

9 "SEC. 9. (a) The Secretary of Commerce acting
10 through the Administrator of the National Oceanic and
11 Atmospheric Administration after consultation with the Sec-
12 retary of the Interior, the Administrator of the Environ-
13 mental Protection Agency, and the Council on Environ-
14 mental Quality shall designate as marine sanctuaries those
15 areas of the Nation's tidelands, Outer Continental Shelf, sea-
16 ward areas, and land and waters of the Great Lakes which
17 the Secretary determines should be preserved or restored
18 for their recreation, conservation, ecologic, or esthetic
19 values.

20 "(b) The Secretary of Commerce shall make his initial
21 designation under subsection (a) of this section within two
22 years following the date of enactment of this section. There-
23 after, he shall periodically designate such additional areas
24 as he deems appropriate. The Secretary shall submit a report
25 to the President and Congress annually setting forth a com-

1 prehensive review of his actions under the authority of this
2 section, together with such recommendations for further
3 legislation as he deems appropriate to further the designa-
4 tion and preservation of marine sanctuaries.

5 "(c) In conducting the studies, the Secretary shall
6 schedule hearings in areas contiguous to the proposed sanc-
7 tuary sites, for the purposes of receiving views on the
8 establishment of such marine sanctuaries.

9 "(d) The Secretary of the Interior shall not issue or
10 renew any license, permit, or other authorization for the
11 exploration, development, mining, or removal of any minerals
12 (including gas and oil) from any area designated or under
13 study for possible designation as a marine sanctuary.

14 "(e) While any area is under study for designation as
15 a marine sanctuary, the Secretary is authorized to cooperate
16 with all affected Federal, State, local, and international
17 organizations in order that, until the completion of such
18 study, a moratorium on the industrial development of any
19 portion of the tidelands, Outer Continental Shelf, seaward
20 areas, and land and waters of the Great Lakes under consider-
21 ation as a possible marine sanctuary may be agreed upon by
22 such interested parties.

23 "(f) The Administrator of the Environmental Protec-
24 tion Agency shall not issue or renew any permit for the
25 dumping or disposal of any waste material in any area desig-

1 nated or under study for possible designation as a marine
2 sanctuary.
3 "(g) There is authorized to be appropriated not to
4 exceed $5,000,000 for the conduct of such studies as may be
5 necessary to carry out the purposes of this section.
6 "SEC. 10. The provisions of this Act shall be considered
7 as supplementary to the Fish and Wildlife Coordination Act
8 (16 U.S.C. 661 et seq.) and the National Environmental
9 Policy Act of 1969 (42 U.S.C. 4331 et seq.). All other pro-
10 visions of law which are in conflict with this Act are hereby
11 repealed.
12 "SEC. 11. For the purposes of this Act—
13 "(a) The term 'waste material' means all solid and
14 liquid products or byproducts of the industrial processes (in-
15 cluding tailings, sediment, and like materials resulting from
16 marine mining or dredging activities), industrial waste acids,
17 chemicals, sewage, sludge, garbage, dredge spoils, radioactive
18 materials, construction and demolition debris, military ordi-
19 nance, explosives, and any other form of discarded material
20 or equipment.
21 "(b) The term 'coastal waters' means the waters lying
22 seaward of the line of ordinary low water along that portion
23 of the coast which is in direct contact with the open sea and
24 the line marking the seaward limit of inland waters to a dis-
25 tance of three miles from such lines. As used with reference

1 to the Great Lakes, 'coastal waters' means those boundary
2 waters between the United States and Canada lying on the
3 United States side of the International Boundary between
4 the United States and Canada.

5 "(c) The term 'oceans' means those portions of the
6 high seas as defined in the Convention on the High Seas
7 lying seaward of the outer limits of the coastal waters of
8 the United States.

9 "(d) The terms 'estuary' and 'estuarine areas' mean
10 an environmental system consisting of an estuary and those
11 transitional areas which are consistently influenced or affected
12 by waters from an estuary such as, but not limited to, salt
13 marshes, coastal and intertidal areas, bays, harbors, lagoons,
14 inshore waters, and channels, and the term 'estuary' shall in-
15 clude all or part of the mouth of a navigable or interstate
16 river or stream or other body of water having an unimpaired
17 natural connection with the open sea and within which the
18 sea water is measurably diluted with fresh water derived
19 from land drainage.

20 "(e) The term 'citizen of the United States' means
21 officers and employees of the United States, or of any
22 political subdivision thereof, all natural persons who are
23 citizens of the United States, all partnerships or other
24 associations which include in their membership one or more
25 citizens of the United States, and the officers and directors

1 of all corporations organized under the laws of the United
2 States or of any State of the United States.
3 "(f) The term 'other person' means the resident officers,
4 directors or managers of foreign partnerships, associations, or
5 corporations doing business in the United States.
6 "(g) The terms 'dumping' and 'disposal' mean to place,
7 release, or discharge by any means whatsoever.
8 "(h) The term 'tidelands' means bays, estuaries, land,
9 and waters within the three-mile territorial limit of the
10 United States.
11 "(i) The term 'Outer Continental Shelf' means land and
12 waters extending from the three-mile territorial limit out to
13 the two-hundred-meter depth contour.
14 "(j) The term 'seaward areas' means land and waters
15 contiguous to and extending from the two-hundred-meter
16 depth contour."
17 SEC. 4. The provisions of section 2 of this Act shall
18 become effective one hundred and twenty days after the
19 date of enactment of this Act.

92D CONGRESS
1ST SESSION

H. R. 4584

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 18, 1971

Mr. LENNON introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

A BILL

To prohibit the discharge into any of the navigable waters of the United States or into international waters of any military or waste material without a certification by the Environmental Protection Agency and the National Oceanic and Atmospheric Administration approving such discharge.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That after the date of enactment of this Act, no person shall
4 discharge, directly or indirectly, into any of the navigable
5 waters of the United States or into international waters any
6 munition, or any chemical, biological, or radiological warfare
7 agent, or any other military material except in accordance
8 with a certificate issued by the Environmental Protection

1 Agency and the National Oceanic and Atmospheric Admin-
2 istration permitting such discharge and establishing the
3 terms, conditions, limitation, and penalties applicable thereto.

62-513 O - 71 - 7

DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, D.C., April 19, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your request for reports on H.R. 4247 and H.R. 4723, bills "To regulate the dumping of material in the oceans, coastal, and other waters and for other purposes."

This Department supports the enactment of H.R. 4247 and H.R. 4723 which carry out the recommendations set forth by the President in his February 8, 1971, message on the environment.

Under these bills, the Administrator of the Environmental Protection Agency would be authorized to issue permits for dumping materials into oceans, coastal, and other waters when, in his judgment, such dumping will not unreasonably endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.

The Administrator, EPA, would be directed to establish criteria for evaluating permit applications on the basis of their likely environmental impact including (1) possible persistence of the effects of the proposed dumping, (2) volume and concentration of materials involved, and (3) the location proposed for dumping.

Of especial interest to this Department is the provision (Sec. 5(a) (2) that the Administrator, EPA, consider "alternate locations and methods of disposal including land-based alternatives. . . ." Since most of the land in the United States is rural land, used for farming or forestry, this Department is concerned with any land-based alternatives which might be considered. The Department of Agriculture has information and expertise relevant to the suitability of various land sites for disposal of solids, either as sanitary landfills or through methods by which many solids may be beneficially incorporated in the soil. We wish to point out that the bills very appropriately provide that, in establishing or revising criteria against which dumping permit applications would be approved or denied, the Administrator, EPA, will consult with this Department, along with several other interested Federal agencies.

The Office of Management and Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

J. PHIL CAMPBELL,
Under Secretary.

DEPARTMENT OF THE ARMY,
Washington, D.C., April 7, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Merchant Marine and Fisheries Committee, House of Representatives.

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of Defense on H.R.'s 285, 336, 337, 548, 549, 805, 983, 1095, 1383, 1661, 3662, 4217, 4584 and 5050, 92nd Congress, bills concerning the discharge of military or other material into international waters or waters of the United States, and the transportation of that material for disposal into internaional waters. The Department of the Army has been assigned responsibility for expressing the views of the Department of Defense on these bills.

The purpose of the bills is to prohibit unregulated dumping into the oceans and other waters. The Department of the Army on behalf of the Department of Defense is deeply concerned about the adverse ecological and environmental effects associated with the discharge of wastes and other materials into the navigable, coastal, and ocean waters of the United States. Each of these bills addresses some facet of this area of concern. We are concerned, however, that certain of these bills could unnecessarily prohibit some important activities not necessarily harmful to the marine environment. We are especially concerned that the prohibitive features of certain of these bills could be construed as an attempt to preclude operation of U.S. nuclear powered warships, including the strategic deterrent Fleet Ballistic Missile Submarine force. Such a result would be untenable to the security of the United States.

The Department of the Army on behalf of the Department of Defense believes that the Administration's bill, H.R. 4723, introduced by you on February 22, 1971, to the 92nd Congress, realistically and comprehensively provides for the intent expressed in the proposed bills cited in the first paragraph, above, with respect to preventing unregulate dumping of harmful substances into estuarine areas.

This report has been coordinated within the Department of Defense in accordance with procedures prescribed by the Secretary of Defense.

The Office of Management and Budget advises that, from the standpoint of the Administration's program, there is no objection to the presentation of this report for the consideration of the Committee.

Sincerely,

STANLEY R. RESOR,
Secretary of the Army.

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., April 26, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives.

DEAR MR. GARMATZ: The Atomic Energy Commission is pleased to reply to your letter of February 19, 1971, requesting our views on H.R. 336 and H.R. 548, identical bills "[t]o require the Council on Environmental Quality to make a full and complete investigation and study of national policy with respect to the discharging of material into the oceans."

These bills are identical to H.R. 18914, which was introduced in the 91st Congress on August 11, 1970. At your request, our views on that bill were submitted for your Committee's consideration by letter dated October 30, 1970. Consistent with the views we expressed at that time, we feel that the proposed legislation is unnecessary.

On October 7, 1970, the President made public the results of a study conducted by the Council on Environmental Quality with respect to the discharge of materials into the oceans. To implement the policy recommendations contained in the Council's report, the Administration recently sent to Congress a proposed bill which would provide for comprehensive regulation of the discharge of materials into the oceans and coastal waters, as well as the Great Lakes. This proposed legislation was introduced in the House on February 10, 1971, as H.R. 4247. Accordingly, in view of these developments it is apparent that the objectives of H.R. 336 and H.R. 548 have already been realized.

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

Cordially,

GLENN T. SEABORG, *Chairman.*

H.R. 1661 and H.R. 5050.—These bills, which are identical, would impose a specific prohibition on an owner or master of a vessel, in regard to the loading of any waste on a vessel, while it is in a United States port, if the material is to be dumped in territorial or international waters. An authorizing permit would first have to be obtained from the Administrator of the Environment Protection Agency; such authorization would be based on the Administrator's determination that the discharge would not damage the marine environment or human health and welfare. The Administrator would be precluded from authorizing any discharges of wastes between the Continental Shelf and the coast of the United States. The owner or master of the vessel would also be required to notify the Coast Guard of the exact location where the authorized dumping would be effected.

H.R. 3662 and H.R. 4359.—These similar bills would prohibit any person from dumping waste material into the coastal or ocean waters of the United States, including the Great Lakes and estuarine areas, without first obtaining a permit from the Administrator of EPA. The Administrator could issue the permit if he determined that the discharge would not damage the ecology of the marine

environment; the Administrator would be obliged to take into account a number of factors specified in the bills, including the effect of the dumping on human health and welfare. No permit could be issued for the disposal of certain specified wastes, including "radioactive wastes". Section 9(a) of H.R. 4359 (not contained in H.R. 3662) would require that the Secretary of Commerce designate portions of the waters encompassed by the bill, as well as adjacent land areas, as marine sanctuaries. The Administrator of EPA would be prohibited from issuing or renewing any permit for the disposal of any wastes "in any area designated or under study for possible designation as a marine sanctuary."

H.R. 4247 and H.R. 4723.—These identical bills, which are favored by the Administration, would (1) carefully regulate the transportation of materials from the United States for the purpose of disposal in the oceans and coastal and other waters of the United States, and (2) dumping in waters over which the United States has jurisdiction. The term "dumping" and other key words in these bills are clearly defined. Both transportation and dumping would be prohibited unless the Administrator of EPA issues an authorizing permit. The Administrator may issue such permits "where the applicant presents information respecting the proposed activity which in the judgment of the Administrator indicates that such transportation, or dumping, or both will not unreasonably degrade or unreasonably endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities."

In reviewing permit applications the Administrator would be guided by criteria to be established by him in consultation with certain named Federal agencies, including the Atomic Energy Commission, as well as "other appropriate Federal, State, and local officials."

The Administrator would have very broad authority with respect to types and scopes of permits, but no permit could be issued for dumping that would violate applicable water quality standards. The bills provide that transportation or dumping without a permit would be permitted in emergency situations where necessary to safeguard human life; in such excepted instances, reports must be furnished to the Administrator "within such time and under such conditions as he may prescribe by regulation."

Under the caption "Relationship to Other Laws" the bills provide, among other things, that:

"(b) Nothing in this Act shall abrogate or negate any existing responsibility or authority contained in the Atomic Energy Act of 1954, as amended, and section 4 and subsection 7(a) of this Act shall not apply to any activity regulated by that Act: Provided, The Atomic Energy Commission shall consult with the Administrator prior to issuing a permit to conduct any activity which would otherwise be regulated by this Act. In issuing any such permit, the Atomic Energy Commission shall comply with standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive material. In setting such standards for application to the oceans, coastal, and other waters, or for specific portions of such waters, the Administrator shall consider the policy expressed in subsection 2(b) of this Act and the factors stated in subsections 5(a)(1) and 5(a)(2) of this Act."

This provision recognizes that the Atomic Energy Act of 1954, as amended, vests the Atomic Energy Commission with regulatory authority over the construction and operation of nuclear facilities and the possession and use of certain defined nuclear materials, including the disposal of all radioactive materials except radioactive material produced in accelerators and naturally occurring radium and its daughters.

AEC has not permitted ocean disposal of high-level radioactive wastes from fuel reprocessing operations. Although the disposal of low-level liquid wastes from such facilities as nuclear power plants and the dumping of solid, packaged radioactive wastes into the ocean have been permitted, AEC has strictly controlled and limited the quantities and types of wastes disposed in this manner. In fact, AEC itself has made no sea disposals during the past eight years and has not issued any licenses for this purpose since 1960. The four existing licenses have seldom been used.

The discharge of radioactive effluents from AEC licensed facilities is subject to a comprehensive system of Federal regulations and licensing requirements, which are contained in 10 CFR Parts 20 and 50 of the Commission's regulations. These regulations are based upon recommendations which have been made

by the Federal Radiation Council. Pursuant to Reorganization Plan No. 3 of 1970 (effective December 2, 1970) the functions of the FRC were transferred to the Environmental Protection Agency, which now has the responsibility to set standards for the protection of the general environment from radioactive materials. As with the disposal of radioactive wastes, the AEC has exercised its authority over the discharge of radioactive effluents by strictly controlling and limiting such releases. We do not believe that experience has shown any need for an additional system of control over such discharges or disposal.

Unlike the other bills mentioned above, H.R. 4247 and H.R. 4723 avoid the problem of dual regulation in the atomic energy field. Under these bills AEC would be required to consult with the Administrator before issuing a permit for any activity which would otherwise be within the scope of the statute, and would also be required to comply with the standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive material.

In our view, the proposed legislation embodied in H.R. 4247 and H.R. 4723 would provide for more comprehensive and effective regulation of the discharge of materials into the marine environment than would the other bills. Moreover, we feel that enactment of any of the other bills could give rise to serious problems which are avoided in the careful draftsmanship of the proposed legislation of the President.

We recommend that favorable consideration be given to enactment of the text of H.R. 4247 and H.R. 4723. We believe that the other bills, which cover many of the same areas as H.R. 4247 and H.R. 4723, are not as well drawn as those two bills and should not be enacted into law in their present form.

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

Cordially,

GLENN T. SEABORG, *Chairman.*

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., April 7, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. GARMATZ: The Atomic Energy Commission is pleased to reply to your requests for our views on H.R. 285, H.R. 337, H.R. 549, H.R. 983, H.R. 1095, H.R. 4217, and H.R. 4584, bills relating to the regulation of discharges of specified materials into the navigable waters of the United States or international waters.

We note that these bills are identical or substantially similar to proposed legislation introduced in the 91st Congress. Our comments on the prior bills were submitted for your Committee's consideration by our letters dated October 30, 1970.

As we then explained, we strongly support effective measures to protect and preserve our environment; however, we did not favor enactment of those bills because they appeared to be unnecessary. Additionally, we believe they would have interfered with the functions of AEC under the Atomic Energy Act, without adding something of substantive benefit.

As noted in our earlier replies, at the President's request the Council on Environmental Quality undertook an intensive study of pollution in the marine environment. The results of CEQ's study were subsequently made public by the President on October 7, 1970. In implementation of the policy recommendations embodied in the Council's report, the Administration recently transmitted a proposed bill to the Congress which would provide for comprehensive regulation of the discharge of materials into the oceans and coastal waters, as well as the Great Lakes. H.R. 4247, and your bill H.R. 4723, introduced in February, set forth the Administration's legislative proposal. In a companion letter today, we have submitted our comments to you on H.R. 4247 and H.R. 4723 and several other bills concerned with dumping.

Respecting navigable waters which may not be covered by H.R. 4247 and H.R. 4723, legislative authority already exists for the regulation and control of discharges into such waters. Under the Federal Water Pollution Control Act, as

amended (33 U.S.C. 1151 et seq.), discharges which violate applicable water quality standards are subject to suit for abatement, and, in addition, discharges from federally licensed activities are generally subject to a requirement for certification that there is reasonable assurance that applicable water quality standards will not be violated. Furthermore, the Refuse Act (33 U.S.C. 407) makes it unlawful to discharge any refuse matter, other than liquid effluents flowing from streets or sewers, into any of the navigable waters of the United States or their tributaries, unless otherwise authorized by the Secretary of the Army upon terms and conditions specified by him. With respect to this latter authority, in order to further the objectives of the Refuse Act the President, by Executive Order 11574 (December 25, 1970, 35 F.R. 19627), has directed the Secretary of the Army to establish a permit program in cooperation with the Administrator of EPA "to regulate the discharge of pollutants and other refuse matter into the navigable waters of the United States or their tributaries and the placing of such matter upon their banks." Pursuant to that Order, the Army Corps of Engineers published proposed regulations on December 31, 1970 (35 F.R. 20005).

Accordingly, with respect to the oceans, gulfs, bays, sea-water lagoons, salt-water harbors, other coastal waters where the tide ebbs and flows, and the Great Lakes, we favor enactment of the text of H.R. 4247 and H.R. 4723.

In our opinion, H.R. 285, H.R. 337, H.R. 549, H.R. 983, H.R. 1095, H.R. 4217, and H.R. 4584 should not be enacted into law. To reiterate some of the objections we identified in our letters last fall, several of these bills define waste material so broadly as to encompass radioactive materials and effluents. The AEC has licensing authority over effluent discharges and the disposal of all radioactive waste materials, except radioactive material produced in accelerators and naturally occurring radium and its daughters. This is a highly specialized health and safety field; dual regulation or the diffusion of Federal responsibility in this area would, in our judgment, be highly undesirable.

Several of the other bills, in their severe prohibition on discharging vaguely defined material, could be construed in such a way as to constitute a serious interference with our national defense capability. The normal discharge of a military ship's fire and bilge pump system, or firing of any ordnance by a military vessel or aircraft, could be interpreted as the discharge of "military material" into the waters.

In short, for the reasons mentioned above, and those advanced in our companion letter on H.R. 4247, H.R. 4723 and several other bills, we do not favor enactment of H.R. 285, H.R. 337, H.R. 549, H.R. 983, H.R. 1095, H.R. 4217 and H.R. 4584.

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

Cordially,

GLENN T. SEABORG, *Chairman.*

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE,
Washington, D.C., April 9, 1971.

HON. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of Defense on H.R. 4247 and H.R. 4723, 92d Congress, similar bills "To regulate the dumping of material in the oceans, coastal, and other waters and for other purposes".

The purpose of the bills is stated in their titles. If enacted, the bills would make the Administrator of the Environmental Protection Agency responsible for establishing appropriate regulations for the application of the environmental standards contained in the proposals. Any agency or person would have to obtain a permit from the Administrator before transporting materials for dumping or before dumping materials in the protected areas. There are certain exceptions to this latter requirement for routine operation of vessels and for intentional placement of devices in the waters, if such placement is for a purpose other than disposal.

The bills were introduced as a result of a proposal submitted to the Congress in connection with the President's environmental message of February 8, 1971. The Department of Defense supports the bills and recommends enactment.

The Office of Management and Budget advises that, from the standpoint of the Administration's program, there would be no objection to the presentation of this report for the consideration of the Committee, and that the enactment of H.R. 4247 or H.R. 4723 would be in accord with the program of the President.

Sincerely yours,

J. FRED BUZHARDT.

ENVIRONMENTAL PROTECTION AGENCY,
Washington, D.C., April 6, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: As requested, we submit herewith the views of the Environmental Protection Agency on the following legislative proposals, most of which will be the subject of joint legislative hearings to be held by the Subcommittee on Oceanography and the Subcommittee on Fisheries and Wildlife Conservation during the week of April 5, 1971: H.R. 285, 336, 337, 548, 549, 805, 807, 808, 983, 1095, 1329, 1381, 1382, 1383, 1661, 1674, 2581, 3662, 4217, 4218, 4247, 4359, 4360, 4361, 4584, 4719, 4723, 5049, 5050, 5239, 5268, 5477, 5705, and 6862.

H.R. 4723 (also 4247, 5239, 5268, 5477, and 6862)

H.R. 4723, which is the Administration's own ocean dumping proposal, provides that, except as authorized in a permit issued by the Administrator of EPA, no person shall (a) transport "material" from the United States for the purpose of dumping it into "oceans, coastal, and other waters," or (b) dump material in that part of such waters within the territorial juridsdiction of the United States, or in the contiguous zone to the extent that the dumping may affect the territorial sea or the territory of the United States. "Material" is defined to include dredge spoil, solid waste, garbage, sewage sludge, munitions, chemical, biological, and radiological warfare agents, radioactive materials, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial waste, but to exclude oil and vessel sewage, discharges of which are regulated by the Federal Water Pollution Control Act. "Oceans, coastal, and other waters" are defined to mean oceans, gulfs, bays, salt-water lagoons, salt water harbors, other coastal waters where the tide ebbs and flows, and the Great Lakes. The "dumping" to which the bill applies includes any disposition of material other than dispositions of effluent from outfall structures, or routine discharges of effluent incidental to the propulsion of vessels.

The Administrator would be authorized to issue permits to dump materials or to transport them for dumping where in his judgment, based on information supplied by the applicant, such activity will not unreasonably degrade or endanger human health, welfare or amenities, or the marine environment, ecological systems, or economic potentialities. He would be required to establish criteria for evaluating permit applications, taking into account the likely environmental impact of the proposed dumping, alternative locations and methods of disposal, and the impact on the public interest of either issuing or denying a permit or of requiring an alternative disposal method. In establishing or revising criteria, the Administrator would be required to consult with the heads of concerned departments and agencies. He would be precluded from issuing any permit which would result in a violation of water quality standards. He would be authorized to impose restrictions relating to the type and amount of materials to be dumped, the place of dumping, and the duration of the permit. He would be authorized to limit, deny, alter or revoke permits where he finds that materials cannot be dumped consistently with the criteria established for the issuance of permits. Dumping of materials in an emergency to safeguard human life would be exempted from the requirements of the Act, but would be required to be reported to the Administrator.

The Administrator would be authorized to impose civil penalties of up to $50,000 per day for violations of the Act or of any regulations or permit issued thereunder. In addition, knowing or willful violations would invite criminal fines of

up to $50,000 per day, imprisonment for up to one year, or both. The Attorney General would be authorized to bring actions for equitable relief to redress any such violations, and the Administrator would be authorized to revoke or suspend a violator's permit. All of the Act's prohibitions and requirements would be applicable to agencies and employees of the Federal Government, except the remedial provisions described in this paragraph. The bill would require the Coast Guard to conduct surveillance and other appropriate enforcement activity.

The bill has a section which defines its relationship with other laws and with actions taken pursuant to other laws. Generally speaking, existing Federal permits would be terminated upon the Act's effective date to the extent that such permits authorize activity covered by the Act, and further permits of a similar nature could not be issued. However, there would be two exceptions to this general supersession of other laws: (1) the AEC's authorities with respect to radioactive materials under the Atomic Energy Act of 1954 would not be affected (although the AEC would be required to consult with EPA prior to issuing any permit to conduct any activity otherwise regulated by this Act, and to comply with radioactive-material standards set by the Administrator); and (2) except as set forth in the next paragraph, the authorities contained in the Rivers and Harbors Act of 1899, as well as all actions taken pursuant to that Act either before or after the effective date of this proposal, would be preserved. In situations in which this Act and the Act of 1899 both apply to dumping of material in connection with a dredge, fill or other permit issued by the Corps of Engineers, the permit would be issued by the latter only after receiving certification from EPA that the proposed activity is in conformity with this Act.

The bill would supersede the Refuse Act insofar as that Act applies to dumping of materials in waters covered by the bill, and would repeal the Supervisory Harbors Act of 1888, an act which has been used to regulate ocean dumping of materials transported from the harbors of New York, Baltimore, and Hampton Roads, Virginia.

EPA recommends the enactment of H.R. 4723. The bill contains the following major elements, all of which are considered essential to a rational and comprehensive ocean dumping policy:

1. In addition to its application to ocean waters, the bill would apply to the Great Lakes as well as to certain internal waters having characteristics of open ocean waters (salt-water gulfs, bays, lagoons, harbors, etc.).

2. The bill would require permits for two types of activity which are not necessarily related: (a) transportation of materials from the United States for dumping in ocean waters *anywhere*; and (b) dumping of materials—whether transported from the United States or not—in waters covered by the Act which are within the territorial jurisdiction of the United States, or in waters of the contiguous zone where the dumping may affect the territory or territorial sea of the United States. Under this approach, the regulatory authority of the United States is utilized to its fullest extent consistent with established principles of international law.

3. The bill is coordinated with other laws and with water quality management programs carried out pursuant to other laws. The bill would for the most part be inapplicable to internal navigable waterways, which are protected by water quality standards established by the States or by joint Federal-State action pursuant to the Federal Water Pollution Control Act, and by the requirements of the Refuse Act of 1899. In order to rationalize the overlap which does exist between this proposal and either the Federal Water Pollution Control Act or the Refuse Act (on overlap which is limited primarily to the Great Lakes and coastal waters out to the three mile limit), the bill provides: (a) that it does not apply to effluent from outfall structures (which are adequately regulated by the Refuse Act and the Federal Water Pollution Control Act);[1] (b) that the Refuse Act is superseded insofar as it applies to dumping of materials in waters covered by the bill; and (c) that no permit may be issued which would violate water quality standards.

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[1] H.R. 5966, an Administration proposal to amend section 10 of the Federal Water Pollution Control Act, would, *inter alia*, authorize the Administrator of EPA to establish water quality standards for the high seas applicable to the discharge of material transported from or originating within the United States. This would enable the Administrator to regulate discharges from ocean outfalls, a category of discharge not covered by H.R. 4723.

4. Control over dumping is consolidated in EPA, an agency which has as its chief purpose the protection of the environment, and which possesses the research and regulatory capability necessary for developing and carrying out a comprehensive ocean dumping policy.

H.R. 3662

This bill provides that no person may dump waste material (comprehensively defined) into the "ocean waters of the United States," or "transport such material through such waters" (presumably for dumping_ without a permit from the Administrator of EPA. "Ocean waters" is defined to mean estuarine areas, coastal waters (out to the three-mile limit), the Great Lakes, and waters above the Outer Continental Shelf (from the three-mile limit to the 200-meter depth contour). The "dumping" to which the bill applies includes disposal of material by any means whatsoever. The Administrator would be authorized to issue permits for dumping where he determines that it will not damage the ecology of the marine environment, taking into account such factors as land-based alternatives and the effect of the dumping on human health and welfare, fisheries resources, and marine ecosystems. Permits would be required to specify restrictions relative to the type and amount of material authorized to be dumped, the location of dumping, and the duration of the permit. The Administrator would not be allowed to issue permits authorizing the dumping of radioactive wastes, toxic industrial wastes, or chemical or biological warfare materials. In the case of permits for the dumping of sewage or industrial wastes, the Administrator would not be allowed to issue a permit (1) after January 1, 1972, unless such wastes had received primary treatment; (2) after January 1, 1974, unless they had also received tertiary treatment; and (3) after January 1, 1976, unless they had also received tertiary treatment. The Administrator would have authority to suspend, revoke, revise or condition permits. The Coast Guard would be required to conduct surveillance and other appropriate enforcement activities. Civil and criminal penalties would be the same as in H.R. 4723, except that one-half of any penalty or fine would be payable to the informer providing the information resulting in such penalty or fine. Equitable relief to redress violation would be available. The Administrator would be required to conduct the investigation and research with respect to marine ecology necessary to carry out the purposes of the Act; appropriations of $1 million per year would be authorized for this purpose.

EPA is generally favorable to the provisions of H.R. 3662, which are similar or identical in many respects to the provisions of the Administration's proposal set forth in H.R. 4723. However, EPA has the following major comments or reservations about H.R. 3662:

1. The prohibition against transport through "ocean waters" (waters out to the 200-meter depth contour) without a permit is not linked to the place of origin of the transporting vessel. Insofar as this provision is made applicable to vessels which are not leaving United States ports, it may violate the rights of innocent passage and freedom of the seas under international law.

2. The prohibition against dumping between the 12-mile limit and the 200-meter depth contour, regardless of the place of origin of the material to be dumped, may also raise problems under international law.

3. EPA is opposed to the Act's broad definition of "dumping," which would include continuous discharges from outfall structures which are already subject to regulation under the Federal Water Pollution Control Act, and, in the case of industrial wastes, by the Refuse Act as well. The imposition of further Federal controls over such discharges, in addition to those already provided under the Federal Water Pollution Control Act and the Refuse Act, is duplicative and unnecessary. There is no provision in the bill for supersession of existing, overlapping legal authorities.

4. EPA is opposed to the provisions of the bill which would prohibit the Administrator from issuing permits to dump specified categories of wastes. It is agreed that, generally speaking, ocean disposal of radioactive wastes, toxic industrial wastes, and chemical and biological warfare agents is undesirable and should not be allowed. However, there may be the rare exceptional case, *e.g.*, reactor components from nuclear powered vessels, in which ocean disposal will present a lesser threat to human health, welfare or the environment than land-based disposal. We favor the approach taken in H.R. 4723, which would give the Ad-

ministrator flexibility in developing an ocean dumping policy which would take account of such special circumstances.

5. EPA is opposed to the provisions of the bill which would prohibit the Administrator from issuing permits to dump sewage or industrial wastes which have received less than a specified level of treatment. This provision appears to be concerned with effluents from municipal and industrial waste treatment plants—a category of discharge apparently within the Act's definition of "dumping." EPA believes that such continuous discharges should continue to be regulated by the Federal Water Pollution Control Act, rather than by a bill concerned primarily with ocean dumping. Furthermore, a requirement of a specified level of treatment for all discharges by a specified date fails to take into account variations in water use designations, the quality or characteristics of the receiving waters, or other factors which bear on the appropriate level of treatment in a given instance. The provisions of the Federal Water Pollution Control Act governing the establishment of water quality standards provide a more flexible and responsive vehicle for the establishment of base levels of treatment.

6. While subsection (e)(2) of the bill provides that "nothing in this section shall be construed as abrogating or negating any existing responsibility or authority contained in the Rivers and Harbors Act of 1899," any outstanding permits authorizing dumping issued under that Act would apparently not survive the enactment of this proposal, in view of subsection (e)(1) which provides for the termination of such permits.

H.R. 4359 (also 4360, 4361)

This bill provides that no citizen of the United States or "other person" may dispose of waste materials (comprehensively defined) into the oceans, coastal waters, or estuarine waters of the United States or into the Great Lakes without a permit from the Administrator of EPA. "Other person" is defined to mean resident officers, directors or managers of foreign partnerships, associations, or corporations doing business in the United States. The Administrator would be authorized to issue permits under such terms as he determines necessary to insure that the dumping will not damage the ecology of the marine environment. The Administrator would not be authorized to issue permits for the dumping of radioactive wastes, toxic industrial wastes, or chemical or biological warfare agents. In the case of permits for the dumping of sewage or industrial wastes, he would not be authorized to issue a permit (1) after January 1, 1972, unless such wastes had received primary treatment; (2) after January 1, 1974, unless they had also received secondary treatment; or (3) after January 1, 1976, unless they had also received tertiary treatment. The Administrator would be authorized to prohibit by regulation the disposal of any waste material which he determines may damage the ecology of the marine environment. The Act would authorize the imposition of criminal fines as follows: fines of $2,000 to $10,000 per day of violation for first offenses, and fines of $10,000 to $20,000 per day of violation for subsequent offenses. Vessels involved in violations would be forfeited to the United States. The permit provisions of the Act would be enforced by EPA, the Secretary of Transportation (Coast Guard), and the Secretary of the Army (Corps of Engineers) under regulations and operational directives jointly agreed to. The Coast Guard would be empowered to stop, search and detain vessels, and district courts would have jurisdiction to restrain violations.

The Secretary of Commerce, acting through NOAA, after consultation with the Secretary of the Interior, EPA, and CEQ, would be directed to designate as marine sanctuaries those areas of the Nation's tidelands, Outer Continental Shelf, seaward areas, and land and waters of the Great Lakes, which the Secretary determines should be preserved or restored for their recreation, conservation, ecologic, or aesthetic values. The Secretary of the Interior would be precluded from issuing or renewing any license for the exploration, mining or removal of any minerals, including oil and gas, from any area designated or under study for possible designation as a marine sanctuary. EPA would be precluded from issuing or renewing permits for dumping in such areas. $5,000,000 would be authorized to be appropriated for studies in connection with the designation of marine sanctuaries.

EPA is generally favorable to the provisions of this proposal, with the following major reservations:

1. The bill applies only to dumping activities carried out by United States citizens or other persons doing business in the United States. It would not cover dumping in United States territorial waters, or transportation for dumping from United States ports, carried out by persons lacking these connections with the United States. EPA believes that this gap in coverage is both unnecessary and undesirable.

2. The bill contains a broad definition of "dumping" which would include continuous discharges from outfall structures. EPA is opposed to Federal permit requirements applicable to such discharges for reasons discussed above in connection with H.R. 3662.

3. EPA is opposed to the dumping prohibitions affecting sewage, industrial wastes, radioactive wastes, and chemical and biological warfare agents, for reasons discussed above in connection with H.R. 3662.

4. The bill does not define its relationship with other laws dealing with Federal permits for dumping, notably the Rivers and Harbors Act of 1899, which includes the Refuse Act. Presumably the overlapping requirements of the Refuse Act would remain in effect in areas in which both Acts apply. The bill states that "other provisions of law which are in conflict with this Act are hereby repealed," but this provision does not solve the problem of duplicative, overlapping requirements.

5. The bill does not provide for administratively as well as judicially imposed penalties, as both H.R. 4723 and H.R. 3662 do, but only for judicial fines. EPA favors the approach taken in H.R. 4723 and H.R. 3662 since it would foster rapid adjudication of violations by administrative personnel having the necessary expertise to deal with the problem.

6. The establishment of "marine sanctuaries" is beyond the scope of the Administration's bill, which deals entirely with the control of ocean dumping. However, EPA is completely in accord that certain critical marine areas should be protected from dumping, and would have this objective in mind in administering H.R. 4723, which provides ample authority to ban dumping in certain areas. The relationship of the marine sanctuaries proposal to the land use programs proposed by the administration in H.R. 4332 should be examined. Under H.R. 4332, the Secretary of the Interior would be authorized to make grants to States to assist them in developing land use programs which would include State controls over the use and development of "areas of critical environmental concern," defined in the bill to include coastal zones, estuaries, and the Great Lakes.

H.R. 1661 (also 5049, 5050)

This bill provides that no owner or master of a vessel may load or permit the loading of any waste (comprehensively defined) while in any port of the United States, if such waste is to be discharged in "ocean waters," unless such owner or master first obtains a loading permit from the Administrator of EPA and notifies the Coast Guard. "Ocean waters" is defined to mean "any estuarine area, coastal waters, Great Lakes, territorial waters, and the high seas adjacent to the territorial waters." The Administrator would be required to issue loading permits if he determines that dumping of the wastes into ocean waters will not damage the ecology of the marine environment. He would be precluded from issuing any permit for the discharge of any waste between the Continental Shelf and the coast of the United States (meaning, it would appear, within the three-mile territorial sea). The Administrator would have authority to ban loading, transportation and dumping of matter deemed damaging to the marine environment or to human health or welfare. The Coast Guard would be required to conduct surveillance and other appropriate enforcement activity. The bill would authorize administratively imposed civil penalties as follows: up to $50,000 for the first violation, and up to $100,000 for each subsequent violation. Upon failure of an offending party to pay a penalty, the Administrator would be authorized to request the Attorney General to commence a district court action for appropriate relief. Outstanding Federal permits authorizing any activities to which the bill applies would be terminated as of the bill's effective date.

EPA is generally favorable to H.R. 1661, with the following major reservations:

1. It would not apply, as H.R. 4723 would, to dumping of material in the U.S. territorial sea or contiguous zone which is not loaded on vessels in United States ports.

2. The definition of "ocean waters" may give some problems. The meaning of "territorial waters" is not clear, although the term is probably intended to be limited to offshore territorial waters, since inclusion of internal territorial waters would conflict with the generic "ocean waters." The scope of "high seas adjacent to the territorial waters" is also not clear.

3. EPA has reservations about the provision which would prohibit the issuance of permits for the disposal of wastes in the United States territorial sea. The provision is unnecessary since under H.R. 4723 and similar bills the Administrator would have authority to prohibit dumping in such waters where appropriate, and very little dumping is carried out in such waters in any event. Furthermore, some carefully planned and controlled disposal of waste materials in these waters may be desirable, *e.g.*, the sinking of car bodies or other similar material to serve as a shelter for fish.

H.R. 1383; H.R. 805 (also 807, 808, 1329, 2581, and 5705)

Under H.R. 1383, the Secretary of the Interior, acting through the Fish and Wildlife Service, would be required to establish standards applicable to the deposit or discharge into the "coastal waters" of the United States of all industrial wastes, sludge, and spoil, and all other materials that might be harmful to the wildlife or ecology of these waters. These standards would require any person, before discharging such materials into such waters, to present sufficient evidence to sustain a burden of proof that such materials will not endanger the natural environment and ecology of such waters. These standards would be required to be adopted and enforced by any agency of Federal or State government that issues licenses for disposal of materials in coastal waters. The States would be authorized to establish more stringent standards provided they contain adequate procedures for enforcement. District courts would have jurisdiction to restrain violations. Violators of standards would be liable to civil penalties of not more than $10,000 or less than $5,000 per day of violation. Outstanding Federal permits would be terminated as of the effective date of the proposal.

H.R. 805 is essentially the same as H.R. 1383, except (1) the standards would be established jointly by the Secretary of the Interior and the Administrator of EPA; (2) the standards would be applicable to "ocean, coastal, and other waters" rather than simply to "coastal water," and (3) EPA rather than the Interior Department would be the agency charged with administrative responsibilities. In H.R. 805, "ocean, coastal, and other waters" are defined in the same way as these words are defined in H.R. 4723, except that the bill's application to ocean waters would appear to be limited to the territorial sea and the contiguous zone. The term "coastal waters" as used in H.R. 1383 is not defined. The words "deposit or discharge" as used in both bills would appear to embrace continuous discharges as well as intermittent dumping.

EPA is opposed to the enactment of these bills because they overlap existing law. Water quality standards have already been established under the Federal Water Pollution Control Act for all of the waters to which these bills relate except the waters of the contiguous zone, a gap which will be closed if H.R. 5966, an Administration proposal to amend the Federal Water Pollution Control Act, is enacted. H.R. 5966 would also make these standards enforceable by civil penalty and injunction. Under H.R. 4723, the Administration's ocean dumping proposal, the Administrator of EPA would be precluded from issuing permits which violate water quality standards, and under the Refuse Act Permit Program, the Corps of Engineers will not issue permits which violate or permit a violation of these standards. Moreover, H.R. 1383 and 805, by calling for Federal standards which shall govern unless the States adopt more stringent standards, are inconsistent with the established policy of the Federal Water Pollution Control Act, which places the primary responsibility for the establishment of water quality standards on the States.

H.R. 285 and H.R. 983

H.R. 285 would require the Secretary of the Interior, acting through the Fish and Wildlife Service, after a two-year study, to designate those portions of the navigable waters of the United States and of the waters above the Outer Continental Shelf into which he determines that sewage, sludge, spoil and other waste can be safely discharged (in terms of ecological and environmental values). After making such designations, the Secretary of the Interior would be required to establish standards applicable to the discharge of material within

such designated areas. The purpose of the standards would be to insure that no damage to wildlife, or pollution of United States navigagle waters, results from such discharges. States would be authorized to establish standards of equal or greater stringency provided they contain adequate procedures for enforcement. Discharges of sewage, sludge, spoil or other waste into any waters within the jurisdiction of the United States which are not within a designated discharge area would invite civil penalties of up to $10,000 per offense. Violators of discharge standards applicable to discharge areas would be subject to comparable civil penalties. District courts would have jurisdiction to restrain violations. Outstanding Federal discharge permits would be nullified on the effective date of the proposal. Thereafter, no Federal permits could be issued which would authorize any activity prohibited by this bill.

H.R. 983 is the same as H.R. 285 except that (1) designation of discharge areas would be carried out jointly by Interior and EPA; (2) standard setting and enforcement would be carried out by EPA rather than by Interior; and (3) the maximum authorized civil penalty per violation would be $40,000 rather than $10,000. Both bills define covered "discharges" to include "any spilling, leaking, pumping, pouring, emitting, emptying, or dumping."

H.R. 285 and 983 are similar to H.R. 1383 and 805, discussed above, except that they would be applicable to *all* United States navigable waters, and would call for the designation of safe discharge areas as well as for the establishment of discharge standards. EPA is opposed to the enactment of these bills for the same reasons it is opposed to enactment of H.R. 1363 and 805: basically, the fact that they are designed to accomplish, in a somewhat different way, what is already being accomplished under the Federal Water Pollution Control Act. The overlap is even greater than in the case of H.R. 1383 and 805, in view of the broad application to all "navigable" waters. Interstate navigable waters are already subject to the standard-setting provisions of the Federal Water Pollution Control Act, and intrastate navigable waters will be brought within the coverage of that Act if the Administration's H.R. 5966 is enacted.

H.R. 1095

H.R. 1095 would require the Secretary of the Interior, acting through the Fish and Wildlife Service, after a one-year study, to designate those portions of the navigable waters of the United States and those portions of the waters above the Outer Continental Shelf into which he determines that sewage, sludge, spoil, landfill, heated effluents, or other wastes or substances *cannot* be safely discharged, such areas to be known as "marine sanctuaries." Persons who discharge (defined to include spilling, leaking, pouring, etc.) any wastes or substances into such designated waters would be subject to fines of up to $10,000 per offense. All Federal permits would be terminated to the extent that they authorize any discharges into such areas, and no new Federal permits authorizing such dumping could be issued.

The Secretary of the Interior would be required to establish standards applicable to the discharge of all wastes and substances into areas not so designated as marine sanctuaries. Such standards would be for the purpose of insuring against damage to marine life or wildlife, or pollution of United States navigable waters. The standards would be required to provide that no sewage or industrial waste may be discharged: (1) after January 1, 1973, unless it has received at least primary treatment or its equivalent; (2) after January 1, 1975, unless it has received at least secondary treatment or its equivalent; and (3) after January 1, 1977, unless it has received at least tertiary treatment or its equivalent. States would be authorized to establish standards of equal or greater stringency provided they contain adequate provisions for enforcement. Dischargers of any waste or substance in violation of the established standards would be subject to a civil penalty of not more than $10,000 per day of violation. All Federal permits would be terminated to the extent they authorize discharges which violate such standards. District courts would have authority to restrain violations.

The Secretary of Defense would be required to make a complete inventory of all existing munitions, chemical, biological, and radiological warfare agents, and other military materials, the disposition of which may present a danger to man, the environment, or to fish and wildlife, and to determine the date beyond which each such item cannot be safely retained. He would also be required to prepare a plan for the demilitarization, detoxification or decontamination of such military materials. After the date of enactment of the bill, he would be required to

determine such disposition dates and to prepare such disposition plans for any new military materials prior to acquiring them. After the date of enactment of the bill, all disposal of such military materials into any navigable or coastal waters of the United States, or into any international waters, would be prohibited.

EPA has the following comments with respect to this bill:

1. The establishment of "marine sanctuaries" has been discussed above in connection with H.R. 4359.

2. The establishment of discharge standards has been discussed above in connection with H.R. 1383, 805, 285, and 983.

3. The prohibition against the discharge of sewage or industrial wastes which have received less than a specified level of treatment has been discussed above in connection with H.R. 3662.

4. EPA does not believe that a legislated ban on the dumping of military materials is necessary. Recent policy declarations by the Department of Defense indicate that an effective ban is already in effect or is being implemented. Furthermore, as already discussed in connection with H.R. 3662, there may be the rare exceptional case in which ocean disposal will present a lesser threat to human health, welfare or the environment than land-based disposal.

H.R. 337 (also 549, 1381); H.R. 4584; H.R. 4217 (also 4218, 4719)

H.R. 337 would prohibit any person from discharging, into any of the navigable waters of the United States or into international waters, any munition, or any chemical, biological, or radiological warfare agent, or any other military material, except in accordance with a certificate issued by the Council on Environmental Quality establishing the terms, conditions and limitations of such disposal. H.R. 4584 is the same as H.R. 337, except that the certificate would be issued jointly by EPA and NOAA rather than by CEQ. H.R. 4217 is the same as H.R. 4584, except that the certifying authority would be EPA exclusively, and the bill's requirements would apply not only to military materials but also to "any other refuse matter of any kind or description whatsoever."

EPA has the following comments on these bills:

1. All of them, applying to discharges by any person into international waters, without regard to citizenship or point of origin of the discharged material, may raise problems under international law.

2. EPA prefers the comprehensive approach taken in H.R. 4723, which would apply a dumping permit requirement to a broad range of materials, including military materials, to the *ad hoc* approach of H.R. 337 and H.R. 4584.

3. CEQ serves an advisory rather than a regulatory function and should not be the certifying authority as provided in H.R. 337. CEQ supports H.R. 4723, under which such regulatory authority would be vested in EPA.

4. With respect to discharges into navigable waters, H.R. 4217 duplicates the requirements of the Refuse Act of 1899, which requires a permit from the Corps of Engineers for the discharge of any refuse matter into navigable waters other than refuse flowing from streets and sewers in a liquid state. Discharges not covered by the Refuse Act are subject to control under the Federal Water Pollution Control Act, and proposed amendments thereto.

H.R. 336 (also 548, 1382, 1674)

This bill requires the CEQ to make an investigation and study of all aspects of existing national policy with respect to the discharge of materials into the Atlantic and Pacific Oceans, the Gulf of Mexico, and other waters within the territorial sea or contiguous zone of the United States, and to report to the President and Congress the results thereof, and its recommendations for a national ocean dumping policy, including any treaties, agreements or legislation necessary in connection therewith. EPA is of the opinion that CEQ has already performed this task, as evidenced by its report entitled "Ocean Dumping—A National Policy" submitted to the President in October, 1970. The Administration's ocean dumping bill, H.R. 4723, is based on the recommendations contained in that report.

The Office of Management and Budget has advised that there is no objection to the presentation of this report and that enactment of H.R. 4723 would be in accord with the program of the President.

Sincerely yours,

WILLIAM D. RUCKELSHAUS,
Administrator.

FEDERAL POWER COMMISSION,
Washington, D.C., April 16, 1971.

Combined report on H.R. 285, H.R. 805, H.R. 983, and H.R. 1095, 92d Congress, related bills to amend the Fish and Wildlife Coordination Act

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Longworth House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: In response to your requests of February 9 and February 17, 1971, we enclose 20 copies of the report of the Federal Power Commission on the subject bills.

The Office of Management and Budget advises there is no objection to the presentation of this report and, that enactment of H.R. 4723 would be in accord with the program of the President.

Sincerely,

JOHN N. NASSIKAS,
Chairman.

FEDERAL POWER COMMISSION

REPORT ON RELATED BILLS, H.R. 285, H.R. 805, H.R. 983, AND H.R. 1095—92D CONGRESS

H.R. 285, A bill, "To amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by requiring the designation of certain water and submerged lands areas where the depositing of certain waste materials will be permitted, to authorize the establishment of standards with respect to such deposits, and for other purposes."

H.R. 805, A bill, "To amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by providing for orderly regulation of dumping in the ocean, coastal, and other waters of the United States."

H.R. 983, A bill, "To amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by requiring the designation of certain water and submerged lands areas where the depositing of certain waste materials will be permitted, to authorize the establishment of standards with respect to such deposits, and for other purposes."

H.R. 1095, A bill, "To amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by requiring the designation of certain water and submerged land areas where the depositing of certain waste materials is prohibited, to require the establishment of standards with respect to such deposits in all other areas, and for other purposes."

H.R. 285 would amend the Fish and Wildlife Coordination Act to provide additional protection to the ecology of the Nation's marine and fresh waters by authorizing the Secretary of the Interior acting through the Fish and Wildlife Service to designate those portions of the navigable waters of the United States, of the waters above the Outer Continental Shelf, and of the submerged lands relating to those waters, on which sewage, sludge, spoil or other waste can be safely discharged. H.R. 285 would direct the Secretary of the Interior to establish standards applicable to the discharge of material within designated discharge areas "for the purpose of insuring that no damage to, or loss of, any wildlife or wildlife resources or pollution of the navigable waters of the United States will result from such activity." The bill would also permit the States to establish more stringent discharge standards. Initial designation of discharge areas would be delayed for two years after enactment of the bill pending completion of an investigation and study of potential discharge areas by the Secretary of the Interior in cooperation with the Secretary of the Army acting through the Chief of Engineers. H.R. 285 contains enforcement provisions (subsections (g) and (k) and provides civil penalties for discharge of waste in undesignated areas and for violation of applicable discharge standards (subsection (i)). Subsection (j) provides that:

"(j) Upon the designation of waters or submerged lands under subsection (a) of this section, all licenses, permits, or authorizations which have been issued by any officer or employee of the United States under authority of any other provision of law shall be terminated and of no effect to the extent

they authorize any activity prohibited by subsection (i) of this section. Thereafter no license, permit, or authority shall be issued by any officer or employee of the United States which would authorize any activity prohibited by subsection (i) of this section."

H.R. 805 would require the Administrator of the Environmental Protection Agency and the Secretary of the Interior (acting through the United States Fish and Wildlife Service) in consultation with the Secretary of the Army (acting through the Chief of Engineers), to establish standards for the discharge of waste:

" . . for the purpose of insuring that no damage to the natural environment and ecology including but not limited to marine and wildlife ecology of the ocean, coastal, and other waters of the United States, will result from any such activity. . . ."

H.R. 805 would also permit the imposition of more stringent state standards.

H.R. 805 does not provide for the designation of areas within which waste may be safely deposited. Instead, the bill would require any person, before depositing or discharging industrial wastes, sludge, spoil or other materials into the ocean, coastal, or other waters of the United States, to "present sufficient evidence to sustain a burden of proof that such materials in the location in which they are to be deposited will not endanger the natural environment and ecology of these waters and to meet such additional requirements as the Administrator may deem necessary for the orderly regulation of such activity." The bill further provides in subsection (d) that the standards established "shall be applicable to all of the departments, agencies, and instrumentalities of the Federal Government, to the States and their agencies, including any person having any license, permit, or other authorization from such State or agency for any such activity with respect to any such ocean, coastal, and other waters." The civil penalties set forth under H.R. 805 are less stringent than those contained in H.R. 285 and apply only to violations of discharge standards. Subsection (i) of H.R. 805 is much more stringent than the parallel subsection (j) of H.R. 285 *supra* in that it provides:

"(i) Upon the effective date of this section all licenses, permits, or authorizations which have been issued by any officer or employee of the United States under authority of any other provision of law shall be terminated."

Unlike the parallel provisions[1] in H.R. 285, H.R. 983 and H.R. 1095, subsection (f) of H.R. 805, which relates to recordkeeping and reporting, does not provide for confidential treatment of information relating to trade secrets.

H.R. 983 is substantially the same as H.R. 285, except for the following differences. Under H.R. 983, the Secretary of the Interior, acting through the Fish and Wildlife Service, and the Administrator of the Environmental Protection Agency would have joint responsibility for designating discharge areas. However, H.R. 983 would give the Administrator of the Environmental Protection Agency, instead of the Secretary of the Interior, sole responsibility for the determination of applicable federal discharge standards. The civil penalties which H.R. 983 would establish are the most stringent of those provided in any of the bills included in this report.

H.R. 1095 is similar to both H.R. 285 and H.R. 805, but is drafted in a converse form. Under H.R. 1095, the Secretary of the Interior, acting through the Fish and Wildlife Service, would be authorized to designate those areas into and onto which he determines certain waste materials *cannot* be safely discharged. Such areas then would be known as "marine sanctuaries." Persons discharging waste[2] in "marine sanctuaries" would be subject to heavy fines (Sec. 5B(e)). Initial designation of these areas would be delayed for one year after enactment of the bill pending completion of an investigation and study of potential "marine sanctuaries" by the Secretary of the Interior in cooperation with the Secretary of the Army acting through the Chief of Engineers.

Section 5B(d) of H.R. 1095 would provide that once such areas were designated as "marine sanctuaries".

". . . all licenses, permits, or authorizations which have been issued by any officer or employee of the United States under authority of any other provision of law shall be terminated and of no effect to the extent they authorize any

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[1] H.R. 285, subsection (h); H.R. 983, subsection (h); H.R. 1095, section 5C(b).

[2] In describing the wastes affected by the bill, H.R. 1095, unlike H.R. 285, H.R. 805 and H.R. 983, refers specifically to heated effluents and to solid, liquid or gas wastes (§§ 5B(e), 5C(a)).

activity prohibited by subsection (e) of this section. Thereafter no license, permit, or authority shall be issued by any officer or employee of the United States which would authorize any activity prohibited by subsection (e) of this section."

Section 5C(a) of H.R. 1095 would require the Secretary of the Interior, within one hundred and eighty days after the designation of areas as "marine sanctuaries", to establish standards for the discharge of waste materials [2] in all other areas. The standard contained in this section is again a federal "no damage" standard.[3] The standard also includes requirements for the treatment of wastes and like H.R. 805 would require persons before discharging wastes to "present sufficient evidence that discharging materials in the location in which they are to be deposited will not endanger the natural environment and ecology" of the navigable and coastal waters of the United States and international waters. Subject to certain exceptions which would allow the States to establish more stringent standards, these standards would be binding on the States and state agencies as well as the Federal Government and all federal agencies. Section 5C(b) would allow the Secretary of the Interior to appoint officers to enter and inspect property, plants and facilities in order to determine whether there has been compliance with this section.

Section 5C(f), of H.R. 1095 would provide that:

"(f) Upon the issuance of standards under subsection (a) of this section applicable to any area, all licenses, permits, or authorizations which have been issued by any officer or employee of the United States under authority of any other provision of law with respect to discharges in an area shall be terminated and of no effect to the extent they authorize any activity prohibited by subsection (g) of this section." [4]

Unlike H.R. 285, H.R. 805, and H.R. 983, H.R. 1095 contains specific requirements for disposal of military materials including chemical, biological, and radiological warfare agents.

It is not entirely clear from the language of the bills, what impact H.R. 285, H.R. 805, H.R. 983 and H.R. 1095 would have on the Commission's responsibilities for licensing non-federal hydroelectric projects under Part I of the Federal Power Act (16 U.S.C. 792–823), and for issuing certificates of public convenience and necessity for the construction and operation of natural gas pipeline facilities under Section 7 of the Natural Gas Act (15 U.S.C. 717f). It could well be argued that the definitions of wastes used in the bills are not intended to encompass discharges from non-federal hydroelectric power plants or from natural gas pipeline facilities. H.R. 805 could have a similarly limited impact by virtue of its narrower definition of "ocean, coastal, and other waters".

The Commission opposes enactment of H.R. 805 in its present form because subsection (i) would terminate all FPC licenses, permits and certificates on the date H.R. 805 becomes effective. We believe that enactment of H.R. 805 would seriously impair the attainment of an adequate supply of electric energy throughout the United States. The proposed bill is contrary to the national policy of comprehensive development of the Nation's water resources articulated in Part I of the Federal Power Act. (*First Iowa Hydro-Electric Cooperative* v. *F.P.C.*, 328 U.S. 152, 180–181 (1946).

While the Commission supports their basic intent, we question whether the provisions in H.R. 285, H.R. 983 and H.R. 1095 represent the best or most orderly means of achieving the general objectives of these bills. We believe that the comprehensive approach embodied in H.R. 4723, the Administration's proposed "Marine Protection Act of 1971" offers a significantly better solution to the growing problem of unregulated ocean dumping. Under that proposal the Administrator of the Environmental Protection Agency would be authorized to issue permits for the dumping in the oceans, coastal and other waters of materials which he determines "will not unreasonably degrade or unreasonably endanger human health, welfare or amenities of the marine environment, ecological systems or economic potentialities". In reviewing and evaluating individual permit applications the Administrator would apply criteria which extend to both (1) the likely impact of the proposed dumping on human health and welfare and the

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[2] See footnote on p. 104.

[3] "Such standards shall be for the purpose of insuring that no damage to, or loss of, any marine life or wildlife or other resources necessary for the ecological balance of the area or pollution of the navigable waters of the United States will result from any such activity . . ." § 5C(a).

[4] Subsection (g) would subject persons discharging wastes in violation of established standards to heavy fines.

marine environment and (2) alternative disposal locations, the probable impact of requiring the use of such alternative locations and the public interest considerations associated with issuing or denying permits. In establishing or revising such criteria the Administrator would have the benefit of the comments and suggestions of various Federal agencies, including those of the Federal Power Commission.

The Commission also questions the practicality of the absolute "no damage" standard contained in the bills. In practice, this standard would have the effect of prohibiting any discharge of waste material into navigable or coastal waters. The federal "no damage" standard and the more stringent state standards which could be imposed under H.R. 285, H.R. 805, H.R. 983 and H.R. 1095, could well, if pressed too far, impair or defeat the attainment of other national objects, including the development of adequate utility services and the production of needed supplies of industrial goods. The Commission is cognizant of the importance of protecting marine and wildlife resources. However, the Commission believes the more flexible case-by-case approach utilized in H.R. 4723, the Administration bill, would be preferable.

The Commission has no comments to offer on the provisions of H.R. 1095 which relate to the disposal of military wastes.

The Office of Management and Budget advises there is no objection to the presentation of this report and, that enactment of H.R. 4723 would be in accord with the program of the President.

FEDERAL POWER COMMISSION,
JOHN N. NASSIKAS, *Chairman.*

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
May 21, 1971.

HON. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in response to your request of February 19, 1971, for a report on H.R. 336 and H.R. 548, bills "To require the Council on Environmental Quality to make a full and complete investigation and study of national policy with respect to the discharging of material into the oceans."

These bills would provide that the Council on Environmental Quality make a full and complete investigation and study of all aspects of existing national policy with respect to the discharge of any material of any kind into the waters of the Atlantic and Pacific Oceans, the Gulf of Mexico, and any other waters within the territorial sea and the contiguous zone of the United States. The bill provides that upon completion of such investigation and study the Council would report to the President and Congress its recommendations for a national policy with respect to discharge into such waters. Such recommendations would include treaties, agreements, and legislation necessary in connection therewith.

The Administrator of the Environmental Protection Agency transmitted to the Congress on February 10, 1971, the Administration's proposal, which is embodied in H.R. 4247 and H.R. 4723, to regulate the dumping of waste material into the oceans, coastal, and other waters of the United States. The need for such regulation is made clear in the President's message of February 8, 1971, transmitting a program to save and enhance the environment. This Department strongly supports the Administration's proposal.

While this Department would defer to the views of the Council on Environmental Quality and the Environmental Protection Agency with respect to whether the study contemplated by H.R. 336 and H.R. 548 is necessary, it would appear that the bills' basic objectives have already been achieved. In October 1970, the President made public a Council on Environmental Quality report entitled "Ocean Dumping: A National Policy," which included recommendations for a comprehensive national policy in the area of ocean dumping and which was the basis for the Administration's proposed legislation.

We are advised by the Office of Management and Budget that there is no objection to the submission of this report, and enactment of H.R. 4247 or H.R. 4723 would be in accord with the Administration's program.

Sincerely,

(S) ELLIOTT L. RICHARDSON,
Secretary.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
May 10, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in response to your request of February 26, 1971, for reports on H.R. 4247 and H.R. 4723, bills "To regulate the dumping of material in the oceans, coastal, and other waters and for other purposes."

These identical bills embody an Administration proposal transmitted to the Congress by the Administrator of the Environmental Protection Agency on February 10, 1971. They would prohibit, except as authorized by the Administrator of the Environmental Protection Agency, the transportation of material from the United States for the purpose of dumping it into the "oceans, coastal, and other waters," and the dumping of material into the "oceans, coastal, and other waters" of the United States. Nevertheless, the proposal would authorize the Administrator of the Environmental Protection Agency to issue permits for such purposes where, in his judgment, such transportation or dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities. It would require the Administrator to develop criteria for reviewing and evaluating the issuance of such permits, after consultation with the Secretaries of Commerce, Interior, State, Defense, Agriculture, Health, Education, and Welfare, and Transportation, the Atomic Energy Commission, and other appropriate Federal, State, and local officials.

In addition, the proposal would authorize the Administrator to designate recommended sites for the dumping of specified materials. Provision would be made for penalties for violation of the Act. The proposal would also direct the Secretary of State, in consultation with the Administrator of the Environmental Protection Agency, to seek effective international action and cooperation to ensure protection of the marine environment and would authorize him to formulate, present, or support specific proposals in the United Nations and other competent international organizations for such purposes.

The need for this new program is made clear in the President's message of February 8, 1971, "Program for a Better Environment". We urge its enactment.

We are advised by the Office of Management and Budget that enactment of this proposal would be in accord with the Administration's program.

Sincerely,

(S) ELLIOT L. RICHARDSON,
Secretary.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 5, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: We respond to your recent requests for comment on H.R. 285, H.R. 805, H.R. 983, H.R. 1095, H.R. 1383, H.R. 1661, H.R. 3662, H.R. 4359, and H.R. 5050, bills which have as their common objective the regulation of ocean dumping to retard degradation of the marine environment.

While these bills are similar in terms of the problem addressed, they can be distinguished with respect to the mechanism or procedure proposed as a solution to that problem. H.R. 285, H.R. 983, and H.R. 1095 would amend the Fish and Wildlife Coordination Act to vest in the Secretary of the Interior and the Administrator of the Environmental Protection Agency responsibility for the designation of ocean sites into and onto which waste material could be safely dumped. H.R. 1095 would require, further, that the Secretary establish environmental standards for waste disposal in areas not so designated, and would establish a schedule for minimum treatment of sewage and industrial waste discharged into areas subject to such standards. Each of these bills also provides for the State acceptance of disposal standards comparable to those promulgated by Federal authority.

H.R. 805 and H.R. 1383 would also amend the Coordination Act by adding new language, but contain no provision for the designation of recommended dump sites. Rather, they provide for establishment of standards applicable to ocean disposal "of all industrial wastes, sludge, spoil, and all other materials that might be harmful to the wildlife or wildlife resources or to the ecology" of ocean, coastal, and other waters of the United States. The Secretary of the Interior, in consultation with Chief of Army Engineers (H.R. 1383), or the Secretary and the Administrator of the Environmental Protection Agency, in consultation with the Secretary of the Army (H.R. 805) would be responsible for promulgation of such standards.

H.R. 4359 would amend the so-called Estuary Protection Act of 1968 (82 Stat. 625) to prohibit the marine disposal of waste materials without an appropriate permit from the Administrator of the Environmental Protection Agency and, like H.R. 1095, to require advanced treatment of sewage and industrial waste. Section 3 of H.R. 4359 would also direct the Secretary of Commerce to study and select those areas worthy for designation as marine sanctuaries. H.R. 3662 provides for an amendment to the Coordination Act that would also prohibit dumping without a permit from EPA. This bill also contains provision for treatment of waste material and the designation of recommended dump sites.

H.R. 1661 and H.R. 5050 are identical bills that would make it unlawful for the owner or master of any vessel to load or permit the loading of waste for ocean disposal without having first obtained a permit to do so from the Administrator of EPA. The Administrator would be authorized to issue such permits, to prohibit absolutely the loading, transporting or dumping of any material deemed hazardous to human health or the marine environment, and to designate ocean dump sites.

Each of these bills represents recognition of the need to control a practice that now threatens our marine environment, and to prevent recurrence in ocean and coastal waters of that blight which afflicts the Great Lakes. In recognition of these same needs, President Nixon last year requested that the Council on Environmental Quality study the problems posed by ocean dumping. We participated in the conduct of that study, and were consulted during the preparation of draft legislation to implement recommendations contained in the Council's final report, "Ocean Dumping—A National Policy". That legislation is now pending before your Committee as H.R. 4247 and H.R. 4723, and we recommend that it be enacted in lieu of the bills discussed herein.

While specifics of the proposed "Marine Protection Act of 1971" are covered in a sectional analysis submitted by EPA and in our report on the introduced legislation, it should be noted that H.R. 4247 and H.R. 4723 combine several provisions of the bills described above. The result, we believe, is a comprehensive framework for regulating the transportation and dumping of wastes in the oceans, coastal waters, and the Great Lakes. As several of the other bills propose, a manadatory permit system would be administered by the Environmental Protection Agency. Permits for the transportation and ocean disposal of waste material could be issued when the Administrator determines that such activity "will not unreasonably endanger or unreasonably degrade human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities". The Administrator would also be authorized to prohibit the dumping of a specified material, and to designate recommended dump sites.

This Department and others would be consulted by the Administrator in establishing criteria against which to measure permit applications. We believe that such consultation will afford an opportunity to contribute our knowledge of the marine environment, and to seek protection of the wildlife, recreation and mineral resources for which we have primary responsibility. In this connection, we agree with the Council on Environmental Quality that regulatory authority should be vested in an agency whose chief role is environmental control. Amendment of the Fish and Wildlife Coordination Act for this purpose would tend to disperse regulatory authority and to discourage effective coordination with programs already administered by EPA for the maintenance of air and water quality.

The Council's study and implementing legislation proposed by the Environmental Protection Agency are worthy of careful consideration and, as we recommend, prompt approval by your Committee and the Congress. We believe that

enactment will help to curtail the use of our coastal waters for waste disposal and contribute to the development of feasible land-based alternatives.

The Office of Management and Budget has advised that this report is in accord with the program of the President.

Sincerely yours,

HARRISON LOESCH,
Assistant Secretary of the Interior.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 5, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: We respond to your request of February 19 for comment on H.R. 336 and H.R. 548, identical bills "To require the Council on Environmental Quality to make a full and complete investigation and study of national policy with respect to the discharging of material into the oceans."

H.R. 336 and H.R. 548 would require that the Council on Environmental Quality make an investigation and study of national policy with respect to the discharge of all materials into the territorial sea and contiguous zone of the United States. Upon completion of its study, the Council would be required further to report its findings, both to the President and the Congress, together with its recommendations for a national policy concerning such discharges.

Commenting last year on similar legislation pending before the 91st Congress, we noted that President Nixon had already directed the Council to conduct such a comprehensive study of ocean dumping, and to recommend such action as may be appropriate to the establishment of a national policy on ocean dumping. Those recommendations of the Council, "Ocean Dumping—A National Policy," were endorsed by the President and transmitted to the Congress on October 7, 1970 (*Congressional Record*, Oct. 7, 1970, p. H9780; H. Doc. 91–399). Further, a legislative proposal to implement the Council's recommendations, the "Marine Protection Act of 1971," has been submitted to the 92nd Congress by the Environmental Protection Agency as part of the President's environmental program.

Thus, while we feel there is no longer a need for enactment of H.R. 336 or H.R. 548, we urge that your Committee give prompt and favorable consideration to the "Marine Protection Act of 1971." We agree with EPA Administrator Ruckelshaus that "this legislation would provide a comprehensive framework for regulating the transportation and dumping of materials and forestalling pressures to dispose of a vast new influx of wastes in the oceans, coastal waters and the Great Lakes."

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

Sincerely yours,

HARRISON LOESCH,
Assistant Secretary of the Interior.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 5, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: We respond to your recent requests for comment on H.R. 337, H.R. 549, H.R. 4217 and H.R. 4584, similar bills that would require certification either by the Council on Environmental Quality, the Environmental Protection Agency, or the National Oceanic and Atmospheric Administration prior to ocean disposal of military waste material.

We recommend the enactment of H.R. 4247 or H.R. 4723, this Administration's proposal to regulate all ocean dumping and the transportation of material to be dumped, in lieu of H.R. 337, H.R. 549, H.R. 4217, and H.R. 4584.

As the sponsors of these bills recognize, the unregulated ocean disposal of military material, including obsolete munitions and chemical, biological or radiological warfare agents, constitutes a grave threat to the marine environment. As we noted during hearings held last summer on the Army's "Operation Chase" by your Subcommittee on Oceanography, the disposal of wastes at sea has been poorly monitored, making it difficult to measure the extent of damage already done. We do know, however, that degradation of water quality and physical alteration of marine habitat will take its toll from among species of sport fish and other aquatic wildlife.

H.R. 4247 and H.R. 4723 would vest in the Administrator of the Environmental Protection Agency responsibility for the issuance and enforcement of permits to regulate all kinds of ocean dumping. We think it appropriate that such authority be given to an operating agency broadly charged with protection of the environment, and that its Administrator be required to establish environmental standards for the transportation and disposal of all waste material, whatever its source. It should be noted, too, that the Administrator would be empowered to prohibit absolutely the dumping of a specified material when he finds that such material cannot be dumped without harmful impact upon the marine environment.

Thus, while we support the objectives of H.R. 337, H.R. 549, H.R. 4217, and H.R. 4584, we believe that they can be best attained by the enactment of more comprehensive legislation pending before your Committee as H.R. 4247 and H.R. 4273.

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

Sincerely yours,

HARRISON LOESCH,
Assistant Secretary of the Interior.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 5, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives,
Washington, D.C.

DEAR MR. CHAIRMAN: We respond to your request of February 26 for comment on H.R. 4247 and H.R. 4723, identical bills "To regulate the dumping of material in the oceans, coastal, and other waters and for other purposes", the "Marine Protection Act of 1971".

The Department of the Interior strongly recommends enactment of this Administration proposal to provide long sought regulation of waste disposal in ocean, coastal, and Great Lakes waters of the United States.

H.R. 4247 and H.R. 4723 would vest in the Administrator of the Environmental Protection Agency authority to control ocean dumping of waste materials through issuance of permits and enforcement of a prohibition against the unauthorized transport or dumping of such material. In determining whether or not to approve a permit application, the Administrator would be required to consider (1) the impact of dumping on the marine environment and human welfare and (2) other possible locations and methods of disposal, including land-based alternatives, but in no event would a permit be issued for a dumping in violation of applicable water quality standards. Section 5 provides authority to designate recommended sites for the dumping of specified materials, and would allow the Administrator to deny, alter or revoke a permit for the disposal of any material that could threaten human health or the marine environment.

Jurisdiction would extend to all persons, including Federal, State, and foreign governmental organizations, who seek to dispose in territorial waters of the United States or the adjacent contiguous zone, to the extent that such disposal

in the contiguous zone may affect the territorial sea or territory of the United States. Section 6 provides a civil penalty of not more than $50,000 for each violation of the prohibition against unauthorized transport or disposal and criminal sanctions for knowing and willful violations. Surveillance would be conducted by the Coast Guard, and legal action taken by the Attorney General upon request of the Administrator. A thorough analysis of its draft bill was transmitted to the Congress on February 10 by the Environmental Portection Agency.

As your Committee is aware this Department has frequently expressed its opposition to the use of ocean waters for waste disposal. Implicit in our opposition to *all* ocean dumping, however, has been the recognition that feasible alternatives are not always available. Our concern for the environmental effects of uncontrolled dumping led to recent studies of the New York Bight and participation in the review of ocean dumping generally which preceded the issuance on October 7, 1970 of "Ocean Dumping—A National Policy", a report prepared by the Council on Environmental Quality.

We participated, too, in the preparation and review of legislation to implement the Council's recommendations. The bills now pending before your Committee, H.R. 4247 and H.R. 4723, are the end result of close cooperation among those several Federal agencies with responsibility for the protection, conservation and management of our Nation's natural resources. The Department of the Interior will provide whatever assistance it can to the Administrator of the Environmental Protection Agency under section 5(a) of the Marine Protection Act of 1971.

President Nixon noted in his environmental message of February 8 that ocean disposal has a number of harmful effects, including destruction of marine life, decreased abundance of fish and other economic resources, modification of marine ecosystems, and impairment of aethetic values. We urge prompt enactment of H.R. 4247 or H.R. 4723, as the President suggested, "to assure that our oceans do not suffer the fate of so many of our inland waters, and to provide the authority needed to protect our coastal waters, beaches, and estuaries".

The Office of Management and Budget has advised that this report is in accord with the program of the President.

Sincerely yours,

HARRISON LOESCH,
Assistant Secretary of the Interior.

DEPARTMENT OF THE NAVY,
OFFICE OF LEGISLATIVE AFFAIRS,
Washington, D.C., April 21, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives,
Washington, D.C.

DEAR MR. CHAIRMAN: Your request for comment on H.R. 4359, a bill "To amend the Act of August 3, 1968 (82 Stat. 625), to protect the ecology of estuarine areas by regulating dumping of waste materials, to authorize the establishment of a system of marine sanctuaries, and for other purposes," has been assigned to this Department by the Secretary of Defense for the preparation of a report expressing the views of the Department of Defense.

The purpose of the bill is to amend the Act of August 3, 1968 (82 Stat. 625), to provide for the protection of the ecology of estuarine areas by regulating the dumping of waste materials, the authorization of the establishment of a system of marine sanctuaries, and the implementation of these general goals.

The Department of the Navy, on behalf of the Department of Defense, is deeply concerned about the adverse ecological and environmental effects associated with the discharge of wastes and other materials into the oceans, coastal, and other waters. We are also concerned, however, that certain features of H.R. 4359 could unnecessarily prohibit some important activities not necessarily harmful to the marine environment. We are especially concerned that the proposed new section 7(c)(1) to the Act of August 3, 1968, as set forth in section 3 of

H.R. 4359, could be construed to preclude operation of U.S. nuclear powered warships, including the strategic deterrent Fleet Ballistic Missile Submarine force. Such a result would be untenable to the security of the United States.

We are also concerned that the bill could be construed to apply to areas over which the United States does not have jurisdiction. Under international law a state has complete jurisdiction over its territorial seas, subject only to the right of innocent passage. The United States' territorial waters extend three miles seaward from the mean low-water line. Beyond this territorial sea the United States has sovereign rights for the purpose of exploring and exploiting the natural resources of its continental shelf and also has the right to enforce its customs, fiscal, immigration or sanitary regulations within a zone of the high seas contiguous to its territorial sea. (Article 2, 1958 Geneva Convention on the Continental Shelf, TIAS 5578; Article 24, 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone, TIAS 5639). Under the 1958 Geneva Convention on the Territorial Sea and Contiguous Zone the extent of the contiguous zone must be no more than 12 nautical miles. In addition, customary international practice presently recognizes the coastal state's right to control fishing within 12 miles of its coast. In consonance with the recognized international practice, a 9-mile fisheries zone contiguous to the United States 3-mile territorial sea was established by the United States in 1966 (Public Law 89–658; 16 U.S.C. 1091–1094).

As presently formulated, H.R. 4359 would provide for unilaterial United States regulation and control of activities well beyond these specialized jurisdictional rights recognized under international law. Such unilateral claims which go beyond the confines of recognized international law, although couched in terms of domestic legislation, can and frequently are used as a basis for exaggerated offshore jurisdictional claims by other nations. Such unwarranted extensions of offshore jurisdiction erode the principle of freedom of the high seas which is essential for naval mobility.

H.R. 4359 would authorize the Secretary of Commerce to designate as marine sanctuaries those areas which the Secretary determines should be preserved or restored. The exercise of this authority conceivably could restrict or prohibit research, development, testing, survey work, or training exercises conducted by, or under the sponsorship of, the Department of Defense, without prior coordination with the Department of Defense.

The Department of the Navy, on behalf of the Department of Defense, believes that the Administration's well drafted, comprehensive bill, H.R. 4723, introduced by you on February 22, 1971, to the 92nd Congress, realistically provides for the intent expressed in H.R. 4359 with respect to preventing harmful, unregulated dumping into the oceans, coastal, and other waters. The Department of the Navy, on behalf of the Department of Defense, therefore favors H.R. 4723, in lieu of H.R. 4359.

This report has been coordinated within the Department of Defense in accordance with procedures prescribed by the Secretary of Defense.

The Office of Management and Budget advises that, from the standpoint of the the Administration's program, there is no objection to the presentation of this report for the consideration of the Committee.

For the Secretary of the Navy.

Sincerely yours,

LANDO W. ZECH, Jr.,
Captain, U.S. Navy,
Deputy Chief.

DEPARTMENT OF STATE,
Washington, D.C., April 22, 1971

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives.

DEAR Mr. CHAIRMAN: Thank you for your letter of February 17 giving this Department the opportunity to comment on H.R. 1095, a bill to amend the fish and wildlife coordination act to provide additional protection to marine and wildlife ecology by requiring the designation of certain water and submerged land areas where the depositing of certain waste materials is prohibited, to

require the establishment of standards with respect to such deposits in all other areas and for other purposes.

The Department of State in agreement with the general intent of Section 5 B(a) of this bill to establish marine sanctuaries—but only insofar as those sanctuaries would be within the territorial sea limits of the United States. The United States may, of course, restrict dumping within its territorial sea. Beyond that, the Geneva Convention on the Territorial Sea and the Contiguous Zone provides that a coastal state may, in a zone of high seas contiguous to its territorial waters, prevent infringement of its customs, fiscal, immigration or sanitary regulations within its territory or territorial sea. The United States may, therefore, restrict dumping in the contiguous zone which would contravene the sanitary regulatoins of its territory or territorial sea. The high seas beyond the 12-mile limit of the contiguous zone are, however, entirely beyond U.S. jurisdiction.

The Department notes that the establishment of sanctuaries in or under international waters would require international action and thus could not be accomplished unilaterally.

The Department is also in favor of the establishment of general dumping standards in areas other than marine sanctuaries as provided in Section 5C—but only insofar as they apply to United States nationals or to areas under the jurisdiction of the United States. Again, the establishment of dumping standards for foreign nationals in international waters would require international action and could not be accomplished unilaterally. The Department would propose that the general problem of ocean dumping as discussed in this Section of the bill be dealt with by a comprehensive regulatory measure such as that proposed in H.R. 4247 which would prohibit the transport from the United States by any person of material to be dumped in the ocean without a permit.

The Department sees no objection to the enactment of Section 5 D as far as the foreign policy interests of the United States are concerned.

The Office of Management and Budget advises that from the standpoint of the Administration's program, there is no objection to the submission of this report.

Sincerely yours,

DAVID M. ABSHIRE,
Assistant Secretary for Congressional Relations.

DEPARTMENT OF STATE,
Washington, D.C., April 21, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives.

DEAR MR. CHAIRMAN: Thank you for your letter of February 26, 1971, requesting the views of the Department of State on H. R. 1661, a bill to regulate the discharge of wastes in territorial and international waters.

The Department of State agrees that there is a need to regulate dumping in order to protect the marine environment in the oceans. Also, it is clear that there is growing international concern over the effects of indiscriminate ocean dumping.

From the viewpoint of foreign policy and international law, the Department of State has no objection to the enactment of this bill. However, the Department favors the adoption of H. R. 4247, the Marine Protection Act of 1971, which is before your Committee for consideration.

The Office of Management and Budget advises that from the standpoint of the Administration's program there is no objection to the submission of this report.

Sincerely yours,

DAVID M. ABSHIRE,
Assistant Secretary for Congressional Relations

DEPARTMENT OF STATE,
Washington, D.C., April 21, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Thank you for your letter of March 9, 1971, requesting the views of the Department of State on HR 3662, a bill to amend the Fish and Wildlife Coordination Act in order to protect the marine environment by regulating the dumping of wastes in the coastal and ocean waters of the United States.

The Department of State is in agreement with the need to protect the marine environment by regulating dumping. However, we wish to point out two problems of international law raised by the present language in HR 3662.

Section 5B (a) provides that "no person may dump waste material into the ocean waters of the United States *or transport such material through such waters* unless he has first obtained a permit from the Administrator of the Environmental Protection Agency authorizing such dumping" (emphasis added). The Geneva Convention on the Territorial Sea and the Contiguous Zone, to which the United States is a party, provides the right of innocent passage through territorial waters for all vessels. Article 14 (4) of that Convention states that passage is innocent so long as it does not prejudice the peace, good order or security of the coastal State. This provision places on the United States an international legal obligation not to restrict, prevent or regulate passage through its territorial waters except on the above grounds. The simple transport of waste material through United States territorial waters would not be considered prejudicial to the peace, good order or security of the United States. Of course, the United States does have jurisdiction to control the transport *from* its territory of materials to be ocean dumped. Therefore, the Department of State recommends that the phrase on lines seven and eight of Section 5B (a) "transport such material through such waters" be deleted.

In addition, Article 24 (1) of the Convention provides that a coastal State may, in a zone of high seas contiguous to its territorial sea, prevent infringement of its customs, fiscal, immigration or sanitary regulations *within its territory or territorial sea.* The United States may, therefore, restrict dumping in the contiguous zone which would contravene the sanitary regulations of its territorial sea or territory. However, the high seas beyond the 12-mile limit of the contiguous zone are entirely beyond United States jurisdiction.

The Department of State strongly favors enactment of comprehensive legislation to regulate ocean dumping. It is quite clear that indiscriminate ocean dumping of waste products from the United States in the territorial waters and contiguous zone and on the high seas is a matter of great international concern. In order to regulate such activities the Department of State favors the adoption of HR 4247, the Marine Protection Act of 1971, which is before your committee for consideration.

The Office of Management and Budget advises that from the standpoint of the Administration's program there is no objection to the submission of this report.

Sincerely,

DAVID M. ABSHIRE,
Assistant Secretary for Congressional Relations.

DEPARTMENT OF STATE,
Washington, D.C., April 7, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: The Secretary has asked me to respond to your letter of February 11, 1971 on H.R. 549, and your letter of February 25, 1971 on H.R. 337 and H.R. 4217, bills concerning the discharging of material into any of the navigable waters of the United States.

The proposed bills would regulate discharges in international waters by any person of certain materials. There is no basis in international law for an exercise of jurisdiction over the conduct of foreign nationals on the high seas. We would propose that this problem be dealt with in the context of a comprehensive regulatory scheme such as that proposed in H.R. 4247, the Administration's pro-

posed "Marine Protection Act of 1971." That proposal would meet the essential objectives of the subject bills by prohibiting the transport from the United States by any person of material to be dumped in the ocean without a permit.

The Office of Management and Budget advises that from the standpoint of the Administration's program there is no objection to the submission of these reports.

Sincerely yours,

DAVID M. ABSHIRE,
Assistant Secretary for Congressional Relations.

DEPARTMENT OF STATE,
Washington, D.C., April 21, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives.

DEAR MR. CHAIRMAN: Thank you for your letter of March 9, 1971 requesting the Department of State to comment on H.R. 1383, a bill to amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by providing for the orderly regulation of dumping in the coastal waters of the United States.

The Department of State shares the concern regarding the protection of the marine environment to which H.R. 1383 is directed and has no objection to its enactment from a foreign policy viewpoint. However, the Department would prefer a more comprehensive proposal to regulate the dumping of materials in the oceans as contained in the Marine Protection Act of 1971 (H.R. 4247 or H.R. 4723).

The Office of Management and Budget advises that from the standpoint of the Administration's program there is no objection to the submission of this report.

Sincerely yours,

DAVID M. ABSHIRE,
Assistant Secretary for Congressional Relations.

DEPARTMENT OF STATE,
Washington, D.C., April 7, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: The Secretary has asked me to reply to your letter of February 26, 1971, enclosing for the Department's comments copies of H.R. 4247 and H.R. 4723, bills cited as the "Marine Protection Act of 1971".

The Department's views on this legislation, which we fully support, are set forth in the prepared statement delivered to your Committee in advance of the hearings today at which the Department's Legal Adviser, John R. Stevenson, is testifying on this general subject.

The Department recommends favorable action on this legislation which the Office of Management and Budget advises is in accord with the program of the President.

Sincerely yours,

DAVID M. ABSHIRE,
Assistant Secretary for Congressional Relations.

(The position paper referred to follows:)

ANNEX I.—POSITION PAPER ON OCEAN PROTECTION

THE NEED

The oceans, the common heritage of mankind and essential to his survival, have always been regarded as too vast and productive to be damaged by man. But today we know that existing threats to the health and productivity of the oceans are both real and grave. We can no longer afford the myth that the oceans are an unlimited cornucopia for exploitation by mankind.

Man poses two direct threats: overexploitation and pollution. Through overfishing some species, such as the Blue Whale, the largest animal ever to exist on the Earth, have been virtually exterminated. Pollution in the form of oil spills, pesticides, radioactive material and other toxic substances, is increasing rapidly.

Man's impact on the marine environment also occurs through the simplification of a complex ecosystem through arbitrary selection in species and fish population. The elimination of competing predators to increase production from a fishery or the elimination of an anadromous fish environment in order to extend irrigation agriculture, can be guaranteed to produce adverse environmental consequences.

Existing institutions have not yet been able to prevent pollution or overfishing. A few efforts, now under way, show some small signs of success in handling parts of the problem but new and innovative efforts are urgently required. The urgency stems from the fact that the time scale within which we must respond may be measured in years, not decades.

Additionally, the growing pressures upon the resources of the sea will make the solution of these problems even more difficult.

Oceans, atmosphere and land are interdependent: a disturbance in one is quickly reflected in the others. A particularly critical area is the coastal zone, where the land meets the sea—and much of the seafood used by man depends directly or indirectly upon this zone. Exploitation and pollution in the estuaries and continental shelf area thus pose significant threats to the health of a great portion of the world fishery.

A decline in the productivity of the oceans, combined with rising population levels, would cause serious problems for any nation. *To the underdeveloped countries, this represents imminent disaster.*

In the past the developed countries, owing to their advanced technology, have taken the greater share of marine resources without proper measures to induce rational utilization. If this trend continues the developing nations will never receive their equal share of this finite resource. The present catch from the world's oceans might, under ideal conditions be increased by a factor of 50% to 200%. Increasing pollution of the oceans however must and will decrease their productivity, and the nevitable losses will be suffered by those who can least afford them.

Some believe, almost as an article of faith, that when the problems of the oceans become sufficiently acute, technology will somehow produce a miraculous cure. The history of the deteriorating aquatic environment does not support this faith. Until better evidence is available that irreversible changes are *not* taking place, reason demands that we proceed more carefully, with greater concern for the health of the seas. Mankind cannot assume the risk of precipitating irreversible changes.

THE POTENTIAL THREAT

Without positive protection of the oceans, we can anticipate with varying degrees of certainty and severity:

Diminution or destruction of coastal and oceanic fishery resources through physical, chemical and/or biological disturbances in the ecosystem.

Inadvertent modification of weather and climate, inadequately monitored by existing or planned weather systems, in time producing major adverse changes in ecosystems.

Disturbance of the diversity, stability and productivity of the oceans.

Accelerating reduction in the recreational value of the oceans.

THE PROPOSALS

1. We recognize the need for the conservation and rational use of the ocean environment consonant with the foregoing discussion, organized to assure the protection and rational use of the oceans for the benefit of all nations, particularly the undeveloped nations.

2. To work toward this goal, we urge governments jointly to strengthen existing international organizations concerned with the ocean-atmosphere environment and we stress the value and importance of non-governmental public service groups to support this concern.

3. We recognize the need for the development of an international network of monitoring stations for the ocean-atmosphere environment coupled with adequate facilities for data collection and distribution to nations and organizations desiring them.

4. We further recommend that the following functions be considered as integral to the establishment of any organization purporting to act for the protection of the ocean-atmosphere environment:

(*a*) long-range forecasting and evaluation of data, including (where appropriate) simulation studies.

(*b*) continuing surveillance of potential long and short-range problems, specifically incorporating means for providing public information and recommendations for action.

5. We express the strong hope that preparations for the United Nations Conference on the Human Environment will lead to carefully prepared international conventions covering the primary threats to the ocean ecosystems (see attached Appendix).

6. We propose that an interdisciplinary interim committee be established to refine and develop recommendations 1–3 above, including the preparation of progress reports to the participants in this convocation.

7. Finally, we express gratitude to the Center for the Study of Democratic Institutions, with particular reference to the work of Mrs. Elisabeth Mann Borgese, for its leadership in preparing for and conducting the present convocation and we hope that its work on behalf of an effective Ocean Regime will continue undiminished.

APPENDIX

1. Effective international regulations are necessary to prevent irreversible changes in the ocean environment. Areas in which such regulation may be appropriate include:

(*a*) Prohibition of emission of oil into the oceans.

(*b*) Prohibition or reduction of the manufacture and use of persistent environmental poisons, such as certain pesticides, and heavy-metal compounds.

(*c*) Rules for the transportation of toxic substances harmful to the environment.

(*d*) Rules for the storage and final disposal of environmental poisons and radioactive materials.

(*e*) Rules to prevent overfishing of certain stocks.

2. There is a need for education and training in both developed and especially underdeveloped and developing countries with respect to the ecological requirements of international planning and development. We recommend the setting up of training centers and the publishing of supporting information to this end, as well as the dissemination of relevant information produced by existing organizations and those organizations established pursuant to the Malta recommendations of July 1970.

3. We realize that an increase in the number of organizations working on behalf of the world's oceans adds to the difficulty of coordinating the work of the new with that of the old, and also adds to the probability of duplication. However, we also believe that the increase in organizational complexity is a concomitant of expanding population and technology. Moreover, accelerating threats to the ocean ecosystems and the need for innovative and rapid corrective action require adding to the diversity and consequent strength of the forces available to mankind to protect the global environment.

Mr. LENNON. Our first witness is a very distinguished and able member of our full committee, the Honorable John M. Murphy.

Let me see if the distinguished member from Florida, Mr. Fascell, is here. I don't know whether Congressman Whitehurst, Congressman Pepper, and the chairman of the full committee are here or not, but we will, gentleman, with your permission, hear the several Members of Congress in the order that I have called them and with your

permission we will defer questioning of the Members of Congress until they have finished, if there is no objection to that, because we have to be ready at 11 o'clock to hear Chairman Train.

Now, if you gentlemen have something that you would like to have go on the record, you can appeal to the Chair to rescind that decision I have just made.

We welcome you, Mr. Murphy.

STATEMENT OF HON. JOHN M. MURPHY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. MURPHY. Thank you, Mr. Chairman.

Since I last testified before this committee, the administration has conducted a massive study of ocean dumping. In October of 1970, the Council on Environmental Quality issued a complex report of its findings and recommendations. I find myself in almost complete agreement with them, at least as far as they go.

This is not unusual as they follow the precepts that I outlined in the bill I introduced 1 year ago and in my testimony before the committee on July 27, 1970. In the meantime, nothing much has been done by the administration in the way of substantive action, and an additional 620 billion gallons of garbage have been dumped into New York Harbor.

During that year, another 16,400 billion gallons of industrial waste were poured into our rivers, lakes, and coastal waters; 7,300 billion gallons of waste water were pumped into our sewers.

Lake Erie, one of our many "dead seas," received its annual 3 million tons of pollutants.

Almost 40 million tons of dredge spoils were dumped on our coastal waters, 14 million tons of which were polluted.

Five million tons of industrial wastes polluted our seas.

Four and a half million tons of sewage sludge were dumped at sea, 4 million tons off New York Harbor alone.

I will agree with the conclusion of the report that "the volume of wastes dumped in the ocean is increasing rapidly, that many are harmful or toxic to marine life, hazardous to human health, and esthetically unattractive."

However, I cannot and will not accept the conclusion of the report that the volume of ocean-dumped wastes will "increase greatly" in the future. We cannot let this happen. This committee has the power to stop it. The solution, however, will not be found by creating more pollution farther out to sea; the solution will come from our scientists and other ecology experts who must be given a firm mandate to find new answers to the disposal of our cosmic trash problem. Otherwise, we are all going to end up, those of us left alive, living on one gigantic garbage pile.

The issues are clear and simple. We are throwing too much of society's excrement into our water and it is coming back to haunt us. If I cannot appeal to you on esthetic or ecological grounds let me do it on a gastronomical level. Your very lives may depend on it.

How many would enjoy a lobster salad at lunch knowing that shellfish have been found containing hepatitis virus? How many would

enjoy a lobster dinner not knowing if it came from those polluted areas where shellfish contain concentrated polio virus 60 times that of the fish in surrounding waters? Pollution has already closed 20 percent of our commercial shellfish beds and of the large clam industry areas, particularly in my area.

Oil in the water is a real killer of our marine life, but it may come to the time where it has a second strike capacity—it may kill human beings. Direct contact with the breathing apparatus of undersea life kills many and weakens others. Cancer in fishes is a likely result of oil pollution with cancers, growths, and concentrated cancer producing agents being found in a variety of marine life exposed to those parts of the ocean polluted by oil refineries. Oysters and mussels from polluted areas have been found to contain concentrations of hydrocarbons known to cause cancer in man. And don't think because your oysters are fried you're safe. These potentially lethal hydrocarbons, odorless and invisible, are still locked into seafood tissues even after frying.

Food and Drug Administration scientists say it is possible that these cancerous fish could cause cancer in humans, although they have not had medical evidence of this yet. I, for one, do not want to take that chance and I don't think the American people want to take that chance, either.

For those of you who are clam lovers, I would remind you that clams harvested from the New York Bight contained coliform bacteria 50 to 80 times above acceptable levels set by the Food and Drug Administration. And when you consider the poor little shrimp, I call attention to the ironic case in Florida where uncontaminated shrimp were contaminated by being cleaned on land with polluted water taken from the harbor at Key West.

Of course, the recent mercury pollution flap is receding from our minds, but let us not forget that mercury contamination is still with us; it will be with us for a long time, and its dangers are still very real.

You may remember my statement last July when I described the greatest cesspool of our seas, the New York Bight. I carefully outlined the "plight of the bight" in my remarks then. Nothing has changed, but the fact is that pollution in our harbor is getting worse.

The importance of all this is that it is not only happening in the New York area but in all coastal areas of the United States. There are 121 other ocean-dumping sites on the Atlantic coast, 56 on the gulf coast, and 68 on the Pacific coast, where we are dumping upward of 50 million tons of trash from tin cans to cannons and poisonous isotopes to poisoned gas.

New York and its own "dead sea" is being emulated by a string of fledging dead seas from Maine to Washington State, and we must not forget our polluted inland waterways and lakes that are fast turning into a massive national disgrace.

I have an explanation of my bill that I have submitted in two Congresses now, H.R. 285. H.R. 285 offers a total program for the solution of the water pollution problem not only in New York Harbor but throughout America wherever wastes are disposed of in our waters. In a nation where 85 percent of the population lives in the coastal environment, and in which 100 percent of the people depend on that

environment, the problem is nationwide in scope and needs a comprehesive national solution.

The bill amends the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by requiring the designation and regulation of certain water and submerged-land areas where the depositing of any waste material will be permitted. The bill established a mechanism for developing effective disposal standards within these areas and provides that all other marine areas will be maintained in a "no dumping" status and preserved and protected as marine sanctuaries.

The guiding principle is to require the Secretary of Interior or the new Environmental Protection Agency to identify and designate those areas in which certain dumping can be safely accomplished. For example, some quantities of cellar dirt may be safely dumped on the Continental Shelf without damaging the ecology of the marine environment if carefully controlled and regulated. Elsewhere the bottom configuration and other factors may permit disposal of certain chemicals or other wastes that are absorbed into the water without causing imbalance.

There has never been a comprehensive program to determine what kinds can be safely disposed of in which waters. Previously, factors such as effects on navigation and distance from population centers were considered but specific ecological effects were generally ignored.

My bill tasks the Secretary of Interior—or EPA—with studying the national marine environment with a view to identifying each river, harbor, and coastal area and designating which of these areas can accept certain types of waste disposal. Standards for the types and amount of dumping would follow in cooperation with the States and the vast majority of our marine environment would be maintained as disposal-free marine sanctuaries where wildlife and fish could exist without the threat of foreign introduction of harmful materials.

The bill includes stiff penalties which I am convinced are justified for dumping in nondesignated areas and for illegal dumping in designated areas: $10,000 per day, per violation, with each day of violation constituting a separate offense. Two years are permitted for completion of the study and identification and designation of disposal areas, and the Secretary of Interior—or EPA—is required to cooperate with the Secretary of the Army in the execution of the study of potential water and submerged-land areas.

Following formal designation by Interior—or EPA—all existing licenses will be revoked and suspended and the Army Corps of Engineers will receive new applications for controlled disposal in designated areas. Enforcement of dumping standards—standards based on the capacity of a specific marine area to absorb wastes harmlessly—shall be undertaken by the Coast Guard.

The foreging represents an innovative approach to the problem of waste disposal in our harbor, river, and coastal waters, and has application to every type of waste disposal throughout the Nation. I strongly urge your prompt approval of this approach and hope that we may see House action on this proposal before the close of the current session.

So I implore the committee, let us take the first step. I have a great deal of pride of authorship in this legislation but I am perfectly will-

ing to cooperate with the committee in reporting out an administration bill which contains the provisions needed to get the job done. But I do urge cautious speed.

I urge this committee to act quickly to report out a bill that contains those provisions needed to halt the destruction of our marine and wildlife ecology. My only qualification is that the committee consider these sections of the administration bill that fall short of the standards contained in my bill, H.R. 285.

In that respect I point out that the administration bill is lacking a major provision of my original legislation, the establishment of "no dumping" sanctuaries for marine life. I insist that proposals which simply move dumping grounds from one area to another are myopic and only increase the danger of prolonged pollution and international complications growing out of contaminating the world's oceans.

I ask the members of this committee to carefully consider the incorporation of the concept of no-dumping sanctuaries for marine life into any bill they report.

I ask that a physical description of the New York Bight and a map showing the location of ocean disposal sites in the area be printed at the conclusion of my remarks today.

Mr. Chairman, there were proposals made last year that ocean dumping be mandated at 100 miles off the coast and other people said 25 miles off the coast. In effect they were trying to move the dumping areas off the Continental Shelf. What they would do is make it impossible to dispose of wastes that have to be disposed of.

In the New York area I think there were three or four oceangoing barges that would be permitted by the Coast Guard to go those distances at sea. In effect what that type of legislation or approach would do would be simply to cut off dumping that could not be cut off. Those wastes were formerly dumped in New York Harbor and now they are dumped in a controlled area. H.R. 285 goes into the problem of controlled dumping areas without affecting marine sanctuaries and protecting the ecology.

I appreciate the opportunity to appear before this committee and particularly its chairmen, Chairman Dingell and Chairman Lennon, who worked so long in the ecology field and are so identified with the progress we have made.

Mr. LENNON. Without objection, at the gentleman's request, following his remarks a description of the New York Bight and a map showing disposal sites in the area should be printed in the record.

(The description and map follow:)

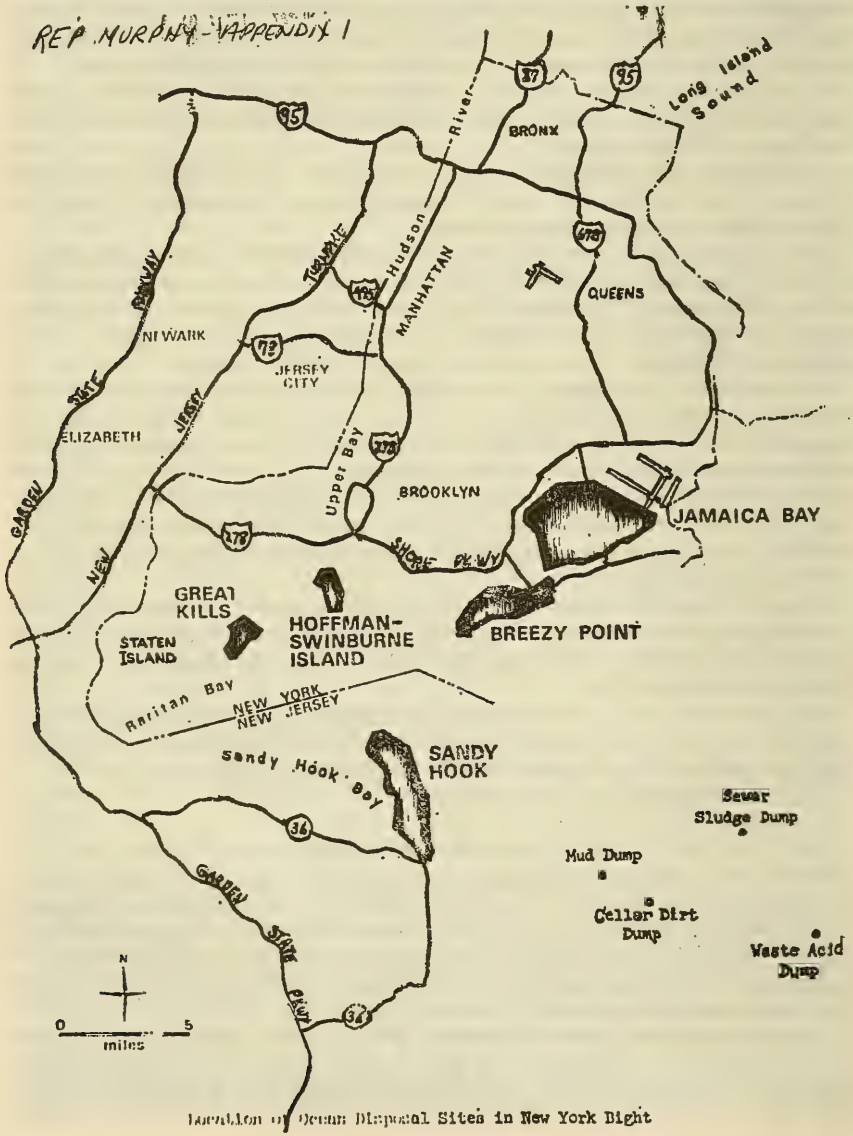
THE NEW YORK BIGHT

The New York Bight is a slight indentation of the Atlantic coast, extending northeasterly from Cape May inlet, New Jersey, for some 200 miles to the eastern end of Long Island, New York, at Montauk Point. Its coastline is generally a moderately sloping sand beach shore, broken by indentations of the sea into the land. Among these are a number of small inlets along the New Jersey coast, Lower Bay of New York Harbor, East Rockaway Inlet, Jones Inlet, Fire Island Inlet, Moriches Inlet, and Shinnecock Inlet.

Depths in the Bight generally exceed 100 feet about 50 miles off shore but are substantially less than that in most inshore areas. The bottom is mostly sandy and is subject to shifts due to tidal actions or storm surges. Consequently, channels have been dredged and maintained by the U.S. Engineers to accom-

modate the large volume of sea commerce into the industrial and commercial complex of Greater New York. Sandy Hook Channel leads into Sandy Hook Bay and Raritan Channel branches off into Raritan Bay. Ambrose Channel is the principal entrance into New York Harbor leading to Upper Bay and New City. The inlets to the east (East Rockaway, Jones, and Fire Island) are also subject to shifting sands from time to time.

The New York Bight is a contract in extremes. It contains the only remaining strip of virgin barrier beach between Cape Cod and Cape Hatteras (Island Beach State Park, New Jersey) and supports the most heavily populated and industrialized complex in the country—between Sandy Hook, New Jersey, and Jamaica Bay, New York. The Bight supports some of the most heavily utilized and valuable recreation areas in the country. For example, New Jersey's four-county coastal waterway supports a two-billion-dollar recreation industry



Location of Ocean Disposal Sites in New York Bight

annually and New York's Coney Island beach recorded 22 million visitors in 1968. The Bight area also supports excellent sport and commercial fishing resources. Some of the finest oyster grounds are found in this area; approved shellfish harvesting operations for inshore and offshore clams continue within sight of the New York skyline. Both New York and New Jersey contemplate removal of inadequately treated sewage effluent from condemned inshore shellfish waters that will assure even greater shellfish production in this area.

Mr. LENNON. I would like to ask you also, please, Congressman, if you can furnish us for the record, following the introduction in the record of what we have just agreed to, the 121 ocean-dumping sites on the Atlantic coast, and the 56 on the gulf coast and the 68 on the Pacific coast that you have referred to in the third paragraph of your statement on page 3. Do you have those sites by identification?

Mr. MURPHY. Yes, Mr. Chairman, I have those sites and I would be happy to furnish them.

Mr. LENNON. Without objection, then, they shall be inserted in the record at this point.

(The information referred to was included in chapter I of the Report of the Council of Environmental Quality on Ocean Dumping and is as follows:)

House Document No. 91–399

REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY ON OCEAN DUMPING

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

A REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY ON OCEAN DUMPING

CHAPTER I

Ocean Dumping: Location, Quantities, Composition, and Trends

About 48 million tons of wastes were dumped at sea in 1968. These wastes included dredge spoils, industrial wastes, sewage sludge, construction and demolition debris, solid waste, explosives, chemical munitions, radioactive wastes, and miscellaneous materials. This chapter indicates rapid increases in ocean dumping activity over the last two decades and the potential for great increases in the future. At the same time, ocean dumping of wastes from other sources should decrease through implementation of water quality standards and new Federal laws dealing with control of sewage from vessels and with oil pollution.

DISPOSAL SITE LOCATIONS

Data on disposal sites are still incomplete, with little definitive information on sites off Alaska and Hawaii and outside the U.S. contiguous zone (more than 12 miles offshore). There are almost 250 disposal sites off U.S. coasts. Fifty percent are located off the Atlantic Coast, 28 percent off the Pacific Coast, and 22 percent in the Gulf of Mexico. Table 1 summarizes the number of sites for each major area and the number of permits issued for their use. The locations of the disposal sites are indicated in Figure 1.

TABLE 1.—*Ocean Dumping: Site Location Summary (22, 66)*

Coastal area	Number of sites	Active Corps disposal permits
Atlantic Coast	122	136
Gulf Coast	56	50
Pacific Coast	68	71
Total	246	257

Not included in Table 1 are some 100 artificial reefs constructed by private concerns under permits issued by the U.S. Army Corps of Engineers. (66) These reefs, sometimes formed of old car hulks or tires, are intended to provide artificial shelters for fish.

QUANTITIES AND TYPES OF WASTES

The categories of wastes covered in this report are used because of the large quantities of materials currently dumped, their potential for increase, or their special characteristics, such as toxicity. The quantities for each category are summarized by coastal region in Table 2. Radioactive wastes and chemical munitions are not included in the table because weight is not a meaningful descriptor. Each, however, will be discussed later.

The Bureau of Solid Waste Management estimates that the data in Table 2 represent about 90 percent of ocean dumping. However, the data undoubtedly underestimate the size and scope of the problem because of the time lapse and the possibility of many small community operations or illicit operations by private firms. Also not included in the table are those wastes that are piped to sea.

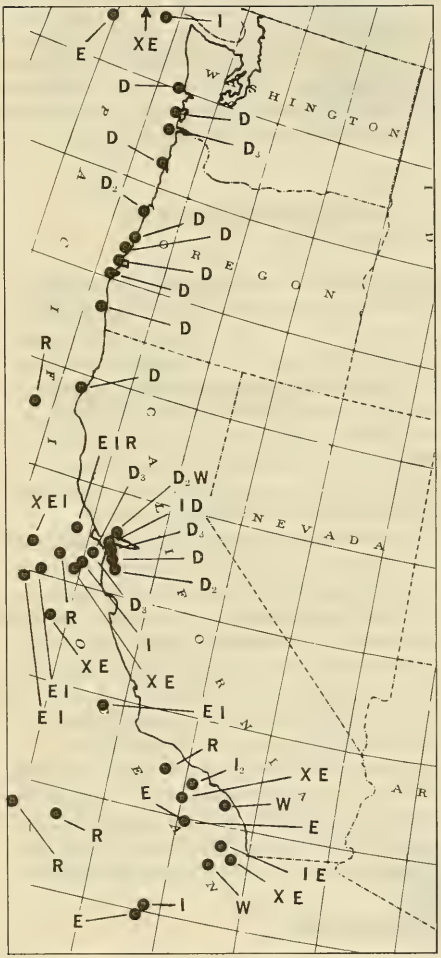
Each major category of ocean dumping sources is now discussed and the possible chemical composition of the wastes delineated as an aid in evaluating their present and potential effects on the marine environment.

Dredge Spoils

A large percentage of dredging is done directly by the Corps. The remainder is done by private contractor under Corps permit. Spoils are generally disposed of in open coastal waters less than 100 feet deep.

LEGEND

D DREDGE SPOILS
I INDUSTRIAL WASTES
S SEWAGE SLUDGE
E EXPLOSIVES
R RADIOACTIVE WASTES
W SOLID WASTE
X INACTIVE SITE



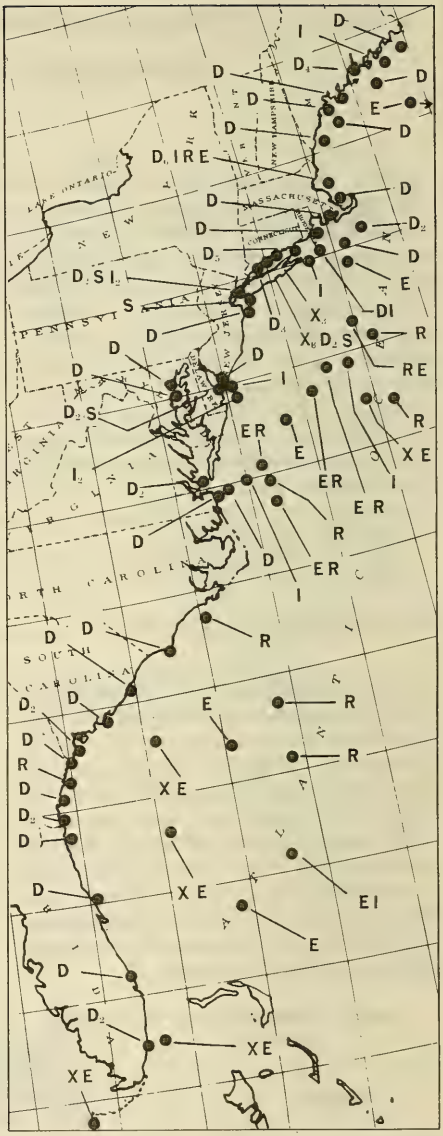


Figure 1.—Known Dumping Sites Off U.S. Coasts (22, 66)

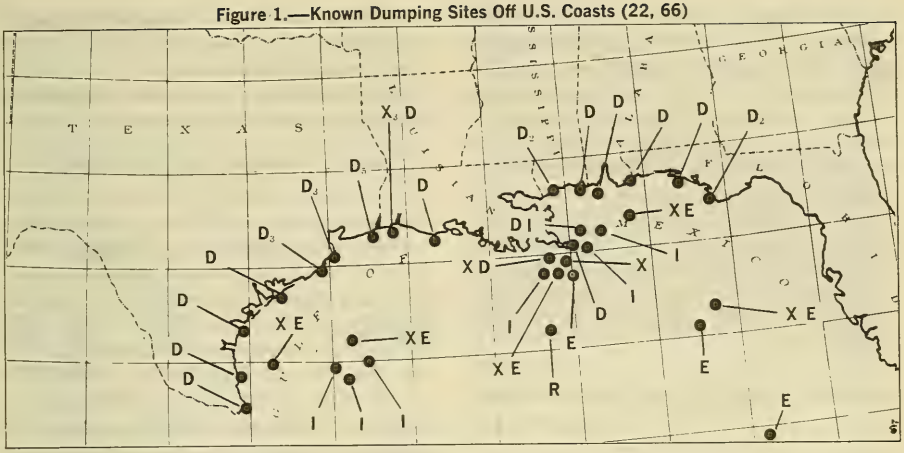


TABLE 2.—*Ocean Dumping: Types and Amounts, 1968 (66)*

(In tons)

Waste type	Atlantic	Gulf	Pacific	Total	Percent of total
Dredge spoils	15,808,000	15,300,000	7,320,000	38,428,000	80
Industrial wastes	3,013,200	696,000	981,300	4,690,500	10
Sewage sludge	4,477,000	0	0	4,477,000	9
Construction and demolition debris	574,000	0	0	574,000	<1
Solid waste	0	0	26,000	26,000	<1
Explosives	15,200	0	0	15,200	<1
Total	23,887,400	15,966,000	8,327,300	48,210,700	100

Dredge spoils account for 80 percent by weight of all ocean dumping. The Corps of Engineers estimates that about 34 percent (13 million tons) of this material is polluted. Contamination occurs from deposition of pollutants from industrial, municipal, agricultural, and other sources on the bottom of water bodies. The quantities of polluted dredge spoils are shown in Table 3.

Polluted dredge spoils vary at every location according to the land-based sources of pollution. Detailed quantitative analyses of the pollutants in dredge spoils in the coastal

TABLE 3.—*Estimated Polluted Dredge Spoils (22)*

Coastal area	Total spoils (in tons)	Estimated percent of total polluted spoils [1]	Total polluted spoils (in tons)
Atlantic Coast	15,808,000	45	7,120,000
Gulf Coast	15,300,000	31	4,740,000
Pacific Coast	7,320,000	19	1,390,000
Total	38,428,000	34	13,250,000

[1] Estimates of polluted dredge spoils consider chlorine demand; BOD; COD; volatile solids; oil and grease; concentrations of phosphorous, nitrogen, and iron; silica content; and color and odor of the spoils.

areas are not available. An analysis by the Federal Water Quality Administration (FWQA) of polluted spoils from Lake Erie indicates that a total of 82,091 tons of spoils created 10,500 tons of chemical oxygen demand (COD). (23) These large quantities of oxygen-demanding materials can reduce the oxygen in the receiving waters to levels at which certain fish and other aquatic populations cannot survive. Also present were toxic heavy metals. Even with substantial dilution, the levels of heavy metals in the spoils may deleteriously affect marine life, as shown in Table 4.

TABLE 4.—*Heavy Metals Concentrations in Dredge Spoils (23, 36)*

(In parts per million)

Metal	Concentrations in dredge spoils	Natural concentrations in sea water	Concentrations toxic to marine life
Cadmium	130	.08	.01–10.0
Chromium	150	.00005	1.0
Lead	310	.00003	.1
Nickel	610	.0054	.1

Industrial Wastes

Industrial wastes were the second largest category of pollutants dumped at sea in 1968 (4.7 million tons, or 10 percent of the total). (66)

Most industrial wastes are commonly transported to sea in 1,000- to 5,000-ton-capacity barges. Sites are 4 to 125 miles off the Atlantic Coast, from 25 to 125 miles off the coast of the Gulf of Mexico, and from 5 to 75 miles off the Pacific Coast. Most of the sites are at the nearshore end of the range.

Highly toxic industrial wastes are sometimes contained in 55-gallon drums and are jettisoned from either merchant ships or disposal vessels at least 300 miles from shore. The containers are sometimes weighted and sunk. More frequently, they are ruptured at the surface, either manually with axes or by small arms or rifle fire. (66)

The breakdown for disposal methods by geographic area is shown below.

TABLE 5.—*Industrial Wastes by Method of Disposal (66)*

(In tons)

Coastal area	Number of sites	Bulk wastes	Containerized wastes	Total
Atlantic Coast	10	3,011,000	2,200	3,013,200
Gulf Coast	6	690,000	6,000	696,000
Pacific Coast	7	981,000	300	981,300
Total	23	4,682,000	8,500	4,690,500

Table 6 shows the relative quantities of major industrial wastes found in a survey of 50 producers in 20 cities.

TABLE 6.—*Industrial Wastes by Manufacturing Process (66)*

Type of waste	Estimated tonnage	Percent
Waste acids	2,720,500	58
Refinery wastes	562,900	12
Pesticide wastes	328,300	7
Paper mill wastes	140,700	3
Other wastes	938,100	20

The types of contaminants in industrial wastes dumped at sea vary greatly because of the diversity of industries and production processes involved. Many of the wastes are toxic—some highly toxic. For example, refinery wastes, which are 12 percent of the total ocean-disposed industrial wastes, can include cyanides, heavy metals, mercaptides, and chlorinated hydrocarbons. Pulp and paper mill wastes may contain "black liquor" and various organic constituents which are toxic to the marine environment. Chemical manufacturing and laboratory wastes that are dumped include arsenical and mercuric compounds and other toxic chemicals. (66)

Sewage Sludge

Sewage sludge is the waste solid byproduct of municipal waste water treatment processes. These solids can be further treated by digestion, a process which allows accelerated decomposition of the sludge to control odors and pathogens. Most sewage sludge is disposed of on land or is incinerated. Relatively small amounts (4.5 million tons on a wet basis) are currently dumped at sea, of which almost 4.0 million tons are dumped off New York harbor. (66) As of 1968, there were no similar operations on either the Gulf or Pacific Coasts, although sludge is being discharged from Los Angeles by pipeline.

Sewage sludge in digested or undigested form contains significant quantities of heavy metals. A study by the FWQA indicated that copper, zinc, barium, manganese, and molybdenum are present in sewage sludge. (9) The concentrations and types of toxic materials vary because sludge is the residual of waste water treatment and contains whatever domestic and industrial contaminants have entered the system. Table 7 shows the minimum, average, and maximum values for three heavy metals found in one analysis of sewage sludge.

TABLE 7.—*Heavy Metals Concentrations in Sewage Sludge (8, 9, 36)*

(In parts per million)

Metal	Concentrations in sewage sludge			Natural concentrations in sea water	Concentrations toxic to marine life
	Min.	Avg.	Max.		
Copper	315	642	1,980	.003	.1
Zinc	1,350	2,459	3,700	.01	10.0
Manganese	30	262	790	.002	----------

Sewage sludge also contains significant amounts of oxygen demanding materials. In 1969, sludge dumped in the New York Bight, encompassing the New York harbor and some adjacent coastal areas, had an oxygen demand of about 70,000 tons. (15) These wastes also include some bacteria that cause diseases in man.

Construction and Demolition Debris

Only New York City disposes of debris at sea in significant quantities because of the lack of nearby available landfill. Sea disposal is conducted with 3,000- to 5,000-ton capacity barges that are towed some 9 miles offshore. These materials are generally inert and nontoxic.

Solid Waste

Solid waste, the byproducts and discards of our society, amounts to approximately 5.5 pounds per capita per day collected by municipal and private agencies. (28) Although these wastes total approximately 190 million tons per year, ocean disposal accounted for only about 26,000 tons. (66) Ocean dumping of solid waste occurred exclusively on the Pacific Coast, where they were generated by cannery operations and commercial and naval shipping operations. Other sources no doubt exist, but the overall magnitude of the current problem is minor.

The composition of solid waste, ascertained by sampling, is shown in Table 8. It is presented here to indicate the materials that would be introduced into the marine environment if ocean dumping of solid waste becomes a common practice.)

Solid waste disposed of in the ocean interacts with the water, but the resultant chemical products are difficult to determine. Studies have been done on the interaction between solid waste and fresh water in sanitary landfills as the water percolates through the waste materials. (The resultant mixture of water and chemicals is called leachate.)

TABLE 8.—*Composition of Solid Waste* (28)

Type of waste	Average (percent)
Paper products	43.8
Food wastes	18.2
Metals	9.1
Glass and ceramics	9.0
Garden wastes	7.9
Rock, dirt, and ash	3.7
Plastics, rubber, and leather	3.1
Textiles	2.7
Wood	2.5
Total	100.0

The percentage of pollutants in solid waste is not nearly as high as in sewage sludge or dredge spoils, but it does contain nutrients, oxygen-demanding materials, and heavy metals. Laboratory studies of water contaminated by solid waste have shown significant quantities of heavy metals, with zinc, nickel, and magnesium present in concentrations of 13, .27, and 378 parts per million respectively. (29) These concentrations are well above toxic levels for marine life.

Up to 50 percent of solid waste is usually paper, wood, plastics, and rubber, all of which can float to the surface. Particularly significant are the plastics which will not become water soaked and will not degrade for many, perhaps even hundreds, of years. Even if baled before ocean disposal, it is almost certain that over time the bales will disintegrate and the floatables will rise to the surface. The potential esthetic problems of large quantities of solid wastes floating to the surface and then being carried to shore are staggering.

Explosives and Chemical Munitions

Unserviceable or obsolete shells, mines, solid rocket fuels, and chemical warfare agents have been disposed of in deep water for many years. In 1963, the Navy initiated Operation "CHASE," in which munitions were disposed of by sinking them in obsolete hulks. Since then, 19 gutted World War II Liberty ships containing munitions have been scuttled. In the last six operations, the weapons were to detonate, but the S.S. ROBERT LOUIS STEVENSON failed to do so as planned and is located on the continental shelf near Alaska in 2,200 feet of water.

Since 1964 at least 18,342 tons of ammunition and explosives have been dumped in this manner. Additional cargoes of approximately 35,000 tons containing an unknown proportion of net explosives were also scuttled. A detailed listing of the ships scuttled, their cargoes, and disposition are shown in Table 9.

Detonation of explosives can result in trace amounts of lead, nickel, bronze, and other metals in the water, depending on corrosion processes and the materials used in the munitions.

Radioactive Wastes

Most nuclear waste products are liquid and of low radioactivity. They consist mostly of decontaminated process and cooling waters from reactors, fuel processing, and other operations. Small amounts of liquid wastes are highly radioactive; they result from the reprocessing of reactor fuel elements.

Solid radioactive wastes are produced by contamination of equipment and other materials during nuclear power plant operations, from medical use, and by research and development activities.

Solid radioactive wastes have been buried in carefully controlled landfill sites. Low-level liquid nuclear wastes are treated and/or stored to reduce radioactivity before disposal. High-level liquid wastes are stored exclusively in tanks at land-based sites.

TABLE 9.—*Explosives and Chemical Munitions, 1964–1970 (30)*

Year	Name	Total cargo (in tons)	Nature of cargo	Net explosives (in tons)	Disposition
1964	S.S. John F. Shafroth	9,799	A&E	Unknown	SDW
	S.S. Village	7,535	A&E	Unknown	SDW
1965	M.V. Coastal Mariner	4,040	A&E	512	D at 1,000′
	S.S. Santiago Iglesia	8,715	A&E	408	D at 1,000′
1966	S.S. Issac Van Zandt	7,500	A&E	1,625	D at 4,000′
	S.S. Horace Greely	6,033	A&E	442	D at 4,000′
1967	S.S. Robt. L. Stevenson	6,600	A&E	2,327	S
	S.S. Corporal Eric G. Gibson	9,005	Chem.	None	SDW
	S.S. Monahan	833	A&E	Unknown	SDW
1968	S.S. Mormactern	7,763	Chem.	N.A.	SDW
	S.S. Richardson	7,437	A&C	138	SDW
1969	S.S. Cape Tryon	7,626	A&E	1,145	DU
	S.S. Cape Catoche	6,348	A&E	1,359	DU
	S.S. Cardinal O'Connell	6,431	A&E	2,144	DU
1970	S.S. Frederick E. Williamson	5,245	A&E	478	DU
	S.S. Cape Comfort	6,200	A&E	N.A.	DU
	S.S. Walker D. Hines	6,500	A&E	N.A.	DU
	S.S. David Hughes	5,000	A&E	N.A.	DU
	S.S. LeBaron Russell Briggs	2,664	Chem.	N.A.	SDW

Definitions: A&E=ammunition and explosives; N.A.=not available; DU=Detonated unintentionally; SDW=sunk in deep water; D=detonated; S=sunk at less than 4,000 feet and did not detonate as planned; A&C=ammunition and cylinders contaminated with residues of GB nerve gas.

Liquid and solid radioactive wastes which have been dumped in the ocean are usually in concrete-filled metal drums or containers. Table 10 summarizes the amounts of these wastes disposed of at sea.

The quantities of radioactive materials disposed of at sea have decreased dramatically for several reasons. First, in 1960 the Atomic Energy Commission placed a moratorium on new licenses for disposal of radioactive wastes in the ocean. Only one commercial organization (which has never conducted any sea disposal), two Government agencies, and one university are still authorized to dispose of radioactive wastes in the ocean. Second, the major contractors of the AEC have not disposed of any wastes at sea since 1962. And for economic reasons, those firms with licenses are phasing out sea disposal of radioactive wastes in favor of land disposal.

TABLE 10.—*Radioactive Wastes: Historical Trends, 1946–1970 (70)*

Year	Number of containers	Estimated activity at time of disposal (in curies)
1946-1960	76,201	93,690
1961	4,087	275
1962	6,120	478
1963	129	9
1964	114	20
1965	24	5
1966	43	105
1967	12	62
1968	0	0
1969	26	26
1970	2	3
Total	86,758	94,673

Two sites have been used for disposal of most of the wastes in the Pacific Ocean. These sites are approximately 48 nautical miles west of the Golden Gate Bridge. One commercial firm has disposed of wastes in the Pacific Ocean farther than 150 miles from the U.S. coast; these disposals, 11 in number, were at depths greater than 6,000 feet. In the Atlantic Ocean, the major sites for disposal were in the area of Massachusetts Bay, approximately 12 to 15 miles from the coast; approximately 150 miles southeast of Sandy Hook, N.J.; and approximately 105 miles from Cape Henry, Va. With the exception of the Massachusetts Bay site, disposal was at depths greater than 6,000 feet. The Massachusetts Bay site was in 300 feet of water.

PAST TRENDS

Figure 2 shows significant increases in ocean dumping activities during the years 1951–1968. These data do not include dredge spoils or explosives because historical data could not be readily reconstructed. Radioactive wastes are also excluded because of their negligible weight contribution.

Table 11, on which Figure 2 is based, shows a fourfold increase in tonnage dumped at sea from 1949 to 1968. The 28 percent increase between the 1959–1963 period and the 1964–1968 period is largely attributable to dramatic increases in industrial wastes and sewage sludge disposal. In 1959, industrial wastes disposed of at sea approximated 2.2 million tons. By 1968, the amount had increased to over 4.7 million tons, a 114 percent increase in 9 years. The amount of sewage sludge disposed of at sea increased by 61 percent in the same period, from 2.8 million tons to 4.5 million tons. (66)

FUTURE TRENDS

Assessing future trends in ocean dumping requires analysis of basic population trends. Population growth is accompanied not only by increased amounts of wastes but also by decreased space available for their disposal.

Between 1930 and 1960 the coastal population increased by 78 percent, compared with a 48 percent increase nationwide. (36) The figures below (25) indicate the population growth in the coastal region projected through the year 2000:

1960	57, 946, 000
1970	68, 397, 000
1980	76, 607, 000
1990	92, 940, 000
2000	106, 900, 000

TABLE 11.—*Ocean Dumping: Historical Trends, 1949–1968* [1] *(66)*

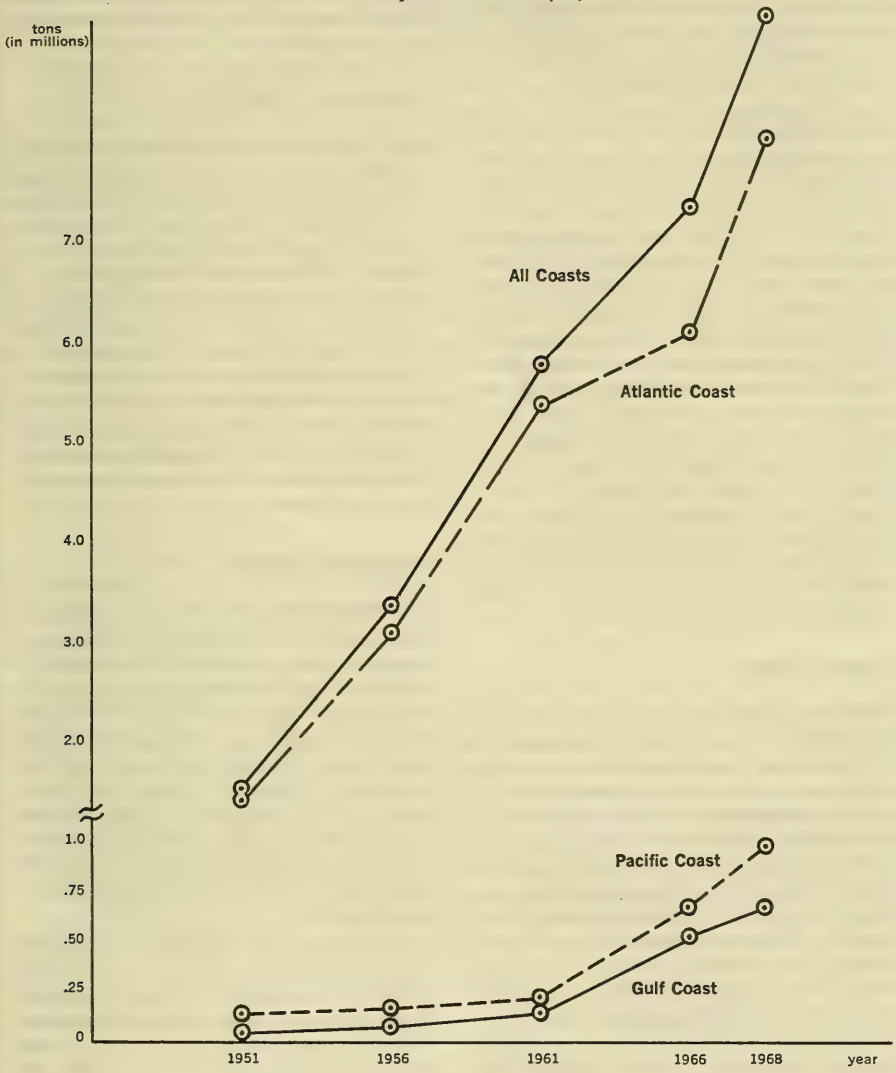
Coastal area	1949–1953		1954–1958		1959–1963		1964–1968	
	Total	Avg./Yr.	Total	Avg./Yr.	Total	Avg./Yr.	Total	Avg./Yr.
Atlantic Coast	8, 000, 000	1, 600, 000	[2] 16, 000, 000	3, 200, 000	27, 270, 000	5, 454, 000	31, 100, 000	6, 200, 000
Gulf Coast	[3] 40, 000	8, 000	283, 000	56, 000	860, 000	172, 000	2, 600, 000	520, 000
Pacific Coast	487, 000	97, 000	850, 000	170, 000	940, 000	188, 000	3, 410, 000	682, 000
Total	8, 527, 000	1, 705, 000	17, 133, 000	3, 426, 000	29, 070, 000	5, 814, 000	37, 110, 000	7, 422, 000

[1] Figures do not include dredge spoils, radioactive wastes, and military explosives.

[2] Estimated by fitting a linear trend line between data for preceding period and data for succeeding period.

[3] Disposal operations in the Gulf of Mexico began in 1952.

Figure 2.—Average Annual Tonnage Dumped at Sea—by Coastal Area (66)



Solid Waste

About 65 million tons of solid waste are generated annually in the coastal region. Based on a conservative estimate of 8 pounds of waste generated per person per day in the year 2000—the generation rate which will be reached by 1980—over 150 million tons will need to be disposed of for that one year. (28) If 10 pounds per person per day are generated, total wastes in the coastal area will be close to 200 million tons, more than triple current levels. The pressure to use the ocean for waste disposal will increase as land disposal sites become more scarce, costs increase, and metropolitan areas face political problems in obtaining new land disposal sites. Several cities are currently exploring the use of the ocean as a solid waste disposal site, and this interest is expected to increase. In some cases operations may begin within a year. If even a small percentage of the solid waste annually generated in the coastal area were disposed of at sea, the quantities entering the marine environment would be many orders of magnitude greater than all solid waste disposed of at sea to date.

Sewage Sludge

Based on an average of .119 pounds of sludge generated per person per day, potential sludge disposal quantities for the coastal region can be roughly estimated. (37) In 1970, approximately 1.4 million tons of sludge will be disposed of in the coastal areas, and in the year 2000, approximately 2.1 million tons will be generated, an increase of 50 percent in 30 years. If anything, these figures may underestimate future quantities of sludge. For example, between 1960 and 1980, 20-year period, the sludge generated by the Baltimore-Washington area is expected to increase from 70,000 tons to 166,000 tons, or about a 140 percent increase. New York City's sludge barged to sea is expected to increase from 99,000 tons in 1960 to about 220,000 tons in 1980, a 120 percent increase in 20 years. (66)

Industrial Wastes

The volume of industrial production, which gives rise to waste production, is increasing at a rate of 4.5 percent annually, or three times the population growth rate. Additionally, the FWQA estimates that the manufacturing industry is responsible for three times as much waste as that produced by the Nation's population. And about 40 percent of the Nation's industrial activity is concentrated in the estuarine economic region. (36) Given increasingly stringent water quality standards and the ever expanding level of industrial waste generation in the coastal zone, the potential for increased industrial waste dumping at sea is great.

Radioactive Wastes

The amount of liquid and solid radioactive wastes will rise with projected increases in nuclear power generation. The amount of high-level liquid radioactive wastes will increase from 100,000 gallons in 1970 to 6,000,000 gallons by the year 2000 and radioactive solid wastes, from approximately 1 million cubic feet in 1970 to 3 million cubic feet by 1980. (70) As mentioned earlier, however, ocean dumping has been virtually nonexistent since the early 1960's because of the AEC moratorium and the economic advantage of land disposal.

Large radioactive structures, an additional source of radiation, are not yet a significant problem. In the past, the few that became obsolete have been decontaminated, dismantled, and kept under surveillance on land—with the exception of parts of one nuclear sub-

marine, which were disposed of in the ocean. Currently, however, there are 16 nuclear power plants in operation, 55 under construction, and 25 for which construction permit applications are pending with the Atomic Energy Commission. (70) If current forecasts are realized, by the year 2000, the equivalent of up to 1,000 nuclear power units, each with a capacity of some 1,000 megawatts, may be operating. In addition, the Navy has about 90 nuclear-powered submarines and surface ships, and many more may be built in the next 30 years as a large portion of the current naval fleet is replaced. Commercial nuclear ships—currently the N.S. SAVANNAH is the only one—may become economically feasible in the future.

A lifetime of 10 to 30 years for the power plants' and ships' reactor vessels is reasonable in terms of physical or technological obsolescense. Their radiation levels vary considerably, up to 50,000 curies of induced radiation in each structure. (70)

Individually none of these sources adds significant amounts of radioactivity to the ocean. Taken together, however, the increases could be of significant concern.

Dredge Spoils

In the long run, the reduction of polluted discharge from municipal and industrial sources, brought about by water quality standards, will lessen the problem from dredge spoils. However, they will remain a problem for at least the next 5 to 10 years. During this period, there will be pressures for more dredging to deal with increasing marine commerce, to meet the desire of cities for new deep-water harbors, and to provide draft for larger vessels (including the supertankers used to transport oil). These needs will all increase total dredging and hence dredge spoils.

Explosives and Chemical Munitions

The following are Department of Defense estimates of conventional munitions planned for disposal: in 1970, 103,777 tons; in 1971, 88,835 tons; and in 1972, 80,000 tons. (26) These quantities are several times larger than the total volume of these wastes disposed of at sea in the last two decades. They indicate the quantities which would enter the marine environment if no other disposal technique were employed.

Chemical munitions have also been disposed of at sea in three deep-water disposal operations, but actual quantities involved are not known. No future ocean disposal operations are planned. Biological agents have not previously been disposed of at sea, and no future disposal is projected.

SUMMARY

The data indicate that the volume of wastes dumped in the ocean is increasing rapidly. Many are harmful or toxic to marine life, hazardous to human health, and esthetically unattractive. In all likelihood, the volume of ocean-dumped wastes will increase greatly due to decreasing capacity of existing disposal facilities, lack of nearby land sites, higher costs, and political problems in acquiring new sites.

Mr. LENNON. Gentlemen, without objection we will follow the rule that I established, and we would be delighted if you could find the time to stay here in case the members wanted to question you after we have heard the other Members scheduled to be heard.

Mr. MURPHY. Thank you, Mr. Chairman.

Mr. LENNON. Would you submit a list of the definitive amendments to the so-called administration bill which would implement specifically your philosophy that you enunciated in your statement, which had to be done in this point of time but which the administration bill did not do?

Mr. MURPHY. I will be happy to provide that also, Mr. Chairman.

Mr. LENNON. Thank you.

(The list follows:)

AMENDMENTS TO H.R. 4723, AS INTRODUCED, OFFERED BY MR. MURPHY OF NEW YORK

Page 2, lines 17 and 18, strike out "and the Great Lakes." and insert "the Great Lakes, and the navigable waters of the United States."

Page 8, between lines 5 and 6 insert the following:

Designation of Dumping Areas and Application of State Dumping Standards Thereto in Certain Cases

SEC. 6. (a) During the two-year period after the date of the enactment of this Act, the Administrator, in cooperation with the Federal officers listed in section 5(a)(1), shall make a full and complete investigation with respect to the oceans, coastal, and other waters for the purpose of designating specific areas therein where material can be safely discharged. Before designating any such area, the Administrator shall take into account (1) those factors specified in section 5(a) relating to the protection of the general welfare and the environment, and (2) the criteria developed in the administration of such section 5. After designating any such area, the Administrator shall prescribe such standards relating to the discharge of material within such area as may be necessary and appropriate. Such standards (hereafter referred to in this section as the "Federal standards") shall apply with respect to permits issued under section 5, but nothing in this subsection shall be deemed to prohibit the Administrator from appropriately modifying any Federal standard prescribed under this subsection in order to take care of any exceptional circumstance which may be raised in connection with the issuance of any permit.

(b)(1) If within one year after the Administrator prescribes Federal standards with respect to any area designated by him pursuant to subsection (a) of this section, a State establishes standards with respect to dumping within such area, such State standards shall apply with respect to any dumping in such area if such area is within the jurisdiction of such State if, within such one year period, the Secretary, after public hearings—

(A) determines that such State standards are equal to or more stringent than the Federal standards prescribed by him pursuant to subsection (a) of this section, and

(B) that there are adequate procedures by which the State can enforce such standards.

If the Administrator determines that such State standards are not as stringent as the Federal standards then the Federal standards shall apply within such area.

(2) Any State standards found to be applicable within an area, designated by the Administrator pursuant to subsection (a) of this section shall continue to apply until such time as the Administrator, after public hearing, determines that such standards are not equal to or more stringent than the comparable Federal standards. The Administrator shall review all such standards of each State at least once each calendar year for purposes of comparing them with the applicable Federal standards.

(c) The Administrator is authorized to issue new Federal standards and to amend existing Federal standards from time to time as he determines necessary

with respect to any area designated by him under subsection (a) of this section, and such new or amended standards shall be considered to be the initial Federal standards issued pursuant to such subsection (a) for the purposes of this section.

And redesignate the succeeding sections of the bill accordingly.

Page 12, line 15, after the period insert the following: "No license, permit, or authorization issued by any officer or employee of the United States shall be of any effect to the extent that it authorizes or regulates any activity regulated by a State pursuant to State standards which apply to any area designated by the Administrator under section 6(a) of this Act. For purposes of the preceding sentence, an 'activity regulated by a State pursuant to State standards' includes transportation of material to the designated area concerned."

Mr. LENNON. Now we are delighted to recognize the distinguished gentleman from Florida, Mr. Dante Fascell.

Mr. FASCELL. Thank you, Mr. Chairman.

Mr. ROGERS. Mr. Chairman, would you yield?

Mr. LENNON. Delighted.

Mr. ROGERS. I am particularly pleased to see my colleague from Florida here. He has taken a big interest in this problem and has been a leader in the field and we welcome him to the committee.

Mr. DINGELL. I would like to take this opportunity to welcome our good friend this morning and if we might take just a moment I think we should take note of some well-deserving facts about the gentleman from Florida.

Congressman Dante B. Fascell is serving his ninth term in the House of Representatives. He is a ranking member of the Committee on Foreign Affairs and chairs its Subcommittee on Inter-American Affairs.

I want the record to show that Congressman Fascell was appointed by President Nixon to be a U.S. delegate to the 24th General Assembly of the United Nations, and he recently represented the United States at the inauguration of Mexico's President, Luis Echeverria.

An acknowledged leader in the fight to protect our beleaguered environment, I want the record to further show that Congressman Fascell is presently a member of the Conference Committee of the International Conference on Scientific Aspects of the Global Environment, which will be held in November in Miami, Fla. In addition, while he was chairman of the Foreign Affairs Subcommittee on International Organizations and Movements in 1968, Mr. Fascell conducted extensive hearings which were reported under this title: "The Oceans: A Challenging New Frontier."

STATEMENT OF HON. DANTE B. FASCELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. FASCELL. Thank you.

Mr. Chairman and gentlemen, I appreciate the opportunity to appear once again before this committee on this very important problem. I commend the committee for its prompt action initially in pursuing this most urgent and difficult problem.

Mr. Chairman, before I begin my formal statement I think that I would like to make this comment. The chairman of the Conservation and Natural Resources Subcommittee of the Committee on Government Operations has by letter, just recently, asked several agencies of Government to do that which ought to be done under current law, and that is one of the things we all have to consider here. Chairman

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Reuss stated to the Corps of Engineers and to the Coast Guard that the corps can control under supervisory law where wastes are transported from New York, Norfolk, and Baltimore Harbors. The Coast Guard controls all hazardous materials; for example, poisons, and so forth. So one of the problems, in other words, that we face is that we have several agencies in the act and one of the things we want to consider is whether or not we want to change that; and it is an important consideration.

The other, gentlemen, it seems to me is the question of whether or not any kind of dumping ought to be permitted unless we have a sound scientific base for it. I cannot get too excited by saying that dumping is bad inside of 3 miles but it might be all right a hundred miles out. I know that the committee will have to struggle with that problem also. The whole question of designated dumps and supervised dumps and authorized dumps is not one easily resolved.

We have reached the point in the crisis of the pollution of our oceans where anything less than comprehensive legislation to strictly control ocean dumping internationally would mean that the cancer we face is terminal.

Not too long ago, 1966 as a matter of fact, the philosophy which the chairman has enunciated in his opening statement was rather strongly urged. A delegate at the First International Conference on Waste Disposal in the Sea in 1966 said this:

> The great economy inherent in the discharge of urban sewage and industrial wastes into near-shore waters for final disposal is apparent to all who will investigate. It is doubly apparent to those charged with the responsibility of disposing of such wastes without excessive cost to the public or menace to public health. If the ocean, or one of its arms, can be reached with a sewer outfall within the bounds of economy, the grim spectre of an expensive complete treatment plant grows dimmer and dimmer until it fades entirely and, to the great satisfaction of those who have to gather funds for the public budget, as well as they (you and I) who have to pay the bill, the good old ocean does the job free.
>
> And small wonder that we look to the sea for this assist. Its vast area and volume, its oxygen-laden waters, its lack of potability or usefulness for domestic and most industrial purposes, present an unlimited and most attractive reservoir for waste assimilation.

Now, that was in 1966. I guess we have come a long way. I think we have come a considerable way, and we have got a long way to go. We in this Government have already taken strong steps to protect water quality within the 3-mile limit, where most of this type of dumping takes place. But the increase in the problem of dumping in waters beyond the 3-mile limit has been exponential.

The concept of the sea as an infinite source of waste absorption must be laid to rest before the disruption in the life cycle of this planet lays the human race to rest.

Evidence? There is plenty of evidence, gentlemen; some of which we touch upon here.

Thor Heyerdahl, in his attempt to cross the ocean in a reed ship, found that he could not fill tooth mugs in the middle of the ocean because of the filthy condition of the water.

Dr. Max Blumer of the Woods Hole Oceanographic Institute has declared that the amount of tar on the surface of the sea already equals the amount of its surface sea life.

Two officials of the Federal Water Pollution Control Agency recently rode a dredge-clammer 14 miles out into the Atlantic from the

Delaware Bay and watched as the ship dredged 200 pounds of sewage sludge containing many dead clams.

The presence of mercury, lead, DDT, and pesticides is increasing dangerously in sea life. It has been shown that pesticides inhibit the ability of diatoms in the ocean to produce oxygen. The world's supply of oxygen comes mainly from the photosynthetic activity of these tiny diatoms.

Dr. Jacques Cousteau, famed oceanologist who has traveled nearly 155,000 miles in the last 3½ years exploring the oceans of the world, recently concluded: "The oceans are in danger of dying. The pollution is general."

Mr. Chairman, we are all familiar with inside the United States and the waters close by, but down our way we have the specter of the Gulf of Mexico becoming a dead gulf in a very short time and it is a very real danger. It is going to take a tremendous effort in terms of technology to restore the Gulf of Mexico to what it ought to be in terms of clear water and as an asset for mankind.

The hearings I am sure will be replete with evidence, Mr. Chairman, that the need is urgent and that the time is short.

At the present time there is neither legal provisions for the control of ocean dumping nor enforcement beyond the 3-mile limit. Furthermore, there is a regulatory vacuum in international waters which lie outside even the 12-mile outer limit of the territorial seas of a coastal nation.

Recently the United Nation's Intergovernmental Maritime Consultative Organization adopted in London a U.S. resolution calling for an end to willful ocean dumping and accidental spills by 1975 if possible, but certainly by the end of the decade. This is a positive step, but I fear we cannot afford the luxury of waiting until 1980 or even 1975.

The various legislative proposals before this distinguished committee offer unilateral restraints on the part of the United States. My bill is not an exception. I have got a repeat of the package put in here last year. H.R. 4719 is part of a legislative package which includes, among other things, a concurrent resolution calling for an international agreement, under the auspices of the 1972 United Nations Conference on the Human Environment, to prohibit dumping in the waters of the world and provide the necessary framework for review and enforcement.

In the final analysis, Mr. Chairman, this is a problem affecting all the nations of the world, and we must have international cooperation in order to meet it successfully. House Concurrent Resolution 146 on that point is now pending before the House Committee on Foreign Affairs.

The part of my legislative package which is before this committee is, of course, H.R. 4719. Simply and comprehensively it prohibits the discharge into the waters of the world of any military or waste material without a certification by the Administrator of the Environmental Protection Agency approving such discharge.

As the operational agency charged with the responsibility of enforcing and administering air and water quality standards, the EPA is the logical watchdog against pollution of our oceans.

Another encouraging aspect of our attempts to control ocean dumping is the recent announcement by Department of Defense Secretary Laird that no more military chemicals or munitions would be dumped into the ocean and that alternative, ecologically safe methods would be developed for future disposal of such agents.

We have come a long way in the period since last year's dumping of obsolete nerve gas by the Department of the Army in the Atlantic Ocean off the coast of Florida. The volatile condition of the material left us with no choice in the matter.

Still, these are voluntary restraints. The third part of my package of legislative proposals, Mr. Chairman, which could be before this committee and I think it will be, now pending before the House Armed Services Committee, would require that before any new munition of a chemical or biological nature is added to the U.S. arsenal there must first be submitted to EPA and approved a date by which the material must be disposed and the means of disposal. In addition, the Department of Defense would be required to inventory all such munitions on hand, the future disposal of which might present a potential harm to mankind or the environment. Now, the thrust of that is so obviously logical, Mr. Chairman, that I wonder that we have not done it before but maybe it is like the safety pin.

Legislation of this kind will prevent us from again finding ourselves in the untenable position of having tons of a lethal agent in a volatile condition, with the ocean as the least objectionable place to get rid of it.

One of the deficiencies in the administration's bill, it seems to me, Mr. Chairman, is its provision that:

> Nothing in this act shall prohibit any transportation for dumping or dumping of material where such transportation or dumping is necessary, in an emergency, to safeguard human life.

Now, that sounds like an easy, necessary provision, but on the other hand it might be an out. It seems to me that if we could take the cautions in advance for the inventory of those dangerous agents, decide on the methods of disposal, the time of disposal scientifically, that we would eliminate if not all at least a substantial part of the emergency.

As you can see, H.R. 4719 is an integral part of a three-pronged legislative attack which in its entirety forms an effective control and regulation of the various and harmful practices of ocean dumping. I am pleased that more than 65 of our colleagues have joined me in the sponsorship of these proposals.

I am also cosponsoring a bill which combines the provisions of the bill before this committee and the bill which I have referred to earlier about the defense inventory which got before the Armed Services Committee, and I hope this committee can consider that joint bill.

In the face of a problem as potentially dangerous as ocean dumping, however, the important thing is not who sponsors the legislative remedy but how effective the legislation is in protecting the environment and the citizens of this Nation. I am confident that this committee will report out an effective bill.

Mr. Chairman, let me just remind you by quoting from the summary of the findings of the Council on Environmental Quality's report on ocean dumping in which they say:

> The Nation has an opportunity unique in history—the opportunity to act to prevent an environmental problem which would otherwise grow to a great mag-

nitude. In the past, we have failed to recognize problems and to take corrective action before they became serious. The resulting signs of environmental degradation are all around us, and remedial actions heavily tax our resources. This is clearly the time for a conscious national decision to control ocean dumping.

I am delighted that these committees which are presently here today have that challenge, have that opportunity, and I am confident that they will take the necessary action to close the gaps at least legislatively.

Thank you very much.

Mr. LENNON. Thank you very much, Congressman.

Now we would like to make the same request of you, sir, if you would submit for the consideration of the committee and the counsel of the committee the specific amendments to the so-called administration bill that would accomplish the purpose you seek.

Mr. FASCELL. Be very happy to do that, Mr. Chairman.

Mr. LENNON. Now our next witness is a very distinguished Member of our body in Congress who served on both sides of the Capitol. We are delighted to have you, Senator Pepper, or Congressman Pepper, whichever you prefer. The gentlemen is again from Florida.

Mr. ROGERS. Thank you, Mr. Chairman.

I want to welcome to the committee again another colleague from Florida who has been vitally interested in this question. You can see, because of the location of our State and the problems we have, I think that is one reason that so much interest is centered in Florida. So I join in welcoming Congressman Pepper.

STATEMENT OF HON. CLAUDE PEPPER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. PEPPER. Thank you very much, Mr. Chairman and members of the committee. I particularly thank my distinguished colleague from Florida for his kind words.

My remarks will be brief. I appear here in support of H.R. 808 which I am one of the cointroducers of and which I think means a great deal to our State as it does to many other parts of the country.

I have not heard any technical definition of it but I know we have one. If you take in all of the indentations of our coast, I suppose that we have probably the longest water coastline in the United States.

Would you not think that might be true, Mr. Rogers? Or one of the longest at least.

I think the definition of this bill which defines oceans, coastal and other waters would include oceans, gulfs, bays, salt-water lagoons, salt-water harbors, other coastal waters where the tide ebbs and flows, the Great Lakes and so on is a very appropriate description to which this proposed legislation should apply basically.

Mr. Chairman and members of the committee, what is proposed in this legislation is that anybody who puts anything of a deleterious character or may be proved to be polluting in its confluence into one of these waterways as so defined shall be required before he is authorized to do so to get the approval of the appropriate agency which in this case is the administration of the Environmental Protection Agency acting through the U.S. Fish and Wildlife Services and in consultation with the Army Chief of Engineers.

Nobody, it seems to me, has a right to pollute the waters of our cast—the waters, for that matter, of the interior, but that is another matter. The presumption is that any material capable of polluting does pollute unless unless one of these bodies determines after an appropriate application and license is applied for that it does not have any polluting effect upon the water to which it can be discharged.

I think it is extremely necessary that we enact legislation of this sort because along many of our bays—Biscayne Bay, for example, in my area and Mr. Fascell's area is generally referred to as being polluted to the degree that it is not even suitable for bathing. It certainly is not desirable that a great beautiful body of water like that has any contamination or any pollution, and that is due to the fact that over the years we have simply poured sewerage and poured these polluting and contaminating properties into this beautiful bay without any regard for the public interest at all. We have also done the same thing for the ocean.

I don't think anybody particularly is to blame because up until recently we thought it was all right to build an outfall into the ocean with only preliminary treatment of the material that goes into the outfall and therefore is distributed into the ocean. We thought that was just a public dumping ground where you could put anything you wanted to and it was not going to hurt anything or anybody; it was so big and so much water and generally so deep that you could dump anything into the ocean with impunity.

It has been many months since I have had the honor to appear here before the committee to talk about the dropping of these weapons into the ocean. Even 2 or 3 years ago nobody would ever have thought of questioning that because our awareness of this ecology problem and contamination and pollution problem had not come to be so acute as it has in the recent past. So I think it perfectly proper to put the burden of proof that it will not harm a public waterway upon whoever disposes materials into such a waterway that would have some deleterious effect.

Let me comment on this. In the county of Dade, of which I have the honor to represent a part here, Mr. Fascell a part, Mr. Burke a part, many of our municipalities have these outfall lines out into the ocean where they dump their sewage and those outfall lines have been built at quite a lot of expense—in fact, they have been wrestling with the financial problem of building those outfalls. My understanding is that generally speaking they have only given preliminary treatment to the sewage that has gone through those outfalls and dumped into the ocean.

I don't know just how our public bodies would be affected by this legislation. While I think it is right in principle, on the other hand, if acting under permissible conceptions and permissible authority in the past, public bodies have done things that have burdened them with debt and they should be required to set up other facilities before they should be permitted to such dumping, why I think the Federal Government ought to help them to make the necessary adjustments to accommodate themselves to the criteria of the present in respect to the pollution of waterways.

I know we have had sewerage money available. To my regret the administration has reduced the request for such money, perhaps held

up quite a bit of it, but we are going to encounter collateral problems probably. What private industry should have to do to make adjustments to this is also a matter that should give us concern. It may well be that we should have loan programs that would permit private industry which has been set up in the past to dispose of its waste in this way to make the necessary adjustment. It might bankrupt some of them if they did not get such assistance.

I would not propose giving money to private industry but that we might well set up a system of loans to enable private industry to convert its functioning so that it would not in any way be in conflict with the public interest. Although this principle is sound, Mr. Chairman.

Now I want to say this. I guess it is not politic to say. I think some of our people who are dedicated and devoted to the cause of conservation and the ecology—one of the Cracker politicians calls it "ec'o log'ogy" because everybody has not got accustomed to this new phrase or new wording yet. I think some of those good people are going to the extreme in some of their demands that they are making, and they are going to run into and provoke a reaction, I think, if they do insist upon going to the extreme.

I think they therefore ought to contemplate that they are now where you cannot talk about anything but what they say that it pollutes something. I wonder sometimes whether when you walk across the grass you might step on the bugs that might have a right to live in the luxurious green foliage of many of our grassy areas.

But this kind of thing, this is sound and this should be insisted upon and this should have priority. Any other pollution to any of our streams should have priority. Pollution of the air, nobody has a right to pollute the air which we breathe. I think the pollution of the water, the pollution of the air should have priority and those programs should go strongly ahead, but it gets to the point now you cannot build an airport or you cannot fly a plane without somebody telling you it is going to damage the ecology.

There is going to be eventually, I am afraid, a reaction. I don't want to see any reaction toward the very desirable ends of protecting the environment of our people but we are on solid ground when we are talking about preserving our waterways and preserving the air of our people, and that is what this bill primarily relates to.

Thank you very much, Mr. Chairman.

Mr. LENNON. We thank you very much for your excellent presentation and recognition that there must be a balance somewhere.

Mr. PEPPER. Right.

Mr. LENNON. Now we will hear from the distinguished chairman of the full committee who wants to address the two subcommittees this morning on this subject.

Mr. Garmatz.

STATEMENT OF HON. EDWARD A. GARMATZ, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MARYLAND

Mr. GARMATZ. Thank you, Mr. Chairman.

I introduced H.R. 4723, which is an administration bill, because I think it is essential for this Nation to protect its marine resources

from pollution by the indiscriminate and uncontrolled dumping of harmful waste material into America's coastal and offshore waters.

I scheduled hearings on this issue because I think this is a critical problem. On March 16, 1971, when I announced these hearings, I said they would probably comprise the most important consideration of environmental legislation to be held in this session of Congress. And I explained that statement by saying there is an urgent need to establish a national policy on ocean dumping now—before this Nation resorts to an irreversible pattern of wholesale dumping into the oceans.

I might add to that by saying that I think the legislation which ultimately evolves from these hearings will become landmark legislation.

But I want to emphasize at this point that, even though I introduced H.R. 4723, I am concerned over some of the proposals it contains.

Approximately 40 other ocean-dumping bills have been referred to this committee, and some of them also contain disturbing proposals. Original bills, of course, are not expected to be perfect, they merely provide a vehicle for formulating a more effective approach to any problem. That is the reason for these hearings.

My concern can best be explained, I think, by pointing to the broad scope of responsibility of the full House Committee on Merchant Marine and Fisheries. Among its many other functions, the full committee plays a rather unique dual role. The Subcommittee on Merchant Marine is responsible for the protection and promotion of a healthy maritime industry, including shipping and port facilities and port development. On the other hand, the Subcommittee on Fisheries and Wildlife Conservation is responsible, as its title implies, for the conservation of our fish and wildlife resources and for the protection and enhancement of our environment, including our estuaries, our fresh waters, and our oceans, and all the precious living resources in those waters. The Subcommittee of Oceanography is also concerned over any activity which might adversely affect the ecology of the oceans and of America's coastal waters.

Because of the joint concern of the latter two subcommittees, I decided hearings on these ocean-dumping bills should be held jointly, with both subcommittees participating. I might add that Congressman John Dingell, chairman of our Subcommittee on Fisheries and Wildlife Conservation, and Congressman Alton Lennon, chairman of our Subcommittee on Oceanography, both held extensive hearings on ocean dumping in the last session of Congress. Both of these distinguished chairmen are equally concerned over this serious problem, and I think it appropriate that they share the responsibilities of the chair during these proceedings.

I am here today to speak both as chairman of the full House Committee on Merchant Marine and Fisheries and as chairman of the Subcommittee on Merchant Marine. In the latter capacity, I want to reiterate my concern over certain proposals contained in many of the bills we will be considering during these hearings.

My primary concern is that some of these bills, if enacted as now drafted, could seriously impede future port development and, therefore, adversely affect the entire maritime industry.

For instance, in the case of the administration bill, H.R. 4723, no dumping of waste materials in our coastal or Great Lakes waters would be allowed without a permit from the Environmental Protection Agency, known as EPA. Many representatives of various port authorities have personally come to me to express their fear over this provision. They are convinced that, if this provision is enacted, it would seriously delay the completion of many dredging projects—such as port and harbor channels—which are vitally needed if these ports are to survive in the fiercely competitive fight for cargo.

In the past, dredging permits have been obtained from the Corps of Engineers. The administration bill, however, would require the corps to obtain a permit for any dredging in port and harbor areas from the EPA. It is sincerely felt by many that such a requirement would introduce a significant element of delay in processing applications, in gaining firm approval, and in actually completing the channel project. Such delays could be economically disastrous to many American ports. It is also sincerely felt by many that the corps has the expertise, the staff, and the total capability to justify that agency's retention of authority for approving channel-dredging projects, and that the EPA, a newly created agency, has neither the staff, the experience, nor the capability, to do the necessary research and administrative work needed for rapid approvals.

We all realize the disposal of dredging spoil is a practice which can be harmful to any marine ecology if the spoil is discharged indiscriminately. There have been occasions in the past when the Corps of Engineers has shown a lack of interest or indifference toward the conservation of our great natural resources. But I have recently been impressed with the fact that the corps has been converted to the cause of conservation, and that it now seems dedicated as much to that cause as it is to industrial development.

I think that Chairman Dingell, who is a staunch conservationist, has done more than his share to convert the Corps of Engineers and I would be happy to hear his expert views upon what I considered to be the corps' healthy and sensible approach to this problem by attempting to establish a balance between the need to promote industrial and economic development and the need to protect and preserve our environment.

Achieving that kind of balance may be difficult, but that is the kind of balance I would like to see personified in the bill that ultimately comes from this committee. I might say there is a precedent for such an approach to this seeming dilemma. Public Law 90–454, which was enacted August 3, 1968, and which calls for the protection of our estuarine areas, says in part, and I quote:

> It is therefore the purpose of this Act to provide a means for considering the need to protect, conserve and restore these estuaries in a manner that adequately and reasonably maintains a *balance* between the the national need for such protection in the interest of conserving the natural resources and natural beauty of the nation and the need to develop these estuaries to further the growth and development of the nation.

Mr. Chairman, I am proud to say that this act and this language emanated from our Subcommittee on Fisheries and Wildlife Conservation, which held hearings on the original estuarine legislation and

was responsible, on the House side, for its passage and ultimate enactment.

It should also be noted that the first annual report of the Council on Environmental Quality, in its declaration of national environmental policy, said, and again I quote:

> . . . It is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practical means and measures, including financial and technical assistance in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which men and nature can exist in productive harmony . . .

I am also proud to say that the Environmental Quality Council was established by a law which originated in legislation introduced by our distinguished chairman, Congressman Dingell, and that it was his subcommittee which held hearings on the enabling legislation.

It is natural that I am concerned about the impact of any legislation on port deveolpment, since the port facilities are vital to our national economy and to a healthy American maritime industry. In my own State of Maryland, the Maryland Port Authority plans to spend $90 million in the next 10 years to improve its port facilities. Other ports around the country are making similar plans for future development.

Mr. Chairman, I am not here to plead for any select interest but I am here to speak out on behalf of our national interest and for the general welfare.

America has been blessed with a wonderful abundance of natural resources, which have helped to make our country great. But these resources have been abused, and now that they are threatened, there is a justifiable move to protect them. What we must guard against is overreaction, against an anti-industry movement which could contain the seeds of destruction. After all, industry and technology have also helped to make this a great nation.

I know that Chairman Dingell and Chairman Lennon are aware of the essential nature of industry, just as they are aware of the need for strong environmental legislation; and I know they will, therefore, give all concerned parties a chance to present their views on this important and controversial subject.

Mr. Chairman, I am sorry that my statement has been so lengthy. But there was no brief way for me to get my thoughts on such a complex matter on the record.

In the beginning of my opening statement, I said that the legislation which is ultimately reported out by this committee, as a result of these extensive hearings, will become landmark legislation.

I say this because I sincerely feel that the final bill our full committee reports out will reflect the balanced interest of the entire committee, and will, therefore, be designed to promote our Nation's total welfare, by protecting our environment and at the same time assuring continued economic and industrial growth, not only for the immediate generations but for all future Americans.

Thank you very much, Mr. Chairman.

Mr. LENNON. Thank you, Mr. Chairman, for the fine statement that will certainly be considered in depth by the joint subcommittees.

I would now like to call on our good friend from Texas, an ex-member of this committee, the Honorable Bob Casey.

STATEMENT OF HON. BOB CASEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. CASEY. Mr. Chairman, and distinguished colleagues of these two important subcommittees, permit me to express my personal thanks to you for the expeditious hearings on the grave problem of waste discharge in our coastal waters. I am especially pleased that the bill which I have had the pleasure of cosponsoring with my friend, Representative John M. Murphy of New York, is included in legislation being considered by these hearings.

I think the gravity of the problem is well recognized, and the fact that two important subcommittees are holding joint hearings on this issue certainly testifies to that fact. Having been privileged to serve on the House Merchant Marine and Fisheries Committee for several terms, I am well aware of the leadership it has taken through the years in protecting our natural resources under its legislative jurisdiction.

We, along the Texas gulf coast, know only too well that there is much to do in conserving and protecting our great coastal areas. We know that it cannot be done by the county, or the State of Texas, and we must have broad Federal legislation. For decades, we have callously disregarded the vital resource provided by our seas and coastal zones, and have looked upon them as vast dumping grounds for every type of refuse—from municipal garbage to obsolete munitions and explosives.

Along the Gulf of Mexico, few people realize the enormity of the problem we face. Our great gulf is the dumping ground for pollution of all types carried by river drainage from 31 of our States. Our five coastal States—Alabama, Florida, Louisiana, Mississippi and Texas—have 17,141 miles of tidal shore, 18 percent of the U.S. total. In our own State of Texas, almost three-fourths of our population live within 50 miles of the gulf, and I am sure the same fact is true in many of our sister States. This tremendous rate of growth is continuing to accelerate as new heavy industries seek the many advantages offered by the gulf's shoreline.

As I am sure my colleagues know, the gulf is a vast reservoir of natural resources, mostly undeveloped, for our Nation. Petroleum is but one of the great assets to be found there. It is, for example, the production area for 80 percent of our country's oil and gas—and it is estimated that 60 percent of the enormous Continental Shelf petroleum reserve lies under the warm waters of the gulf. This vast area of the gulf holds 33 separate bay systems, averaging each about 550 miles, which are the spawning area for our seafood resources—and the principal drainage pits for waterborne pollution. The importance of protecting these areas becomes more evident when you realize that about one-third of the country's commercial fish crop comes from the gulf.

We, along the gulf, are fortunate to one extent. As I advised the Subcommittee on Fisheries and Wildlife Conservation in hearings on the similar bill we introduced in the 91st Congress, there are invaluable studies underway which will provide the basis for intelligent and concerted action in years to come. We have underway now a major study of Galveston Bay, a joint State-Federal project. And we have in the initial stages a massive 10-year study of the gulf environment by the Gulf Universities Research Corp., a consortium of 17 major uni-

versities in our five coastal States, and including the University of Mexico, and many major industries. It is estimated the total cost of this mammoth project will total $150 million, and it holds exciting promise for the future. It is, I might add, the only study focused in its entirety on a single oceanic system adjacent to our coastline, and on the common but vital problems of marine preservation, conservation, and development. This study will utilize the great wealth of talent of these institutions—some 1,400 of our Nation's top scientists.

We cannot, of course, wait 10 years to begin work in cleaning up—and preventing further degradation of our ocean systems. Some scientists even now point out that the Gulf of Mexico is a prime candidate to be another Lake Erie, unless immediate remedial action is taken to protect it from pollution. A great deal of effort is underway, and it is not my intention to fault the effort by our county, State, and Federal agencies concerned with pollution, for they are moving against those who are causing the problem. But I believe that H.R. 285, or legislation similar to it, will give us the long-range answer to this problem and would be an incentive to the States to take the lead in resolving this problem.

Many of you, I know, are familiar with my own home of Houston and Harris County. Although 50 miles inland, we alternate between being second- or third-ranking port in tonnage in the country. To reach the port of Houston, ocean-going vessels traverse the Houston ship channel, a 40-foot-depth channel dredged the length of Buffalo Bayou. This dead body of water has often been termed the most polluted in our country. Along the banks of this great channel stand massive petroleum and petrochemical complexes, steel mills, and foundries. The waste product of one is often piped into the plant next to it as its raw product. These great industrial complexes have brought dynamic growth and economic prosperity to our area. They also brought major problems of air and water pollution, still unresolved. Much is being done at the local and State level to control emissions, and most of these plants are fully cooperating in a responsible manner. But the Houston ship channel is the main drainage system for a highly devloped urban area of nearly 2 million people, and it empties into Galveston Bay all of the accumulated wastes from sewage-treatment plants, the industrial complex, and the unbelievable residential runoff from our 6-, 8-, or 10-inch tropical rainstorms. Adding to this are the spills from oil and chemical tankers, from chemical plants, or from those obtuse industrialists who in spite of warnings from man and nature continue to view any body of water as their own private industrial sewer.

Unlike the problems of the eastern seaboard, municipalities in Texas have not as yet viewed the Gulf of Mexico as its private garbage dump for municipal solid wastes. But I need not tell you here today that it is but a matter of time before this will be viewed as the easiest and cheapest solution to the urban problem of garbage disposal. The cost of land, and the vigorous objections of those neighboring counties to being a dump for nearby city, are forcing city officials to seek this method. This is why action is needed urgently to enact this legislation, to chart those areas where dumping will not be allowed, and to set guidelines to control it.

Mr. Chairman and members of the subcommittee, on behalf of the people of my district and my State, I wish to say that I know you share our concern for protection of our environment and our great natural resources. We cannot delay too long in moving to protect our estuarine areas, and I believe our bill, H.R. 285, provides a solid basis for remedy of this difficult and complex problem. I commend you highly for your prompt consideration of legislation to control this problem.

Mr. LENNON. Thank you for an excellent statement, Mr. Casey.

Our next witness will be the gentleman from Connecticut, our colleague Bob Giaimo.

STATEMENT OF HON. ROBERT N. GIAIMO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CONNECTICUT

Mr. GIAIMO. Mr. Chairman and members of the committee, I am pleased to offer my support for legislation designed to curtail unregulated discharge of industrial waste into coastal waters, oceans, and related bodies of water. In particular, my testimony is in support of H.R. 807, of which I am a cosponsor.

The time has long passed when America believed that large bodies of water and large masses of air could absorb the byproducts and aftereffects of industry and remain unaffected, or that the many and complex forms of life living in oceans, bays, harbors, and marshes could survive our assaults on their environment.

Certain of our industries are indiscriminately turning coastal waters in particular into repositories for toxic materials, and all industries must belatedly concern themselves with the unintended but devastating consequences of their prosperity.

The coastal waters of Connecticut, and in particular the shellfish and fishing industries dependent on those waters, have suffered considerable long-term damage from unregulated dumping of waste, and the economic consequences have spelled disaster for the men who work those waters.

While the Marine Science Council has estimated that 8 percent of all shellfish that could potentially be harvested are unsafe now for human consumption, that figure in Connecticut is surely much higher since major harbors and shoreline areas, for example New Haven Harbor, no longer can yield edible shellfish.

H.R. 807 is a measure with several features of particular importance in regulating this coastal carnage. For example, by placing the burden of proof—not absolute proof, of course, but a "preponderance of evidence" proof—on those seeking permits to dump wastes, that such wastes will meet standards to be set by the Environmental Protection Agency, industry will have to take a larger role in protecting oceanic environments.

In addition, provision for stronger State regulations, which would supersede Federal regulations if States could also demonstrate enforcement capacity, would allow those areas particularly damaged by waste discharge additional protection from stricter State standards.

Finally, the standards adopted by the EPA under this measure would supersede standards promulgated by any other agency of the

Federal Government and would help to both clarify and to strengthen the Federal role in enforcement.

It is inexcusable that in the midst of concern for other areas of our environment no standards have ever been adopted by the Federal Government which would effectively regulate the discharge of industrial or other waste into ocean or coastal waters, that no industry wishing to dump in coastal waters has been required to demonstrate the effect of that dumping, and that, as a result, some 48 million tons of materials are yearly deposited in what is a vanishing but hopefully salvageable natural resource.

Mr. LENNON. The subcommittee appreciates your testimony here this morning, Mr. Giaimo.

Our friend from New York, the able Seymour Halpern, will now be our next witness.

STATEMENT OF HON. SEYMOUR HALPERN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. HALPERN. Thank you for this opportunity to speak in favor of legislation designed to halt the promiscuous dumping of waste materials into the ocean and to develop orderly arrangements for regulation of the practice.

I am told that over 44 bills aimed at regulating ocean dumping have been introduced in Congress so far this session. Some of these bills call for designating specific dumping sites and for standards to apply. Others specify areas of sanctuary wherein nothing can be dumped. There are bills dealing solely with oil and other hazardous substances while others are concerned with disposal of munitions and poisonous gases. Obviously all of these bills have merit and serve to demonstrate how broad the problem is.

Perhaps the outstandingly bad example of environmental abuse by ocean dumping is in the New York Bight into which the City of New York dumps its sewage and sludge along with all sorts of garbage euphemistically called solid wastes. Studies by the Corps of Engineers, the State University of New York at Stony Brook, the Fish and Wildlife Service have recently been completed. Their report has been released and is contained within hearings before this committee held July 27, 28, September 30, 1970, entitled "Dumping of Waste Material," Serial No. 91–39. I would like to quote for the committee certain of the summary conclusions drawn by this report:

1. The New York Harbor Complex must rank as one of the largest grossly polluted areas in the United States.

2. The major sources of pollution in the New York Bight are (1) sewer and industrial outfalls, (2) ocean disposal of sewage sludge and dredge spoil, (3) river discharge and land runoff, (4) wastes from vessels, (5) accidental spills, and (6) harbor debris.

3. No significant improvement in the water quality in the New York Bight can be expected until the mid-70's. Complete secondary treatment is not scheduled for New York City and Passaic Valley Sanitation Commission until 1976. Additional pollution treatment facilities in up-river and shoreline communities will not be completed until the mid-70's. Vessel pollution should be significantly reduced under the provisions of the Water Quality Improvement Act of 1970.

4. Even with completion of all currently proposed pollution abatement programs, conditions in the New York Bight will fall short of what must be the ultimate goal of protecting coastal ocean environments from serious degradation.

5. There will be increased pressure for more ocean disposal of sewage sludge and dredge materials in the New York Bight. This will raise to a potentially critical level the threat of pollution to land and surrounding ocean.

6. The projected increase in pollution from ocean disposal practices calls for stricter control of future ocean disposal practices in the New York Bight.

7. The major threat to full enjoyment of the proposed Gateway National Recreation Area and other beaches in the New York Bight is pollution. To date, however, there has not been demonstrated any connection between present ocean dumping practices and water pollution at any of the proposed Gateway sites.

8. The present ocean disposal of sewage sludge and dredge fill may be a serious threat to the sanitary quality of local populations of ocean quahogs and surf clams (4–10 mile radius).

9. Accumulation by fish and shellfish of heavy metals and other persistent toxic compounds is another potential health hazard in the New York Bight. This threat appears to be most serious from the sludge disposal areas.

10. Ocean disposal of sludge and dredge spoil materials, along with pollution from other sources, offer a potential threat to local fish populations.

No amount of rhetoric will present a more eloquent argument for the need to develop orderly regulation of needless destruction of the marine environment due to dumping wastes into the ocean and coastal waters, especially since the situation in the New York Bight is by no means unique. This same report and others such as the report of the Council on Environmental Quality demonstrate that similar problems exist elsewhere. For example, the report of the CEQ identifies 246 sites off the coasts of the United States into which 48 million tons of dredge spoil, sewage sludge, building debris, industrial wastes, radioactive wastes, and outdated munitions are dumped every year. A later report by a responsible Federal agency states that there are 281 dumping sites receiving 62 million tons of wastes of all sorts.

All indications are that, as serious a problem as this is now, it is becoming more so at an alarmingly rapid rate. Time is no longer available to luxuriate in detailed studies and deliberations. We must move expeditiously to enact legislation which will halt this senseless destruction of our coastal waters. I vigorously support the legislation before this committee as a sound approach to prevent further destruction of the marine environment.

Mr. LENNON. You gave a very enlightening statement, Congressman. We appreciate your time.

Our next witness will be the gentleman from Florida, the Honorable Charles E. Bennett.

STATEMENT OF HON. CHARLES E. BENNETT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. BENNETT. Mr. Chairman, I appreciate the opportunity to testify in support of legislation which I have pending to end ocean dumping without a certificate from the Council on Environmental Quality. This legislation is section 2 of my bill, H.R. 1214, which is a comprehensive environmental protection bill, which was referred to the House Public Works Committee.

For some time now, I have been extremely concerned about deterioration of our oceans by pollutants. Oceans cover 140 million square miles of water surface and over 70 percent of the area of the earth. The world environment and our very existence are dependent on the

oceans, and we must stop using them as huge open sewers which can absorb pollutants on an unrestricted and indefinite basis.

Reports on ocean contaminants from leading scientists and engineers are truly alarming. Thor Teyderdahl, in his attempt to cross the ocean in a reed ship, found that he could not fill containers for desalting for drinking water in the middle of the ocean because of the filthy condition of the water. Dr. Jacques Cousteau, famed oceanologist who has traveled nearly 155,000 miles in the last 3½ years exploring the oceans of the world, recently concluded: "The oceans are in danger of dying. The pollution is general."

I am pleased that the President has taken affirmative action in seeking greatly reduced ocean dumping and I am glad that the thrust of the administration bill and my bill are similar. My bill requires a certification from the Council on Environmental Quality before any ocean dumping would be allowed, while the administration bill requires a certificate from the Environmental Protection Agency. In light of the increased responsibility of the Environmental Protection Agency for monitoring various aspects of environment pollution, I favor amending my bill to place jurisdiction with the Environmental Protection Agency.

It has been estimated that in 1968 slightly over 48 million tons of waste were dumped at sea off the shores of the United States. Many of these wastes are oxygen-demanding materials, which have the potential to reduce oxygen in ocean waters to levels in which the aquatic life cannot live. The volume of waste dumping is growing rapidly, and with many major cities running out of landfill areas, they will be looking toward the oceans to get rid of their wastes.

As the most prosperous industrialized nation in the world, we must set an example for other nations to follow in cleaning up and keeping clean our oceans.

I hope that the committee will give careful consideration to section 2 of my bill, H.R. 1214, to control ocean dumping, as I believe it directly and firmly attacks the problem and will aid in preserving our life-giving oceans.

I thank the committee for the opportunity to present this statement.

Mr. LENNON. Thank you for an excellent statement, Congressman.

I would now like to call the gentleman from New York, our friend Jack Kemp.

STATEMENT OF HON. JACK F. KEMP, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. KEMP. The problem of water pollution has, unfortunately, been ignored for too long. The results of such apathy are now being paid for, and they have been and will be paid in far larger amounts than would have been expended upon an enlightened and effective policy of preventing such pollution.

In the last 7 years, for example, commercial fishing off the New York-New Jersey coast has dropped from 673 million pounds to 133 million, a decline of 80 percent. Oyster production for the same period is off by 43 percent. As the New York Times recently noted, "A major factor in these staggering losses is the sludge dumped offshore

daily, as though the Atlantic were an infinite catch-basin for the wastes of man."

In January 1971 the Governments of Canada and the United States released a report by the International Joint Commission on Pollution of Lake Erie, Lake Ontario, and the international section of the St. Lawrence River.

The report concluded that water pollution extends throughout the lakes; the principal causes are wastes discharged to the boundary waters and tributaries by municipalities and industries; pollution is taking place in all jurisdictions sharing the boundary waters.

The Commission expressed the view that urgent remedial measures are required, including adoption and adherence to the recommended water quality objectives; immediate reduction of the phosphorus content in detergents; and the prompt implementation of a vigorous program to treat municipal and industrial waste and to reduce phosphorus inputs into these waters.

In 1969 the IJC was asked to extend its inquiry to the adequacy of existing requirements for the prevention of oil leakage into Lake Erie as well as of existing measures for cleaning up any major oil spill.

The IJC concluded, in an interim report submitted to both Governments and confirmed in its present report, that safety requirements and procedures applicable to drilling and production operations were adequate if effectively supervised and properly enforced. With respect to cleaning up a major oil spill, the IJC found current methods to be primitive and inadequate. In addition, an urgent need now exists for a formal plan of international cooperation on oil spills.

In the present report on pollution in the Lower Lakes, the IJC finds that Lake Erie, particularly its western basin, is in an advanced state of eutrophication, or aging, and that accelerated eutrophication is occurring in Lake Ontario.

As a result, the IJC recommends that both Canada and the United States adopt the water quality objectives set out in the report and enter into agreement on programs, measures, and schedules to achieve them.

Just last month Secretary of Transportation John A. Volpe announced that a committee of the Intergovernmental Maritime Consultative Organization meeting in London had adopted a U.S. resolution calling for the end of willful marine pollution and minimization of accidental spills by 1975.

The magnitude of our water pollution has been made evident to Americans in at least one dramatic respect. Last December, Prof. Bruce McDuffie, a chemist at the State University of New York, tested a can of tuna fish and the question of the concentration of mercury in fish erupted into worldwide proportions.

The tuna contained a mercury concentration well above the U.S. Food and Drug Administration limit. So did frozen swordfish steaks also tested by McDuffie. The FDA confirmed his findings and took a million cans of tuna, and most swordfish, off the market.

For many years no one worried about dumping insoluble, inorganic mercury into water. In 1967, however, scientists discovered that bacteria could convert inorganic mercury into a highly toxic, soluble, organic form called methylmercury. The bacteria are eaten by tiny

forms of aquatic life, which are eaten by small fish; the small fish are eaten by bigger fish, and as the mercury moves up the food chain, it becomes more and more concentrated. In a body of water containing .00001 parts of mercury per million, the food-fish might contain 10 parts per million. Tuna and swordfish have large amounts, in part because both are wide-ranging predators, at the top of long food-chains.

We should have been alerted before this to the danger of mercury. In Japan, between 1953 and 1960, at least 43 people died and scores were permanently disabled—suffering blindness, deafness, convulsions, coma, mental retardation—from eating fish caught in a bay where a plastics factory had been dumping mercury.

In the 1950's, Sweden discovered that mercury was responsible for her dwindling bird population, and that her fresh-water fish were contaminated. The Government there has banned the use of mercury-treated seed, and recommends that people eat no more than one fish meal a week.

Pollution has many sources. This applies to the disposal of industrial wastes and sewage from urban communities, insecticides, and fertilizers from land runoff, seepage of petroleum from offshore drilling, as well as the pollutants that accumulate in the marine food chain since many species of fish and other marine biota tend to inhabit the relatively shallow areas of the ocean.

This bill, which I am pleased to cosponsor, states clearly that it is the policy of the United States "to regulate the dumping of all types of material in the oceans, coastal and other waters and to prevent or vigorously limit the dumping into oceans, coastal, and other waters of any material which could adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities."

In addition, the bill provides for the means of making this policy a reality.

It is also my hope that our private industries will voluntarily do everything possible to limit pollution. We have already seen many instances of such action. In one instance, for example, the Dow Chemical Co. in Midland, Mich., has prevented waste through such steps as recycling raw materials. It has made each man—"right down to the janitor"—accountable for pollution, using the rule: "If you mess it up, you clean it up." Dow has attached the same emergency-type importance to a pollution incident as to a fire, explosion, or personal injury.

Two years ago when the program started, Dow's monitors turned up 1,100 potential pollution problems. Three hundred of them serious enough to require immediate action—such as the fact that contaminants sometimes get into cooling water. Last year Dow spent $800,000 to put in a system with devices that can sense contaminants in the cooling water and immediately divert the water into a 50-million gallon pond. There it is treated before it is allowed to get back into the Tittabawassee River.

There are many other instances of such private initiative. It is my hope that a bill such as the one we are discussing today, and private efforts by business and industry, can together help us to ease this major problem of water pollution.

For too long we have ignored this question. It is now essential that we act as quickly as possible to gain some of the valuable time we have lost.

Mr. LENNON. That was an excellent statement, Mr. Kemp. We certainly appreciate your efforts.

Now I would like to call the gentleman from Massachusetts, the very able Silvio Conte.

STATEMENT OF HON. SILVIO O. CONTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. CONTE. I wish to thank the Committee on Merchant Marine and Fisheries for the opportunity to express my support for H.R. 805 and H.R. 3662, two bills which I cosponsored, that deal with the serious problems of dumping waste materials into the oceans.

The dangers of indiscriminate dumping are very grave as I am sure this committee is aware. Thousands of square miles of ocean have been reduced to lifelessness, with a resulting threat not only to the economy of the fishing industry, but to health and even life itself.

We know now that the depositing of waste materials in certain of the Great Lakes was responsible for their present lifelessness and, indeed, poisonous condition. If we continue to pollute our oceans at the present rate, it is only a matter of time before they, too, cease to support life.

Scientists may disagree about the extent to which the oceans are now polluted, and they may disagree as to how long the oceans can absorb an increasing quantity of waste without serious and perhaps permanent harm. There is substantial agreement, however, on two facts. First, there is a limit to the amount of waste that the oceans can absorb over a given period of time. Second, even the waste now being dumped in the oceans is producing effects which are not evident and visible, but which are real, nonetheless, and will have consequences which cannot now be foreseen.

Mr. Chairman, your committee has a number of bills before it dealing with this matter, and eventually you will draw the conclusions as to which of these bills will best serve the interest of our Nation.

I wish at this time to urge you to support a strong bill that will reflect what I feel is a newer and tougher sentiment in Congress regarding pollution. I assure you that there exists in this country a vast constituency which would not only support, but which wholeheartedly desires, such legislation.

I believe that both H.R. 805 and H.R. 3662 are strong, responsible bills. There are differences between them which I shall not discuss at this time. These differences are matters of degree since both bills have substantially the same thrust.

Both H.R. 805 and H.R. 3662 would have the Federal Government set standards with regard to dumping, require permits or licenses to be obtained before dumping is allowed, and provide for penalties should violations occur.

These two bills deserve your careful consideration. I recommend them to you and urge you to either give one of them your approval, or else to devise a measure which in your view embodies the best elements of both of these proposals.

Thank you.

Mr. LENNON. We also thank you for an excellent presentation.

I understand the gentleman from Arizona, the Honorable John J. Rhodes, would like to give a very brief statement at this time.

STATEMENT OF HON. JOHN J. RHODES, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ARIZONA

Mr. RHODES. Mr. Chairman, as a cosponsor of the legislation before you today I appreciate the opportunity to speak on behalf of these bills proposing a limit on the dumping of hazardous materials into our coastal waters.

I do not believe that pollution must be the end product of our Nation's industry. I believe this country can conquer the menace of environmental pollution as it has other problems in the past. However, in order to do this there will have to be legislation enacted by Congress.

Presently there are no effective standards to regulate the dumping of waste products in our coastal waters. No one wishing to dump waste products is required to demonstrate that the material is harmless.

We must have effective standards now. I hope that this committee will act favorably on this legislation as soon as possible.

Mr. LENNON. Thank you very much, Mr. Rhodes.

I note two other Members of Congress would like to give statements. Would Congressman Mikva please take the witness chair?

STATEMENT OF HON. ABNER J. MIKVA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

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

The sea stirs the spirit of man. In many respects, it is the last unexplored and untouched region of the earth. Its vastness defies the imagination; its savage independence frustrates our feeble attempts to tame it. Yet man is slowly killing the majestic oceans by quietly and relentlessly dumping his garbage into the sea.

It is not fair to say that the problem is only beginning. Many areas of our coastal waters are already irrevocably contaminated. The New York Bight is a prime example. A study conducted by the U.S. Marine Laboratory at Sandy Hook, N.J., and completed last year indicates that 40 years of dumping has destroyed the marine ecosystem and rendered most of the area uninhabitable for any sea life. The bight is appropriately referred to as "The Dead Sea."

The prevalence of disease and contamination, which not only threatens the Atlantic coastal fisheries, but also gravely endangers public health, was indicated by studies conducted in this area. More than a dozen species of fish captured in the befouled area of the bight were suffering from a disease known as fin rot. Lobsters and crabs exposed under laboratory conditions to the same pollutants as are pouring daily into the bight developed a fouling of their bronchial chambers and gills. The test animals all perished in 3 to 4 days. A report recently prepared by M. Grant Gross, Research Oceanographer at the Marine Sciences Center, State University of New York at Stony Brook, warns of high concentrations of a number of toxic and cancer-

causing elements. If these elements enter or have entered the food chain, we are faced with a serious hazard to public health. Studies conducted by a group of scientists under the direction of the Smithsonian Institute substantiate these terrible conclusions.

Unfortunately, the situation in the New York Bight is not an isolated phenomenon. Commercial fisheries have collapsed all along the Atlantic shore because of the deterioration of previously abundant fishing grounds. There are some 49 dumps off the populous East Coast and all of them pose a continuing threat to the health of the Atlantic and to the livelihood of those who depend on it. If left alone, things are only going to get worse. As sanitary landfill sights become more crowded and less practical, the ocean is fast becoming the cheapest and most convenient garbage dump for many coastal cities.

If our oceans are to remain a source of food, esthetic pleasure, and sheer wonder for future generations, then we must stop treating them like a gigantic open sewer. It is for this reason that I vigorously endorse H.R. 2581, a bill introduced by my colleague from Massachusetts, Mr. Harrington. This bill represents an important initial step toward reducing ocean pollution. The proposal authorizes the Administrator of the Environmental Protection Agency, in conjunction with the Secretary of the Interior and the Chief of the Army Corps of Engineers, to promulgate standards designed to protect the delicate marine ecology of our coastal waters. It then requires any potential dumper within a 12-mile limit of U.S. shores to demonstrate that such dumping will not violate these standards. In short, this legislation puts the burden where it should be—on the dumper—to show that the dumping of his garbage is not detrimental to marine life.

While H.R. 2581 is vital to the attack on ocean pollution, it will not eliminate the problem. It unquestionably makes it more difficult for polluters, but it does not preclude further pollution. Cities could simply take their garbage past the 12-mile limit and dump it or they may attempt to evade the law through nighttime or clandestine dumpings. I personally favor an outright ban against ocean dumping. The United States should prohibit American citizens or vessels from dumping any deleterious matter into any ocean. Such a unilateral declaration could prompt other nations to follow suit. The International Oceanographic Commission established by UNESCO in 1961 is a prime example of international cooperation to stop the contamination of international waters. The organization is now sponsoring a program of research on the Mediterranean Sea, involving some 20 nations including the U.S.S.R., Israel, Syria, and the United States. The mutual cooperation of these normally antagonistic nations demonstrates the pragmatism of international policing of our seas.

Ultimately, however, the problem is one of solid waste disposal. We in America have developed a throwaway society of historic proportions. With sheer arrogance born of obsession with convenience, we use things once and throw them away, not caring or realizing that all that garbage piling up has to go somewhere—whether to an incinerator, a landfill site, or some body of water. All three alternatives are unsatisfactory. The final solution is recycling, and we must begin to implement ways of reutilizing our resources before we are inundated with our own waste.

The sea has played a great spiritual role in the history of man, and I would hate to see it die of our own neglect. But that is what is happening. No event dramatizes this fact better than the voyage of Thor Heyderdahl who traversed the Atlantic in a small papyrus boat. This brave man, like Leif Erickson, Columbus, and Magellan before him challenged the sea and, by enduring the pain and brutality of the Atlantic, conquered it. And yet thousands of lonely miles at sea the water was sometimes so full of oil and other junk that bathing was impossible. What a sad commentary on the imprint man has made on his earth.

Mr. LENNON. Thank you for a very interesting and informative statement.

Our next witness will be the Honorable Lawrence Coughlin, a very able Member of Congress from the State of Pennsylvania.

STATEMENT OF HON. LAWRENCE COUGHLIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. COUGHLIN. I am pleased to testify today on a bill, H.R. 805, that provides specific Federal authority to enforce waste disposal regulations and curb ocean pollution within a 12-mile limit of the shoreline of the United States. The ultimate goal of this legislation is to contribute to the improvement of the ocean environment by allowing only that matter into the oceans that is essentially inert or which could be assimilated without adverse effects.

As cosponsor of this bill, I recognize that we cannot undo with one law what has been allowed to happen over the many decades. I feel, however, that we as Federal legislators must initiate action that will enable the United States to make meaningful contributions toward ending rampant pollution of the very basis of our life on earth—the oceans.

The President's Council on Environmental Quality in its October 1970 report indicates to what degree the cavalier dumping of wastes off our shores has affected our environment and our economy. Closing of beaches and bays has become so commonplace that it is accepted almost as a fact of life in the United States today. Many of us in the Congress have supported legislation to protect and increase the use of recreation areas in and around the coastal waters of the country. Yet, our efforts in this field cannot succeed in any reasonable measure until we abate the wholesale polluting of these coastal waters.

According to the Council, about 48 million tons of waste were dumped at sea in 1968. Dredge spoils accounted for 80 percent by weight of all our ocean dumping. The Army Corps of Engineers estimated about 34 percent, or 13 million tons, of the material was polluted.

In 1969, sewage sludge dumped in the New York Bight, an area encompassing the New York Harbor and adjacent coastal areas, had an oxygen demand of approximately 70,000 tons. Tests conducted on wastes taken from this area contained bacteria that cause hepatitis in man.

All of us are aware of the reports of mercury and DDT which are discharged from industrial plants or run off from our lands, flow into our streams and rivers, and eventually find their way into the ocean.

Sludge generated by the Baltimore-Washington area is expected to increase between 1960 and 1980 from 70,000 to 160,000 tons, a rise of about 140 percent. For the New York area during the same period, the increase is expected to be from 99,000 to 220,000 tons for a 120-percent increase.

Industrial wastes are growing at a rate of 4.5 percent annually or three times the population growth. Many of these wastes are harmful or toxic to marine life, hazardous to human health, have gravely damaged the shellfish industry, and are destroying the esthetic beauty and use of recreational areas.

The volume of wastes can only increase as existing facilities decrease. Landfill sites are becoming scarce or are being outlawed. Escalating costs from land-based methods of disposal are further encouraging dumping in our oceans.

The destruction to our shellfish industry by dumping of wastes is appalling. The Council stated that pollution from these dumpings had closed at least 20 percent of the Nation's shellfish beds. Affected shellfish had been found to contain hepatitis, polio virus and other pathogens hazardous to human health.

The economic effect, aside from obvious and dangerous health hazards, has been devastating. The National Estuarine Pollution Study, conducted by the Federal Water Quality Administration in 1970, noted that the annual commercial harvest of soft-shelled clams was between 100,000 to 300,000 pounds before 1935. This clam digging is virtually nonexistent because of pollution.

The annual commercial landings of the shrimp fishery before 1936 were as high as 6.5 million pounds. Landings in 1965 were only 10,000 pounds.

The potential value of the U.S. shellfish catch in 1969 was $320 million. As a result of increased pollution in ocean and coastal waters, the actual value in 1969 was $257 million, a $63 million loss in this specific industry alone from the effects of ocean-dumping wastes.

Commercial fisheries, of course, are on the decline with the resultant loss in business and jobs. Pollution caused by dumping has wiped out many fishing grounds and sent United States commercial fleets to distant waters.

A side effect of this situation has been the overfishing of prime grounds for such species as tuna and salmon. The supply of salmon particularly is in peril from huge foreign fishing fleets that have found their feeding grounds in the North Atlantic.

In assessing the damage to fishing, we should not overlook sports-fishing.

Millions of sports fishermen can attest to the dwindling supplies of ocean fish. At a time when we are attempting to increase recreational activities, the sport of fishing is being hit hard by the pollution of rivers, bays, and coastal waters.

Specifically, in the Pennsylvania-New Jersey-Delaware area I cite the virtual disappearance of the croaker which once roamed the Delaware Bay and even the lower Delaware River in vast quantities. Once the prime fish for anglers in those waters, the croaker no longer is available for sports fishing or commercial fishing in the Delaware Bay. It is a rare occasion when a fisherman catches a croaker in these waters.

It is clear to me that the authority to establish standards should rest with the EPA. Problems have arisen in the past with current authorities, such as the Army Corps of Engineers, which are mainly concerned with the navigability of our waterways and not the ecology.

Section 5B(a) defines "ocean, coastal, and other waters" as "oceans, gulfs, bays, salt-water lagoons, salt-water harbors, other coastal waters where the tide ebbs and flows, the Great Lakes, and all waters in a zone contiguous to the United States extending to a line 12 nautical miles seaward from the baseline of the territorial sea as provided in article 24 of the Convention on the Territorial Sea and the Contiguous Zone." This 12-mile limit would prevent those infractions which occur today outside of the current territorial sea limit of 3 miles which has left the Army Corps of Engineers helpless to act.

Section 5B(a) also requires that the person wishing to dump sustain the burden of proof that the materials that are dumped will not endanger the natural environment of those waters and will meet any additional requirements as the Administrator of the EPA deems necessary for the orderly regulation of such activity. Certainly, the time has come for those who persist in dumping harmful wastes in the ocean to be held accountable for their action and, in fact, through this legislation, begin to terminate the amount of ocean dumping entirely.

The legislation provides that the standards established be adopted and applied to all parts of the Federal and State authorities which have the right to issue authorizations to discharge or deposit material into these waters.

Furthermore, States may establish their own standards with respect to the activity covered by the Federal standard with the condition that the State standard would have to be more stringent than the Federal standard and provide adequate procedures for enforcement. This allows the States not to be hampered by past Federal uniform minimum standards which serve to hamper rather than to effect the causes of the activity.

Section 5B(f) provides that every State and Federal instrumentality and every person applying for authorization to discharge or otherwise dispose of any material into these waters maintain records, make reports, and provide whatever additional information the Administrator of the EPA needs to determine that there is compliance with the standards.

Section 5B(g) provides that the district courts of the United States have jurisdiction to restrain violations of this act.

Section 5B(h) provides that each violation of these standards shall be punishable by a fine of not more than $10,000 nor less than $5,000.

This section would make each dumping in violation of the standards punishable by fine.

It is clear to me that we must take those steps which are necessary to turn this spiraling rate of pollution spoilage around, so that we begin to protect not only human lives but the use of the sea, both economically and from a recreational purpose. The dumping of any waste materials which could create hazardous conditions, toxic or otherwise, in ocean and coastal waters, must stop. Ocean disposal of polluted dredge spoil, undigested sludge, and improperly treated sewage effluent must be terminated. Disposal of unpolluted dredge spill,

rubble, and similar wastes, which have been demonstrated to be inert and nontoxic, should be evaluated on a case-by-case basis. Municipal or industrial refuse, such as garbage, should not be dumped into the sea. Finally, ocean dumping of digested or other stabilized sludge should be discontinued as soon as feasible.

I believe the time to act is now or we may find ourselves in a position where we cannot change the biochemical reactions which are occurring in the ocean at this very minute.

The state of the oceans is rapidly approaching the crisis stage. This bill would provide the means for effective and prudent restraints on ocean dumping within a 12-mile limit from our shores and would be an instrumental step in seeking international cooperation so indispensable if we are to save our oceans, and life itself, from death by pollution.

Passage of legislation of this type is especially important in view of the attitude of foreign countries. For instance, American initiatives for an absolute ban on ocean dumping have been rejected by our NATO allies.

The United States alone cannot end the killing of our seas, but we can provide the leadership necessary. The spread of dead and dying sections of our oceans must be stopped.

I hope that the committee will review all testimony and act favorably on measures to curb ocean dumping.

In support of this testimony on H.R. 805, I submit as exhibit A a letter from the person most expert on the oceans of the world—Jacques-Yves Cousteau.

I feel that his testimony, based on 30 years of exploration, is the best available to alert us to the damages we have done to our oceans and to the dangers we face if we do not act quickly and constructively. I am grateful for his support of H.R. 805 and offer, as exhibit B, biographical information on him that attests to his knowledge and expertise.

I thank you for the privilege of presenting this testimony and Jacques-Yves Cousteau's letter on behalf of H.R. 805.

Mr. LENNON. Congressman, we are grateful to you for an excellent statement. If there is no objection, the exhibits you mentioned will appear at this point in the record.

Mr. COUGHLIN. Thank you for your time, Mr. Chairman.

(The exhibits referred to follow:)

EXHIBIT A

LIVING SEA CORP.,
Los Angeles, Calif., April 8, 1971.

Congressman LAWRENCE COUGHLIN,
336 Cannon Office Building,
Washington, D.C.

DEAR CONGRESSMAN COUGHLIN: It is gratifying to learn of the introduction of bill HR–805 to prevent the dumping of pollutants into the oceans.

For nearly thirty years my companions and I have been studying the waters of our unique planet. Our observations have been made in stations all over the world—in the Mediterranean, the Red Sea, in the northern and sounthern Indian Ocean, the southern Atlantic, the Caribbean and the Pacific—places we have visited not just once, but often. These observations lead us to an assessment, true everywhere, that the intensity of life has diminished by more than thirty percent over the past twenty years. This reduction applies to fixed fauna, to vege-

tation, plankton, shellfish, edible and non-edible fish, coral, and, in fact, all marine life.

There are reasons other than pollution for the diminution of life in the seas: overfishing is one, and the destruction of breeding and living areas by alteration of underwater environments is another. But the primary reason is pollution, for every pollutant on land and in the air eventually finds its way to the sea. Cleansing rains run through streams and rivers and pipelines directly or indirectly to the ocean.

Because 96 percent of the water on earth is in the ocean, we have deluded ourselves into thinking of the seas as enormous and indestructible. We have not considered that earth is a closed system. Once destroyed, the oceans can never be replaced. We are obliged now to face the fact that by using it as a universal sewer, we are severely over-taxing the ocean's powers of self-purification.

The sea is the source of all life. If the sea did not exist, man would not exist. The sea is fragile and in danger. We must love and protect it if we hope to continue to exist ourselves.

Men of all nations must join together in an effort to save our seas. I am sure that by such measures as are called for in HR–805, we will succeed.

Sincerely yours,

JACQUES-YVES COUSTEAU.

EXHIBIT B

BIOGRAPHY OF JACQUES-YVES COUSTEAU

For centuries man has dreamed of unlocking the secrets of the mysterious world beneath the sea. Through his inventions, books, films and television specials, undersea explorer Jacques-Yves Cousteau has taken man into this inner space—both vicariously and personally.

Since the day Cousteau donned a pair of goggles more than thirty years ago and looked into the sea, his goal has been to go deeper, stay longer and learn more. His dissatisfaction with existing breathing devices led him to design the compressed-air Aqualung in 1943 in collaboration with the French engineer Emile Gagnan. Throughout World War II he dived and made underwater films with companions Frederic Dumas and Philippe Tailliez as a cover for his underground intelligence work.

Cousteau was born in 1910 in St. André de Cubzac, France. He is a graduate of the French Naval Academy of Brest and served in the French Navy as a gunnery officer. For his wartime services he was made a Knight of the Legion of Honor and awarded the Croix de Guerre. Subsequently he was made Officer of the Legion of Honor in recognition of his contribution to Science. After the liberation, Cousteau with Dumas and Tailliez founded the Group for Undersea Research in the French Navy. The Group participated in many underwater activities including the clearing of German mines from Mediterranean harbors, testing the effects of compressed air diving and explosions underwater on the human body, exploring the romantic Fountain of Vaucluse, excavating a Roman ship sunk off Tunisia in 80 B.C. and aiding with the first dive of a bathyscaphe in 1948.

Fearing that he would be rotated away from the sea to a desk job, Cousteau took leave from the Navy in 1950 to create the non-profit Compagnes Océanographiques Françaises, through which the American-built *Calypso*, a former minesweeper, is now operated as an oceanographic research vessel.

Calypso made her maiden voyage as a research vessel in 1951 to the Red Sea where, for the first time, an underwater television system developed by Cousteau and French engineer Andre Laban, was put in use. In 1953, Cousteau in collaboration with Frederic Dumas published his first book, The Silent World, a classic account of exploration and adventure and an immediate best-seller. In the years between the book's publication and release of the film of the same name in 1956, Calypso Expeditions was involved in an archeological dig near Grand Congloue, off Marseilles, of a Greek wine ship dating from 205 B.C. To trace the route of the ship, *Calypso* visited the island of Delos where evidence of the ship's owner was found in the ruins of his villa. In 1954, *Calypso* and divers explored for oil deposits in the Persian Gulf before making two long cruises to the Seychelles Islands, the Indian Ocean and Red Sea to film The Silent World, winner of the

"Palme d'Or" at Cannes in 1956, and the first of three Cousteau films to be awarded the Motion Picture Academy Award "Oscar".

In 1957, Cousteau resigned from the Navy and was elected Director of the Musée Océanographique of Monaco. His engineering organization in Marseilles, now known as CEMA (for Centre d'Etudes Marines Avancés), began, under the direction of engineer Jean Mollard, the design and construction of the Diving Saucer (DS–2) Denise, a revolutionary two-man research and observation submarine of circular design, propelled by water jets capable of going to 1,000 feet of depth.

On her voyage to New York to participate in the International Geophysical Year in 1959, *Calypso* towed a deep-sea camera sled or "Troika", built by CEMA, through the depths of the Atlantic's Rift Valley, making the first continuous photographic record of that bottom. The Diving Saucer was successfully tested during that same year and became a major tool for exploration of the continental shelf.

In 1962, Cousteau and his group establishhed the world's first underwater station, Conshelf I, in which two divers lived continuously for one week in thirty-five feet of water. The following year a more amibitious underwater community was established in the Red Sea, and the feature film, World Without Sun, was made to record the experience. In Coneshelf II five men lived in Starfish House, submerged in thirty-five feet of water for a month, while further down at 85 feet, two men lived for one week in Deep Cabin. A hangar for the Diving Saucer and a tool shed completed the underwater station.

During the period from *Calypso's* acquisition through the Conshelf III experiment, Calypso expeditions and many Cousteau group projects were funded by the French Ministry of Education and by the National Geographic Society. Accounts of his experiences were made periodically by Cousteau and appeared in the National Geographic Magazine. In 1963, in collaboration with James Dugan, *The Living Sea*, which enlarged and expanded on these accounts, was published.

In the following year the construction of *Deepstar–4000* for the Westinghouse Corporation was completed and the three-man submarine was delivered from CEMA's manufacturing facility in Marseilles, France. That year also saw another unique Cousteau project—the world's first anchored open-sea oceanographic buoy, Mysterious Island—put into operation in the Mediterranean. Currently, CEMA is constructing an advance version of the Diving Saucer (the S.P. 3000) capable of operating at 10,000 feet of depth and the "Argyronete", a ten-man submarine designed to operate at 2,000 feet and from which four oceanauts will emerge to carry on assigned tasks on the ocean floor.

Conshelf III in 1965 was a major advance in underwater habitats which housed six oceanauts at a depth of 328 feet for three weeks. Their experiences were filmed as a television special entitled *The World of Jacques-Yves Cousteau* for the National Geographic–CBS–TV. The popularity of this program triggered a contract for twelve television specials with Metromedia Producers Corp. and ABC called *The Undersea World of Jacques Cousteau.* The series of specials has since received numerous awards throughout the United States and Europe.

In 1967, carrying special new equipment including two one-man minisubs, (the "S.P. 500"), *Calypso* left Monaco for an extended voyage of underwater exploration and filming. The long cruise took the ship and its crew to the Red Sea, Indian Ocean, around the Cape of Good Hope, to the South Atlantic, the Caribbean, Pacific, Peru, Alaska, the Galapagos Islands, the British Honduras and the Bahamas before she returned to France in September of 1970. The enthusiastic response from critics and viewers to the first twelve programs resulted in a contract for a new television series.

On his return with the *Calypso,* Cousteau voiced his growing concern over pollution of the seas. "The sea is the universal sewer", he said. "All pollutants on land eventually reach the sea". In 1960, Cousteau had lead a successful campaign to prevent the French Atomic Energy Commission's dumping of radioactive wastes into the Mediterranean. At that time he remarked, "We risk poisoning the sea forever just when we are learning her science, art and philosophy and how to live in her embrace."

Cousteau is also Chairman of the Board of U.S. Divers Co., a diving equipment manufacturing firm; Les Requins Associés, a French film production company; Living Sea Corporation, a marine structural and design firm in charge of the design of the Museum of the Sea Aboard the *Queen Mary*; and Thalassa,

Incorporated, which specializes in feature and television films. He is President of the World Underwater Federation, representing free divers in thirty countries, a member of the U.S. National Academy of Science and he holds degrees from the University of California at Berkeley and Brandeis University as an honorary Doctor of Science. In October 1970, Cousteau was again honored. He received the *Potts Medal* from the Franklin Institute and the *Spirit of St. Louis* award from Saint Louis University.

More recently, Cousteau is the founder and Chairman of the Board of EUROCEAN, a new European organization set up to study and implement the exploitation of the ocean.

Mr. LENNON. We have at this time the distinguished chairman of the Council on Environmental Quality, Mr. Russell E. Train. If you have anyone with you, Mr. Train, you may bring them forward and have them sit at the table with you.

Mr. TRAIN. I have another member of the staff in the audience but I don't believe I will bring him up to the table except in case of need perhaps to answer questions, but at this point I will deal with it myself.

Mr. LENNON. All right.

STATEMENT OF RUSSELL E. TRAIN, CHAIRMAN, COUNCIL ON ENVIRONMENTAL QUALITY

Mr. TRAIN. Mr. Chairmen—and I have used that word in the plural here as I gather we have cochairmen; I was not sure whether to say Mr. Co-Chairmen—Congressman Pelly and Congressman Mosher, I appreciate the opportunity to meet with your subcommittees and to testify in support of the President's proposals for the control of ocean dumping. Protection of the marine environment has been and continues to be a high priority concern of this administration.

The Council on Environmental Quality has been deeply concerned about and involved with the problems of ocean dumping from its inception slightly over 1 year ago. In his message to Congress of April 15, 1970, on the subject of Great Lakes and other dumping, the President directed the Council to make a study and report on the ocean disposal of wastes. Through the summer of last year the Council worked to prepare a report to the President on the subject.

On October 7, 1970, the President transmitted the completed report to Congress, endorsing the Council's recommendations and stating that specific legislative proposals in the form of a bill would be presented to the 92d Congress. The bill was transmitted to Congress as a part of the President's recent environmental message on February 8, This bill has been introduced by Congressman Pelly as H.R. 4247 on February 10 and also has been introduced as H.R. 4723 by Congressman Garmatz, your distinguished chairman; as H.R. 5239 by Congressman Kemp; as H.R. 5268 by Congressman Ruppe; as H.R. 5477 by Congressman Pelly; and as H.R. 6771 by Congressman Gerald Ford.

During our formal study we became convinced that there is a critical need for Federal legislation to implement a national policy on ocean dumping. I would like briefly to present our reasons for reaching this conclusion and for adhering to it in the light of our subsequent work. Then I would like briefly to describe our legislative proposal and comment on several of the other proposals now pending before the House and this committee.

We often do not take adequate account of the fact that oceans—140 million square miles of water surface—cover over 70 percent of the earth. They are critical to maintaining the world's environment, contributing to the oxygen-carbon dioxide balance in the atmosphere, affecting global climate, and providing the base for the world's hydrologic system. Oceans are economically valuable to man, providing, among other necessities, food and minerals.

The coastlines of the United States are long and diverse, ranging from the tropical waters of Florida to the Arctic coast of Alaska. These areas, as biologically productive as any in the world, are the habitat for much of our fish and wildlife. They also provide transportation, recreation, and a pleasant setting for more than 60 percent of the Nation's population.

These waters are also the final receptacle for many of our wastes. Sewage, chemicals, garbage, and other wastes are carried to sea through the watercourses of the Nation from municipal, industrial, and agricultural sources or directly by barges, ships, and pipelines.

The amount of wastes actually transported and dumped in the ocean is small in terms of the total volume of pollutants reaching the oceans. But even so, the Council estimated that in 1968 slightly over 48 million tons of waste were dumped at sea off the shores of the United States. Of this total, the main source of ocean dumping were:

(1) Dredge spoils—the solid materials removed from the bottom of water bodies, generally for the purpose of improving navigation (80 percent of the total by weight);

(2) Industrial wastes—acids, refinery, pesticide and paper mill wastes, and assorted liquid wastes (10 percent);

(3) Sewage sludge—the solid material remaining after municipal waste water treatment (9 percent by weight);

(4) Construction and demolition debris—masonry, tile, stone, excavation dirt, and similar materials (about 1 percent);

(5) Solid waste—the common refuse, garbage, or trash generated by residences, commercial, agricultural, and industrial establishments (less than 1 percent).

And, as we all know, small but potential tonnages of other materials, such as explosive munitions and chemical warfare agents, have been dumped.

Tonnages are not a good indicator of the effect of the dumped material. Dredge spoils, for example, can be contaminated with pollutants from industrial, municipal, agricultural, and other sources on the bottom of water bodies. If these contaminants are oxygen-demanding materials, they can reduce the oxygen in the receiving waters to levels at which certain acquatic life cannot survive. Heavy metal contamination can also create water concentrations toxic to marine life. Sewage sludge, whether or not digested to control odors and pathogens, can also contain significant concentrations of heavy metals and of oxygen-demanding materials.

Most of the dumping takes place in designated sites for the disposal of certain types of wastes. Disposal sites for dredge spoils are scattered off the Atlantic, gulf, and Pacific coasts, but most of the ocean disposal of other wastes is concentrated in Atlantic sites off the heavily polluted Northeastern States. The effects of dumping in a designated

area can be disastrous, as studies of the New York Bight and the areas off Rehoboth Beach indicate.

The problem that faces us is not limited to the effects of materials presently being dumped. The volume of waste dumping is growing rapidly, and the future impact of dumping could increase significantly relative to other sources of pollution in the ocean. Because the capacity of land-based disposal sites is becoming exhausted in some coastal cities, some communities are increasingly looking to the ocean for disposal. And, higher water-quality standards could lead industries to also look to the ocean for disposal.

A number of alternatives are presently available for wastes now being dumped at sea. Our report discusses these alternatives in detail and also evaluates present efforts to develop other disposal options, some of which such as land reclamation and recycling can be environmentally beneficial. After an evaluation of the effect of specific types of wastes currently being dumped and of the alternatives to dumping available, the Council recommended adopting certain policies respecting the ocean disposal of given types of materials.

Mr. Chairman, the next three pages are essentially summaries from the ocean dumping report. I would just as soon skip over these with the request that they be inserted in the record, or if you would prefer I will be happy to read through them.

Mr. LENNON. If you have the time, I would like you to read through them; I think it might be better.

Mr. TRAIN. All right, sir. I would be happy to do so.

OCEAN-DUMPING POLICY

Ocean dumping of undigested sewage sludge should be stopped as soon as possible and no new sources allowed.

Ocean dumping of digested or other stabilized sludge should be phased out and no new sources allowed. In cases in which substantial facilities, and/or significant commitments exist, continued ocean dumping may be necessary until alternatives can be developed and implemented. But continued dumping should be considered an interim measure.

Ocean dumping of existing sources of solid waste, other than sewage sludge, should be stopped as soon as possible. No new sources should be allowed; that is, no dumping by any municipality that currently does not do so, nor any increase in the volume by existing municipalities.

Ocean dumping of polluted dredge spoils should be phased out as soon as alternatives can be employed. In the interim, dumping should minimize ecological damage. The current policy of the Corps of Engineers on dredging highly polluted areas only when absolutely necessary should be continued, and even then navigational benefits should be weighed carefully against environmental costs.

The current policy of prohibiting ocean dumping of high-level radioactive wastes should be continued. Low-level liquid discharges to the ocean from vessels and land-based nuclear facilities are, and should continue to be, controlled by Federal regulations and international standards. The adequacy of such standards should be continually reviewed. Ocean dumping of other radioactive wastes should

be prohibited. In a very few cases, there may be no alternative offering less harm to man or the environment. In these cases ocean disposal should be allowed only when the lack of alternatives has been demonstrated. Planning of activities which will result in production of radioactive wastes should include provisions to avoid ocean disposal.

No ocean dumping of chemical warfare materials should be permitted. Biological warfare materials have not been disposed of at sea and should not be in the future. Ocean disposal of explosive munitions should be terminated as soon as possible.

Ocean dumping of industrial wastes should be stopped as soon as possible. Ocean dumping of toxic industrial wastes should be terminated immediately, except in those cases in which no alternative offers less harm to man or the environment.

Ocean dumping of unpolluted dredge spoils, construction and demolition debris, and similar waste which are inert and nontoxic should be regulated to prevent damage to estaurine and coastal areas.

Use of waste materials to rehabilitate or enhance the marine environment, as opposed to activities primarily aimed at waste disposal, should be conducted under controlled conditions. Such operations should be regulated, requiring proof by the applicant of no adverse effects on the marine environment, human health, safety welfare, and amenities.

That concludes the summary of the policy recommendations included in our report.

Current regulatory activities and authorities are not adequate to carry out such a policy. The States, the Army Corps of Engineers, the Coast Guard, the Atomic Energy Commission and the Environmental Protection Agency each exercise some control, but the dispersion of authority along with an accompanying inadequate jurisdictional basis and lack of statutory standard-setting guidance prevent an effective governmental response to ocean dumping problems.

Government witnesses who will appear before you in the coming days will describe our bill in detail. But, in a nutshell, to control ocean dumping adequately, the administration bill would provide a ban on the unregulated dumping of all materials into the oceans, estuaries, and Great Lakes and would provide authority to limit strictly ocean disposal of any materials harmful to the marine environment. It would require a permit from the Administrator of the Environmental Protection Agency for the transportation for dumping in estuaries, the Great Lakes, and the oceans anywhere in the world of wastes which originate in the United States and for dumping by United States and foreign nationals in our territorial waters and in the contiguous zone when the dumping would affect our territory or territorial sea.

The Administrator would be empowered to ban ocean dumping of certain materials and to designate safe disposal sites for others. Transportation for dumping or dumping without a permit, or dumping in violation of a permit would be subject to civil and criminal penalties. The Coast Guard would perform surveillance and other appropriate enforcement activities.

Specific considerations are set out for use by EPA in developing criteria for ocean dumping. EPA could refine and modify the criteria as additional knowledge on the effects of ocean dumping is gained.

In no case could dumping violate Federal-State water quality standards in the United States territorial sea or contiguous zone. The proposal would encourage Federal research on the effects of materials dumped or spilled into the oceans and the development of means of monitoring and controlling such disposal. In developing the criteria and the enforcement programs, EPA would work with the Coast Guard and the National Oceanic and Atmospheric Administration.

Our premise is that action is necessary now to avoid a serious national problem from ocean dumping. Yet, the proposed action is not all preventive. Adequate regulation could contribute to the restoration of many of the presently damaged areas.

Congress now has before it a number of other legislative proposals which also seek to control ocean dumping. I would like to comment on these proposals briefly, discussing these aspects which involve principles essential to effective control over ocean dumping. The committee is very fortunate to have the benefit of a number of fine proposals, and I commend not only the interest which you have demonstrated in this subject but also the cooperative and bipartisan spirit in which you have approached the matter. We would hope that you will consider our comments as constructive suggestions and that we could work together in arriving at a solution.

H.R. 3662 would amend the Fish and Wildlife Coordination Act by providing for a new section 5B which would prohibit dumping waste material into or transportation of such material through estuarine areas, the territorial sea, the Great Lakes, and the waters above the Outer Continental Shelf, except where a permit has been obtained from the Administrator of EPA. We obviously appreciate the recitation of factors such as land-based alternatives and the effect of the dumping on human health and welfare, fisheries resources, and marine ecosystems which the Administrator would consider before acting on a permit application.

Nonetheless, the State Department has advised us that the jurisdictional provisions of this bill are unsound as a matter of international law. Mr. Stevenson, the State Department's Legal Adviser, will be discussing the jurisdictional problems with you on Wednesday. Notwithstanding the jurisdictional issues, we are concerned with the bill's failure to regulate transportation for dumping beyond the 200-meter depth contour for the Outer Continental Shelf.

We suggest that the United States should control the transport of material from the United States for dumping in the outlying areas of the high seas. The need for such control is demonstrated by the recently disclosed practice of disposing of solid arsenic wastes originating in Pennsylvania by dumping it in steel drums 1,000 miles out to sea.

We also suggest that effective and efficient implementation of the regulatory concept would be aided by placing primary emphasis on control of the transportation for dumping of material which originates within the United States. Very nearly all of our problems arise from such dumping and accordingly our concerns must be with regulating this dumping along with developing environmentally sound domestic alternatives to the ocean dumping means of disposal of our wastes.

Nonetheless, direct control seems desirable for all dumping in our territorial sea and in our contiguous zone where it affects our territory

or our territorial sea. Further direct controls over dumping in the waters above the Outer Continental Shelf of wastes not originating in the United States do not seem necessary. In light of the experience gained through our study such dumping does not present a practical problem. As far as we know, no such dumping takes place.

Paragraph (b) (4) of H.R. 3662 would prohibit the Administrator from issuing permits to dump radioactive wastes, toxic industrial wastes, and chemical and biological warfare materials. Subsection 5(f) of our bill would give the Administrator more flexibility in dealing with the problems caused by particular pollutants, providing, where and when appropriate, for a complete ban on the dumping of particular materials.

Satisfactory alternatives to ocean dumping may not be available in all cases. We would not favor foreclosing the Administrator from considering a disposal option which in a given case may be environmentally the most desirable or, put another way, the least undesirable. Some have said that the specific ban on dumping particular materials actually only carries out the policy as expressed in our report and which I have described earlier. This is not the case.

For example, we recommended continuing the present prohibition on the dumping of high-level radioactive wastes. We recommended maintaining careful controls on dumping certain low-level wastes. And, where careful advance planning could not avert occurrence of a situation where the ocean dumping alternative was demonstrably the least harmful, we recognized that it should be chosen. The upshot of our whole approach is that the Administrator will be in the best position to assemble, not only from his agency but other agencies, the scientific and technical data necessary to choose between an immediate ban, a gradual phasing out, or other regulatory control as warranted by the facts of each case.

A further bill, H.R. 1661, would regulate the discharge from vessels of wastes originating in the United States, requiring that a permit be obtained from the Administrator of EPA prior to such loading. This bill would also bar the discharge of wastes in waters between the seaward edge of the Continental Shelf and the coast of the United States. Again, we agree with much that is contained in H.R. 1661, and particularly with its focus on regulating the transport of wastes from the United States.

We do recommend extending regulation to transport other than by vessel, since much dumping of material such as dredge spoils does not take place from vessels but rather from special conveyer systems or pipelines which are not considered outfalls. And, we do not advocate an absolute ban on dumping for any area which is selected only by geography and not by its ecological characteristics. Relationship of the area to alternatives to ocean dumping also is important because many materials such as unpolluted dredge spoil can be dumped in the particular general sea area from which they originated, and returning them to a carefully selected nearby site may be the action most in accord with maintaining and preserving the existing land and marine environments.

Another bill, H.R. 4359, would combine many of the elements of the bills previously mentioned, but would also direct the Secretary of

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Commerce, acting through NOAA, to establish marine sanctuaries where, among other things, dumping would not be permitted. We wholeheartedly agree that dumping should not be permitted in given areas and have provided authority for the Administrator to take effective action to achieve such an end by simply not issuing any permits for dumping in such areas. As he desired, the Administrator could designate recommended sites for dumping and thereafter only grant permits relating to such sites.

I would not wish to neglect research needs in my comments. As our report pointed out, serious information deficiencies exist, and research is required in such broad and diverse areas as the pathways of waste materials in marine ecosystems and the recycling of wastes and the development of alternatives to ocean dumping. Agencies such as EPA, NOAA, and the Coast Guard have authority and have presently operating programs to gain such information. Implementing an ocean-dumping policy by enactment of appropriate legislation would provide a focus for a cooperative research effort. The Council is presently entering upon a study of recycling to evaluate the policy options available in that area. Other such efforts will be stepped up.

My remarks have been extensive and I would not wish to prolong them further except to comment briefly on our international efforts and prospects in this area. Through domestic legislation such as that which we have proposed, in my judgment very effective action can be taken to curb the present and potentially harmful effects of ocean dumping. Further, such action can be taken consistent with accepted principles of international law. Very nearly all of our problems in the United States with ocean dumping arise as a result of disposing of waste material which originates within the United States.

We can and should through domestic legislation control the transport for dumping of such material. We can and should also control all dumping in our territorial sea and dumping in our contiguous zone which affects our territory or territorial sea. And, as the President has stated, we will urge other nations to adopt similar measures and enforce them. But, a completely effective system for the control of ocean dumping would involve regulation of at least all harmful materials, wherever they may be generated, and wherever and by whomever they may be dumped.

The administration bill contains a section requiring the Secretary of State to "seek effective international action and cooperation to insure protection of the marine environment. . . ." State, in conjunction with the Council and other concerned agencies, is taking steps to assure accomplishment of this objective. We anticipate that the 1972 United Nations Stockholm Conference on the Environment will be a useful forum in this respect.

If the United States is in fact to exercise leadership in this critical area, if it is to persuade other nations to control their ocean disposal of wastes, then it is essential that the United States first put its own house in order. In my opinion, prompt and favorable action by Congress to establish effective regulation of ocean dumping is a prerequisite to action by other nations.

Thank you, Mr. Chairman. That concludes my prepared statement.

Mr. LENNON. Thank you, Mr. Train. I personally do not think that

your remarks have been too extensive; they were very interesting, informative, and certainly will be most helpful.

Mr. ROGERS.

Mr. ROGERS. Thank you, sir.

Mr. Train, I notice that you take pretty much the position the bills have taken generally that certain elements should be permitted all together. My understanding is that the President said there would be no more ocean dumping for Federal agencies. Am I correct or incorrect on that?

Mr. TRAIN. It is the President's policy that Federal agencies prior to the enactment of legislation endeavor, to the extent practicable, to conform to the policy which he has recommended for legislation. Certainly the Federal agencies would be covered by our proposed legislation.

Mr. ROGERS. What I am concerned with—we had a problem with the Army where we got into all this nerve gas thing, as you recall, and then we had problems with the Navy in my own State where they dumped acids and oil. Now I find, and I have predicted this would happen, we would have to go service by service to get anything done. Now I find the Air Force is out dumping in California and I am sure from other bases in an attempt that I think will soon kill off part of the water in the ocean there off southern California and that is the Norton Air Force Base.

They have been dumping chemicals into the ocean via barge. Now they are supposed to dump them 5 to 10 miles off, but if it is good and foggy they say they do it quickly and they even had a problem there where they could not get them to sink so they used rifles to sink the containers and even had one blow up and blow part of a ship out, too, I understand. Now they have stopped the dumping by barges since the President's direction came out, but do you know what they are now doing? They are now taking it in trucks and just dumping it into the sewerage system and it goes right into the bay.

Now I think that is a perversion of what the President intended and I would hope that there is some action that could be taken to prevent that. That is probably the largest film depository where they develop a lot of film in Hollywood, so all of these chemicals that are most deadly are dumped right into the sea. In fact, there are some that directly effect cancer.

Are you aware of this situation?

Mr. TRAIN. No; I am not, Mr. Rogers. That is new information to me and I am certainly very glad to have it. I assure you that I will be in touch with the Air Force as soon as this hearing is over to discover what is going on.

Mr. ROGERS. Should they not be filing an impact statement with you if they dump 1.2 million gallons of chemicals, including cyanides, sulfates, hexa chromium, and 94 other chemicals? The truck leaves the base each morning by 7:30 to 8:30 and they simply dump into the sewer lines into the bay, and the truck is marked, incidentally, corrosives.

Mr. TRAIN. In specific answer to your question, Mr. Rogers, from what you describe I would consider these actions to be subject to the National Environmental Policy Act and the subject of environmental impact statements under section 102; yes.

Mr. ROGERS. I understand they have not filed such a statement.

Mr. TRAIN. To my knowledge, no.

Mr. ROGERS. I think you are correct, we have also checked with EPA and have not found that to be the fact.

Also, I would just like to recall while we are going into this just a minute the fact that when the Navy ordered the dumping into the St. Johns River of the acids we went into the problem of who is responsible, what happens. The Corps of Engineers under the law is supposed to recommend an action by the Attorney General. Well, they are afraid to do it against the Navy. We have talked to the counsel over there; "Oh, we don't think we can do that."

We said; "What about the individual who gives the command?"

"Well, there may be some authority there, we better let the Navy do it."

Now the Navy told us they were going to investigate. It has been over 6 months and still no action taken against the person who gave that order. Now if this continues, the perversion of what the President has ordered has gone astray, the intent of the law is not being carried out. We will never stop dumping unless we begin to center responsibility and take some action or at least a reprimand, and I have not even seen that done. I don't see as much point in us passing a lot of laws if our own establishments are going to ignore the law and ignore the intent of Presidential directives.

Do you suppose we can get any action on that?

Mr. TRAIN. Well, as I say, having this information I will certainly take it up with the Air Force right away. We are very much dependent on the council on information to provide a basis for identifying problems.

Mr. ROGERS. I understand.

Mr. TRAIN. As you understand, this kind of information is not generally volunteered to you by either a government agency or a private source if that is what is involved. So it is helpful to us to have this kind of information and we can certainly proceed to look into the matter and see what is going on.

Mr. ROGERS. Would you, and let us know?

Mr. TRAIN. I certainly will.

Mr. ROGERS. I think it is very vital.

Mr. TRAIN. And I do. At the same time, with all of the continued actions which are clearly inconsistent with the policy which the President has recommended, I do note that the Defense Department has been moving to put its house into order. The Secretary has banned, as you know, all dumping of chemical and biological warfare agents. This has been completely stopped. Of course no biological warfare agents have ever been dumped at sea, but chemical warfare agents, as this committee well knows, were dumped and this has been now completely banned. There are no explosive dumpings presently underway. There was one that was scheduled but that has been held up pending an extensive Navy study of alternative methods of disposal.

The Navy has also to my knowledge moved, I hope effectively since the dumping of the oily wastes off the Florida coast some months back, to prohibit any reoccurrence of that kind of action from any of its other bases around the coastline. Now on the other hand, the kinds of

cases to which you referred do arise and we have to keep working on them.

Mr. ROGERS. I think some action needs to be taken, and also on mercury. I think we could have prohibited the dumping of mercury but the agencies still have not done this. We know it takes action, we know the deadliness of it. We have had a few suits brought where they still permit them to continue, and I would hope you could encourage some action, too.

I won't continue now because I know the other members have questions. There are many questions I would like to go into, Mr. Chairman, with Mr. Train at a later time.

Mr. LENNON. Would you like to submit the specific questions and let him include them in the policy review?

Mr. ROGERS. Some of them. I think it would be actually helpful to have a little rapport because you don't always get the answer you need.

Mr. LENNON. Thank you.

Mr. Pelly.

Mr. PELLY. Thank you, Mr. Chairman.

Mr. Train, before you came into the hearing room one of the witnesses testifying in behalf of his own bill said that the administration bill is lacking in the major provision of his own original legislation—the establishment of no dumping sanctuaries for marine life. His comment was that "Proposals which simply move dumping grounds from one area to another are myopic and only increase the danger of prolonged pollution and international complications growing out of contaminating the world's oceans."

I think you referred to the subject of sanctuaries in your discussion. Would you care to comment on this witness's statement?

Mr. TRAIN. I suspect I was commenting upon the same bill, although I am not certain. I was simply noting for the information of the committee that under the administration bill—while it does not have a marine sanctuary section in it, that was not really the purpose of the legislation—it does have authority for the Administrator of EPA to prevent any form of dumping in certain fixed areas at his discretion.

Mr. PELLY. In other words, you don't agree that the administration bill would result in just moving a contaminated area from one place to another?

Mr. TRAIN. Oh, no; certainly not. The administration bill, that is, the purpose of the bill, is to either stop or to phase out as rapidly as possible all harmful dumping.

Mr. PELLY. In the administration bill there would be a requirement for a permit for transportation of material in the United States to be dumped anywhere at sea and then also it would require a permit for the actual dumping by any person. Is that duplication or is there any reason for the distinction?

Mr. TRAIN. We are not talking about two permits. It is the transportation from the United States which is the jurisdictional hook, if you will, upon which we hang the authority of the United States to regulate dumping anywhere in the world. So if a ship carries wastes from a U.S. port to dump anywhere in the world, it will have to have a permit from the Administrator of the EPA.

Mr. PELLY. In other words, there is a legal power to control carrying pollutant materials through the the territorial sea and on that basis you propose to prevent it from being dumped outside.

Mr. TRAIN. It is actually the taking from the United States proper, not the passing through the territorial sea.

Mr. PELLY. In other words, it is an export permit. What legal authority would there be for taking material from a port as against going through our sovereign territorial waters?

Mr. TRAIN. Well, of course, you could not leave a port without going into the waters but it would be under the commerce power, I presume. We do not by that authority seek to govern the case, for example, where wastes are loaded in a foreign port and for some reason carried through the U.S. territorial waters and then back out to the high seas somewhere and dumped. We would not seek to assert U.S. jurisdiction over that dumping by this legislation.

Mr. PELLY. Does the International Convention on the Law of the Sea give us authority to prevent dumping over the Continental Shelf?

Mr. TRAIN. If we get into the complexities of international law in this area, you might be better advised to rely on Mr. Stevenson of the State Department. But, I would say this: that our jurisdiction insofar as territorial seas are concerned extends only 3 miles, and 9 miles beyond that to the contiguous ozone.

Mr. PELLY. Over the bottom, but we don't actually cover the free-swimming fish, for example.

Mr. TRAIN. Under the Geneva Convention with respect to the deep seabed we have jurisdiction over the resources of the seabed out to the 200-meter isobath or so much further out as we have the ability to exploit it. I hope I am close to the language.

Mr. PELLY. You are almost word for word but I just thought perhaps there would be some limit on our power to prevent anybody dumping over our seabed to the extent of 12 miles, the Continental Shelf.

Mr. TRAIN. We believe that we have complete authority to regulate the dumping by anyone within our territorial waters, no matter from where those wastes come or whether there is any touching at a U.S. port. We likewise believe that we have authority completely to regulate any such dumping in the contiguous zone to the extent that it could affect the territorial waters or our shores. In effect, we say this gives us authority to regulate ocean dumping within the 12 miles. To the extent that a dumping takes place outside of the 12-mile limit, whether on the Continental Shelf or beyond the Continental Shelf, we do not believe that the United States has unilateral sovereign authority to regulate that except where the wastes originate in the United States.

Mr. PELLY. I think some of the bills that are before the committee actually do seek to control outside the 12-mile limit.

Mr. TRAIN. They do, sir; and this is one of the problems to which I have referred in my statement. To the extent that they do seek to regulate dumping on the Outer Continental Shelf beyond the contiguous zone where the wastes do not orignate from the United States, we believe there is raised a very serious question under international law. At the same time I go to great pains to point out there is no evidence of such dumping so it is not at the present time a real problem.

Mr. PELLY. Mr. Train, I just have two quick questions, and answers to which I think should be in the record. One has to do with the matter of violations. The administration's bill provides that each day of the continuous offense shall be counted as a separate violation. With respect to the dumping of material from barges, however, would it not be better to consider each incident a separate violation since more than one barge load of material could be transported within a given day?

Mr. TRAIN. I think I better give you a response for the record on that.

Mr. PELLY. Yes.

(The response follows:)

Subsection 6(c) of the bill provides that "each day of a continuing violation shall constitute a separate offense." Dumping from a single waste-carrying barge would be a separate, identifiable incident and not a "continuing violation", even if the same barge were to make a second dumping trip later in the same day. Accordingly, each such barge dumping would be considered a separate violation under the present language of the bill.

Mr. PELLY. Then the other question I have has to do with the rights that are given to the States to establish their own standards. Well, I don't see any provision in the administration bill that requires that the State standards should have greater strength than actually the standards provided in this bill.

Mr. TRAIN. Where are you reading from in the bill, Mr. Pelly?

Mr. PELLY. Well, I have some notes here and I will read them. I don't have the actual bill before me.

The bill does not state that the State requirements must be more stringent than the Federal law.

It is section 7(e) I am told.

In other words, should we imply or should the bill be amended to assure that any State requirements would be more stringent than the Federal requirement?

Mr. TRAIN. The Federal Government is taking over—well, no, that is not entirely correct.

What the bill provides in section 7(e) is that the fact of Federal regulation as provided by this bill will not preempt the States from exercising regulatory authority if they wish. Now in effect what this means is that if a State wishes to set more stringent rules than the Federal within the 3-mile limit of the territorial waters, it will be free to do so. On the other side of the coin, a State could not set less vigorous standards within the 3-mile limit, or if it did the Federal regulations would override them because the Federal permit would be needed and would rest on the Federal criteria.

Mr. PELLY. So I will not take too much of the other Members' time, I will ask you to supply for the record the answer to my question with regard to the jurisdiction in connection with oil.

Mr. TRAIN. Yes, sir.

(The information follows:)

Discharges of oil are strictly regulated by other Federal laws. For example, section 11 of the Federal Water Pollution Control Act bars making discharges of oil determined to be harmful into the territorial sea or the waters of the contiguous zone. By regulation, any discharge creating a visible sheen has been determined to be harmful. Further restrictions, particularly on the high seas, are imposed under the International Convention for the Prevention of Pollu-

tion of the Sea by Oil, 1954, as amended. Pertinent further amendments to this Convention were adopted by a Conference of Contracting Governments in 1969, and the President has transmitted these Amendments to the Senate for its advice and consent.

Mr. PELLY. Thank you, Mr. Chairman.

Mr. LENNON. Thank you, Mr. Pelly.

Mr. Karth.

Mr. KARTH. Mr. Chairman, I know time is fleeting. I merely would like to make a request, if I may. Pursuing what our distinguished colleague from Florida started, if he is correct about the Air Force dumping, I would like to have you, Mr. Chairman, submit for the record the name or names of those who are responsible for having given the order to dump and the name or names of those responsible for filing with you or the EPA an application to dump. Would you do that for the record?

Mr. TRAIN. Certainly. I will endeavor to get the information—that should be my correct answer.

Mr. KARTH. I am sure you can.

(The material follows:)

We have been informed that the Air Force has transmitted to you a factual statement describing the circumstances involved in Norton Air Force Base's handling of liquid wastes. To our present knowledge, the treatment given the Norton wastes is consistent with applicable water quality standards. We have asked the Environmental Protection Agency to review the present Norton handling practices for such wastes and to assess the adequacy of the applicable treatment standards. At your request, we have also asked the Air Force to identify those officials who are responsible for the Norton practices and to send you their names in a separate, subsequent letter.

Mr. KEITH. Would the gentleman yield?

Mr. KARTH. Yes.

Mr. KEITH. I hope you would add the corrective action that is necessary to overcome this condition and to make certain it does not occur again.

Mr. KARTH. If you would, Mr. Chairman, the results of your investigation and your recommended action.

Mr. ROGERS. Would the gentleman yield?

And also the point I mentioned about the Navy doing nothing about the dumping at the St. Johns, I think we need some information on what action is taken there, what investigations, what action has been taken against the officer who gave the dumping order. I intend to pursue it but I think it might be helpful if you could request it also.

Mr. TRAIN. Which exact case was this?

Mr. ROGERS. Where they dumped the acid in the St. Johns River. The command was given from the Naval District Office, not the little Lieutenant who actually translated the order but the order was given from up the line. We need to know who did that, and some action should be taken against those people.

Mr. TRAIN. I will to the best of my ability get together these answers for you. As you may know, there will be a witness here from the Navy, I believe, later this week.

Mr. ROGERS. Maybe you can ask if he has the answer when he comes.

Mr. TRAIN. I certainly will mention this to him.

Mr. LENNON. We are talking about the Mayberry incident, in which the contractor for the Navy dumped, with the permission of the Navy,

first of all sulfuric acid, and then subsequently caustic soda, which the Administration on Oceanography became involved in and had the assurance of the Navy there would be an investigation, and a report and an assurance, too, that they would take it up with you.

We would like to know, and we think we are entitled to know, if they did carry out that directive which obviously they have not because you have no recollection of it.

I thank the gentleman for yielding. Mr. Mosher.

Mr. MOSHER. Judge Train, at the bottom of page 10 you commend the committee for its interest in the subject and you speak of the cooperative and bipartisan spirit. I judge you are implying there that the administration has considerable flexibility in its attitude on this legislation, and you are prepared for some give and take as the committee considers legislation, and you anticipate that the administration bill will be changed to include provisions in those bills introduced by members of our committee. I hope that is the case.

Mr. TRAIN. That is absolutely correct, Mr. Mosher. The administration's purpose is to achieve strong ocean-dumping control legislation as soon as possible.

Mr. MOSHER. So now the issue between the administration bill and the bills that have been generated on the Hill seems to be the degree of discretion which the Administrator of the Environmental Protection Agency would have. The administration bill gives him almost whole discretion—at least it is very wide discretion—whereas most of the other bills restrict his options in one way or another.

I think that inevitably will be taken into consideration as we ponder this legislation. Do you have a certain degree of flexibility at that point? Do you anticipate that perhaps we should sharpen and strengthen, and perhaps limit that discretiionary power to a greater degree than in the administration bill?

Mr. TRAIN. I think it would be my view that while the policy should be very clearly announced, and while the criteria which are developed by the Administrator of the Environmental Protection Agency should be made a matter of public record, and settled only after public comment, that the Congress should permit great flexibility in the administration of this program rather than trying to legislate fixed rules concerning what can and what cannot be dumped, and fix time tables or specific references to geographic areas.

I believe that we are dealing with a highly complex problem. I do not believe that you can pretend to, or seek to, regulate the marine environment in some sort of separation from the land environment. We are talking about one total interrelated problem. This is the reason why, for example, the administration's legislation contains the requirement that the Administrator of the Environmental Protection Agency in setting standards must take into account the effect on the marine environment, and also the availability of alternative disposal methods. I think that it would be both unrealistic, and I think incorrect, to require ocean-dumping decisions to be made irrespective of the effect of other alternatives.

Mr. MOSHER. Well, the complexity of the job is very apparent. I agree that there is a need for considerable discretionary flexibility, but at the same time I think that we are going to have to have this

very serious and thorough consideration as to certain limits, certain standards, certain requirements as guidance. I think Congress cannot relinquish its responsibility just by shoving off to the administrative agency complete discretionary authority. This is something that we will all be discussing, of course, in the days ahead.

Mr. ROGERS. Would the gentleman yield?

I think it will be well to have your comment, Mr. Train, about the provisions that those of us who introduced H.R. 3662 provided in this proposed legislation, my bill, to begin to set deadlines as to treatment of wastes before they can be dumped into the water; for instance, primary, secondary, and tertiary treatment to set specific dates just like you did in the air pollution bill.

Now, unless we have goals and dates set, I am afraid all of this discretion in the administration bill will end up in no decisions and no real progress being made. I think it is essential for us to have deadlines as to when we must have primary, secondary, and tertiary treatment before they can be dumped. I think it would be helpful if we could have your opinion in the record on this.

Mr. MOSHER. Of course, the Air Quality Act was unique, because Congress for the first time did establish quantitative standards and deadlines, and I think this will be almost the prime question before us as to whether we want to follow that example or not.

Mr. ROGERS. I think the gentleman is correct. If you could let us have your comment on that?

(The comment follows:)

Requirements for primary, secondary, and tertiary treatment of wastes would generally apply to those liquid wastes which are discharged through outfalls. Discharges of effluent from outfalls are excluded from regulation under H.R. 4723, with the expectation that such discharges will be addressed under the Federal Water Pollution Control Act and the Refuse Act. The Administration has proposed amendments to the Federal Water Pollution Control Act which are now being considered by other Committees; Mr. Ruckelshaus, the Administrator of the Environmental Protection Agency, could and to my knowledge will discuss the details of these water quality proposals with you.

Mr. LENNON. The gentleman from California, Mr. Anderson.

Mr. ANDERSON. Yes. Thank you, Mr. Chairman.

Mr. Train, to follow up Mr. Pelly's question a moment ago concerning the establishment of no-dumping sanctuaries for marine life, would you be opposed to an amendment to your bill that would incorporate the concept of the no-dumping sanctuaries?

Mr. TRAIN. No, I am not opposed to it. I am personally rather in favor of the establishment of marine sanctuaries and some system of that sort. As you know, the administration bill proposed legislation last year for the acquisition of Santa Barbara oil leases and the establishment of a marine sanctuary in that particular area off the Santa Barbara Channel. So this is a concept which, I think, speaking very generally, I would strongly favor.

There can be, obviously, differences in detail. Whether this is the proper vehicle or not is something else again. I think that the authority for the establishment of marine sanctuaries is probably more appropriately placed in the Secretary of the Interior, which I think the bill in question does do, rather than in the Administrator of the Environmental Protection Agency, for example.

Mr. ANDERSON. Thank you. I have another question.

Mr. TRAIN. Let me also comment beyond that. There is a great deal involved, obviously, in the establishment of a marine sanctuary that goes far beyond questions of dumping which define the scope of this particular legislation. There are questions of resource development, and, I suppose, other questions of international law, a whole range of concerns which we have not gone into, either in our report or in this legislation, and I would think that perhaps ought to be dealt with separately.

Mr. ANDERSON. I believe Congressman Murphy's idea is to have regulated dumping in these areas but, in addition to the dumping areas, to have no-dumping sanctuaries, areas free from dumping concessions, along our coasts, where no dumping whatsoever is allowed. This appeals to me, particularly on sections of the California coast, where I would like to see areas set up wherein no dumping of any kind occurs. Furthermore, in those areas where dumping is allowed, some regulation should be required. I think that concept probably should be included in your bill.

Mr. TRAIN. Well, it is included in the bill to the extent that the Administrator has the authority to ban all dumping in given areas. That is, as I pointed out, part of the authority in the bill.

Mr. ANDERSON. Such authority could almost be construed as the no-dumping sanctuary which he is recommending in his bill.

Mr. TRAIN. Yes, I think it is; but also, as I repeat, a lot other than dumping is involved in the marine sanctuary. There is oil development, for example; deep sea mining. I would imagine that is involved. I think these are very complex questions that should be gone into before you put the label of marine sanctuary on a given area. That would be my only suggestion, that all of those concerns in fact should be taken into account in a marine sanctuary proposal.

Mr. ANDERSON. I have another question. In your bill your definition of the word "dumping" does not include the disposition of any effluent from any outfall structure. I interpret this to mean the exclusion of any industrial-waste outfall. Am I right on that?

Mr. TRAIN. Well, yes and no. The outfall at the present time that is within the 3-mile territorial sea is governed by the Water Pollution Control Act and by the water quality standards. The President recommended last year, and again in his environment message this year, that water quality standards be extended to include the contiguous zone also; so that would then cover all outfalls out to the 12-mile limit. To the extent that you have an outfall that is beyond the 12-mile limit, I would question whether the water quality approach is an effective one, and would think that, if it were desired to control such outfalls, such control be accomplished through a permit system under this legislation. The relationship of the Water Quality Act to this permit authority is one I think you will want to discuss very closely with the Administrator of the Environment Protection Agency; it is a complex relationship.

Mr. ANDERSON. In your remarks this morning on page 14, you said you recommended "extending regulations to transport other than by vessel, since much dumping of material such as dredge spoils does not take place from vessels but rather from special conveyor systems or pipelines which are not considered outfalls."

I would like to determine in my own mind when you consider a pipeline an outfall and when you do not. Would a pipeline built for the purpose of conveying sludge and ground-up refuse be considered an outfall and would your proposed legislation apply? Municipal and industrial sewer lines are considered outfalls and would not be covered in your bill, according to your definition.

Mr. TRAIN. I am not sure that is correct, Mr. Congressman. I would like to direct myself to that in a written answer if I may.

Mr. ANDERSON. That is all I have.

(The answer follows:)

The first proviso to subsection 3(f) excepts from "dumping" covered by the bill, "a disposition of any effluent from any outfall structure." We note that "outfall structure" is a term of art used as a matter of practice in such related areas as the regulations promulgated by the Corps of Engineers for administration of the Refuse Act. See 33 C.F.R. § 209.131(f)(2), published at 36 Fed. Reg. 6567. We consider an "outfall structure" to be an identifiable artificial or artificially-adapted-natural discharge point for effluents which are transmitted either from facilities located on shore or from artificial islands or other fixed structures located off shore.

To our knowledge, the three primary means of dredging used in the United States would not involve outfall structures. A "pipeline" dredge uses a cutter head and suction to remove material from the bottom of a water body. The removed material is then pumped through a pipe to the designated disposal location. A "sidecast" dredge disposes of the removed material by casting it to one side of the dredging implement. It is mainly used in intercoastal or inland waterways where the removed material is unpolluted; e.g., where it is clean sand. A "hopper" dredge is often used in seagoing operations and involves taking up the removed material, transporting it to the designated disposal area, and then dumping it.

Mr. LENNON. Mr. Keith.

Mr. KEITH. Thank you, Mr. Chairman.

I was glad to have some introduction on the subject of marine sanctuaries. As you know, that is a pet of mine. Massachusetts has legislation establishing a sanctuary within the 3-mile limit off the cape of our national seashore along the shorelines of Massachusetts and they now have legislation establishing a marine sanctuary for many more areas.

Does the administration have the authority for creating marine sanctuaries within the area known as the fishing area—3 to 10 miles?

Mr. TRAIN. This is an international law question. Twelve miles could well go beyond the Continental Shelf in some areas. I would say that to the extent that the jurisdiction over deep sea dead resources extends the United States would have jurisdiction to establish a marine sanctuary related to the exploitation of those resources.

Mr. KEITH. Pertinent to the shelf but not the water column?

Mr. TRAIN. That falls under another body of law with which I am less familiar. I just don't know the answer to that.

Mr. KEITH. From the State Department I suspect that is really a very rough one and that is perhaps one of the reasons that we have not moved more readily in this area. I am concerned of course about the fishing grounds and the possible conflict as we continue our search for oil, the exploration phase followed by the exploitation phase. The State of Massachusetts has moved forward and I would hope that we could.

You referred to the State Department. Would the concept of zoning of the Continental Shelf be the kind of a vehicle that we would utilize

for improving the environment of the shelf? Could we as a nation abutting the Continental Shelf be able to use that as the authority for unilateral action to zone C?

Mr. TRAIN. Well, I don't think that by a process of zoning we can do anything which we are not otherwise entitled to under international law. In other words, I don't think any unilateral action can give us greater jurisdiction than we already have under international law.

Mr. KEITH. So if we wanted to proceed with legislation protecting the water column, we would have to go to IMCO and the international treaty group.

Mr. TRAIN. Within the 3-mile limit you can do anything you want with the water. Within the contiguous zone I am uncertain what you can do. I just don't know, there are a number of rules. You can control dumping to an extent but only if it affects your territorial waters and your shore.

Mr. KEITH. Does your concept, or your role, have a positive nature as well as a negative one? Can you take steps to——

Mr. TRAIN. I very definitely hope so, Mr. Keith.

Mr. KEITH. I have particular reference to the fishing zone.

Mr. TRAIN. Can I answer very quickly before you proceed because I think the previous question and maybe my answer will look a little strange here on the record. I would say that the record of our Council in terms of positive proposals, including the ocean dumping policy sent to the Congress by the President last October, is a positive one. I think most of our work is of a positive nature. The legislative package which the President sent to this Congress, some 15 to 20 bills, is a very positive program which we have developed.

Mr. KEITH. Unfortunately, we have to undo a lot that has been done and we must police the area before we can improve it. Most of the legislation which is in effect police action and we want to improve the environment by positive roles and it can't be done until we establish our authority on these resources and further establish the authority on the Continental Shelf and in the water above it.

We have to try to clear the area before we can improve it, and with the shortage of protein I would hope that we could spend some time and thought as to what we might do to make it more rewarding from a resource point of view, particularly as relates to fisheries. Because we have to police that area in a positive way; we have to have conservation measures and we have to have some way of making a better habitat for the fish and the shellfish on the ocean floor. And it is going to require an imaginative course of action if we are going to get the resources that will be required to take care of the population.

I have no further questions at this time.

Mr. LENNON. Thank you, Mr. Keith.

Mr. Kyros.

Mr. KYROS. Thank you, Mr. Chairman.

Mr. Train, while oil and radioactive wastes are glamorous issues at present, you point out that 80 percent of what is removed from the bottom is dredge spoils, and 34 percent is polluted. And every day, while we sit here the State of Maine people are dredging off the Atlantic coast. I don't see in all of your materials any real solution of the problem. Possibly taking dredge spoils out a little further, instead of 3 miles from the coast line, possibly taking them out 10 miles; and

then, perhaps, some long-range efforts. But what are we going to do in the interim with the dredge spoils? Is there some crash program that we are going to have, something more practical in solving the problem?

Mr. TRAIN. Of course in the Great Lakes the administration has instituted a program for shifting from the dumping of dredge spoils in the lakes themselves to a system of diked disposal areas along the shoreline which in itself is not completely satisfactory but is certainly a major improvement over what was done before.

I don't think that that is probably a feasible solution over much of our exterior coastline because there we run into the problem of destruction of wetlands whose protection we are equally concerned with. I have indicated that the Corps of Engineers has instituted a policy of taking the water quality effects of the disposal of spoils very much into account as part of the process of deciding whether to dredge a given area or not. This is a new development and I think a significant improvement.

This is being weighed in the process along with the navigational and economic benefits of dredging. I can't hold out to the committee any real hope that the dumping of spoils is going to come to a very rapid end because the alternative of disposal on land is not a very appealing alternative. As I mentioned a moment ago it probably would involve wetland destruction and this may well be a far more environmentally harmful alternative than a continued disposal at sea.

Looking well down the road, as water quality standards generally become increasingly effective, the polluted nature of our river bottoms and port bottoms should steadily improve so that hopefully, again looking somewhat down into the future, these dredge spoils will not be as polluted and environmentally harmful as they are at the present time.

Mr. KYROS. Do we have a cutoff date for municipal sewage dumping? Where the dredge is going to happen, is there a set date State-by-State, port-by-port?

Mr. TRAIN. There are implementation schedules under the Water Pollution Control Act, yes.

Mr. KYROS. So you could look forward to those dates. In the interim, I notice that under 7(c) of the act the Army and the Corps of Engineers retain authority as to where to dump. In other words, they still don't have to come to you or to the EPA, for a permit do they?

Mr. TRAIN. You are referring to their dredging and filling authority under the Rivers and Harbors Act. We do not supersede that by this legislation, but the legislation does require that the Corps of Engineers must get certification by EPA that a given dredge and fill operation is acceptable from the standpoint of the criteria of this legislation, so they are meshed together.

Mr. KYROS. Do you feel that this is sufficient authority in order to have your own agencies exercise complete and uniform control over the dumping of dredge spoils, as well as over the other materials which you will be watching?

Mr. TRAIN. Yes, I believe so. It is as broad as we think you can provide. I would also suggest that this is a brand new program and

I think that this and other committees of the Congress would want to keep a very close eye on its administration. At the present time we really have no control over ocean disposal in any effective sense. We are recommending total regulation of all disposal offshore originating from the United States. So it is a very broad authority and a very basic shift, almost a revolutionary shift in the extent of our existing authority. How it is in fact administered is exceedingly important. We believe that this is a matter of urgency, that harmful dumping should either be stopped or phased out as rapidly as possible as a matter of urgency.

Now if it turns out in effect that this is not being administered as vigorously as you would desire, then I think that it would be entirely appropriate for the Congres to set specific deadlines if it wished along with other specific rules, but I do believe that in the meantime it is very important to have a strong element of flexibility in the way this is done.

Mr. KYROS. But on section 7(c) there will be this kind of conflict. As I see it, people want their harbors dredged, and Congressmen want their own particular districts to get the dredging because of their boating and fishing and commercial fishing. Then, on the other hand, we have budgetary restraints which will prevent us from taking the dredged spoils out so far to sea as we would like to in the optimum situation. There will be a conflict.

I am just wondering if you are going to have sufficient power, within these restraints, to see that the dredging is done properly.

Mr. TRAIN. As you will note in section 7(c)(2), as I indicated the Corps must in all of these cases go to the administrator of EPA and get a certification, and I quote here from the bill, "that the activity proposed to be conducted is in conformity with the provisions of this act and with the regulations issued hereunder."

That concludes the quote.

Now I would say that is a requirement that would be enforcible in the courts by injunctive proceedings and otherwise. So I think there are very strong tools here.

Mr. KYROS. Thank you, Mr. Train.

Thank you Mr. Chairman.

Mr. LENNON. Mr. McCloskey.

Mr. MCCLOSKEY. Thank you, Mr. Chairman.

Mr. Train, on line 10 of page 3 I note that the—

Mr. TRAIN. Let me just add one point here. I am reminded that under the bill before the Corps could in fact dump as a result of its own dredging activities, they would have to go to EPA to get a permit. So to that extent dredging is covered even more strongly than I have indicated by speaking of the certification process. The certification process primarily goes to the granting by the Corps of a permit to some private party or municipality to conduct dredging.

Mr. LENNON. Would the gentleman yield.

Do I infer from what you said under existing regulations now the Corps of Engineers does not not have to go to the Department of the Interior or the Secretary or the Regional Director of the Department of Interior to get a permit for dredging?

Mr. TRAIN. No, sir. Under the Fish and Wildlife Coordination Act they get comment.

Mr. LENNON. This is in addition?

Mr. TRAIN. Yes.

Mr. LENNON. I thank the gentleman for yielding.

Mr. MCCLOSKEY. In the administration bill that the chairman has introduced, Mr. Train, on page 3 at line 10 I note that this bill applies to any person, including employees of the Federal Government, with the exception that Department employees are exempt from civil or criminal penalties. Can you tell me why a Federal employee should not be subject to penalty if he violates this law?

Mr. TRAIN. I don't know what the answer to that is, Mr. McCloskey, offhand.

Mr. MCCLOSKEY. This may be a legal matter.

Mr. TRAIN. It definitely is, and I see it refers to section 6.

Mr. MCCLOSKEY. That is the penalty section. They can violate this law but not be subject to criminal or civil prosecution.

Mr. TRAIN. That is correct.

Mr. MCCLOSKEY. I wonder if perhaps at this point in the record we can afford the Council the opportunity to give us the legal explanation as to why they seek to exclude Federal employees from civil and criminal penalties.

Mr. LENNON. Does Mr. Train understand the question?

Mr. TRAIN. Yes, and I would be happy to provide an answer for the record.

Mr. LENNON. Would you provide a definitive answer because one of the things that concerns me is the image of the American Government particularly in relation to what its agencies and departments can do with immunity and what industry and municipalities across the country cannot do.

So definitively answer that question for the record.

(The answer follows:)

The exception from the penalty provisions is that contained in section 3(e), which provides that the penalty and enforcement provisions of section 6 do not apply to "any employee, agent, department, agency, or instrumentality of the Federal Government." The exception should be retained for Federal departments and agencies since it would be pointless for one Federal agency to sue another Federal agency to collect a penalty. The exception for Federal employees and agents could be removed by rephrasing section 3(e) as follows:

> "(e) 'Person' means any private person or entity, any employee, agent, department, agency, or instrumentality of any State or local unit of government, or foreign government, any employee or agent of the Federal Government, and except as to the provisions of section 6, any department, agency, or instrumentality of Federal Government."

Elimination of the exception for Federal employees and agents is not recommended, however, since the Federal Government has traditionally used internal disciplinary measures, as authorized and sanctioned by Congress and the courts, to secure compliance by Federal employees with Federal recommendations or requirements.

Mr. MCCLOSKEY. Thank you, sir.

The second question goes to a policy question, Mr. Train. I note that in the bill the administration excludes sewer outfall structures under the provisions of this act, and to my understanding the administration is submitting separate legislation to apply to sewer outfalls going into the oceans and the estuaries. I wonder if you could comment briefly on the administrative structure which would result be-

cause, as I understand it, the quality of ocean waters will then be regulated in the following manner:

First, for industrial waste the 1899 Refuse Act applies to any industry water or pollution into the navigable waters of the United States.

Second, the sewage which is excluded from the operation of the Refuse Act is also excluded from this act. It will come under water quality. Third, the Environmental Protection Agency will regulate ocean dumping and fill.

Thus, out of the four areas, sewage is apparently the one excluded. It will be regulated by some other agency under some other standards. Could you tell us why?

Mr. TRAIN. Well, the Water Pollution Control Act which is administered by the Environmental Protection Agency.

Mr. MCCLOSKEY. Does the Environmental Protection Agency set water standards for the ocean adjacent to the United States?

Mr. TRAIN. Well, they are set under the Water Pollution Control Act; they are part of the standards adopted by the States and reviewed and approved by the Federal Government.

Mr. DINGELL. Would the gentleman yield?

But those are to extend only 3 miles.

Mr. TRAIN. That is correct, and the President has recommended that this be extended to the 12-mile limit.

Mr. DINGELL. You are exempting outfall structures so that today if somebody runs an outfall 3 miles and a quarter off shore he is exempt from water quality standards and he also would be exempt from the ocean-dumping prohibition. Now assuming that this committee and the Congress enacts this bill, you will find yourself in a situation where you will be able to control dumping but not from outfalls.

Now if the Congress does not enact legislation extending water quality standards out to 12 miles, then you will be in the situation where the addition of perhaps a quarter of a mile of pipe to existing outfall will completely exempt it from any Federal regulation whatsoever.

Mr. TRAIN. That is correct, Mr. Chairman. It is important that all of these legislative proposals be considered as part of an inter-related mechanism and that the Congress be aware that it is at the present time considering water quality legislation which would extend the water quality standards to the contiguous zone. Now as I indicated earlier, there is no legislation before the Congress which would extend beyond the contiguous zone, so to that extent at least you would have to rely upon this permit system under the ocean dumping authority if you wish to control that.

Mr. DINGELL. What gives you reason to believe that the States have the right to regulate from 3 to 12 miles insofar as water quality standards? It is an awful big area and it is a goodly distance beyond the shore.

Mr. TRAIN. I am not aware that this would be a State regulatory activity at all but I believe Federal standards——

Mr. DINGELL. If you extend water quality standards to 12 miles, you are making this a possibility.

Mr. TRAIN. No, sir; I believe these would be standards set by the Federal Government which would apply to the contiguous zone.

Mr. DINGELL. You are not going to go through the mechanism then that you have with water quality standards?

Mr. TRAIN. We have mechanisms under the existing law for the Federal Government to set standards in cases where States refuse to set standards.

Mr. DINGELL. I am going unduly into my colleague's time but the State sets standards, the Federal Government approves them and the State enforces them. Now are you going to use a different mechanism with regard to the distance between 3 and 4 miles offshore?

Mr. TRAIN. That is the legislation that has been before Congress since last year; yes. The States have no regulatory authority over the contiguous zone, it is entirely a matter of Federal regulation and it always has been.

Mr. DINGELL. Do you propose to set up specific Federal water quality standards of the contiguous zone between the 3 and 12 mile limit?

Mr. TRAIN. That is my understanding of the proposal.

Mr. DINGELL. As opposed to the State mechanism?

Mr. TRAIN. Yes, sir.

Mr. DINGELL. I see.

Mr. MCCLOSKEY. I have a question that I think also justifies consideration here in view of your last answer, Mr. Train. In the San Francisco Bay area one of the proposals is the so-called Kaiser plan which would take sewage an undetermined number of miles out into the Pacific Ocean for disposal. I gather from your testimony under this Act that if dumping occurs 12 miles out, those dumpings would be immune to Federal regulation.

We have the danger here that, unless this legislation goes precisely to this question, the entire local government-State government operation, involving hundreds of millions of dollars, would not know what to expect from the Federal Government on the question of the right to dump sewage 12 miles out. It seems to me that the question of the long 15-mile sewer outfall ought to receive concern, for example.

The other question, though, is with our separate act.

Mr. LENNON. Would the gentleman yield?

Let the gentleman comment on that question.

Mr. TRAIN. I agree with you. I think the legislation should address itself to that problem.

Mr. LENNON. Thank you.

Mr. DINGELL. Would the gentleman just yield?

Would you want to give us some language that might be helpful to the committee in coming to some proper judgments as to how we could meet the approval of the legislation and carry out the matter that our good friend from California just suggested?

Mr. TRAIN. I think what I would suggest is that we will work with the Environmental Protection Agency on this together with your staff and see what we can suggest along those lones.

Mr. KYROS. Would the chairman yield?

Mr. LENNON. We are really cutting in on Mr. McCloskey's time.

Mr. KYROS. Don't sections 4 and 5 already cover that, Mr. Train? It says here you can issue permits for transportation, and then, under

prohibited acts, 4(b), no one can dump material in a zone contiguous to the 12-mile zone that would affect our territorial waters. So, if someone had a pipeline that transported the materials 12½ miles out, but you concluded that this would affect our territorial waters within 12 miles, you could take action?

Mr. TRAIN. No; that is outside the contiguous zone.

Mr. KYROS. It says in 4(b):

> No person shall dump material * * * in a zone contiguous to the territorial sea of the United States, extending to a line 12 nautical miles seaward from the base line of the territorial sea * * * to the extent that it may affect the territorial sea or the territory of the United States.

So if that dumping affected water within 12 miles because of currency——

Mr. TRAIN. No, sir.

Mr. KYROS. No?

Mr. TRAIN. It is confusing, I will certainly agree with that. What this is saying is that from the 3-mile limit to the 12-mile limit of the contiguous zone any dumping that occurs within that zone is subject to the control of the act if it has an effect or if it may affect the territorial sea which is within the 3-mile limit or the territory of the United States itself.

Mr. KYROS. I see. But does the term "transportation" include within it the definition by pipeline as well as by ship?

Mr. TRAIN. I am not sure of the answer to that.

Let me say for the record this is Mr. Charles Lettow, an attorney with the staff of the Council.

This apparently falls in the definition of dumping rather than in any definition of transportation, so that if there is a gap here in the coverage of the act this is probably where the language would be operated on.

Mr. LENNON. Would the gentleman from California yield further to the gentleman from Maine?

Mr. MCCLOSKEY. Yes, sir.

Mr. KYROS. Thank you. I am all through, sir.

Mr. TRAIN. It excludes the disposition of an effluent from the outfall in the definition of dumping so that your normal pipe would not be covered by this act. Now, excuse me.

Mr. MCCLOSKEY. Thank you, Mr. Chairman. I have no further questions.

Mr. LENNON. The gentleman from Delaware.

Mr. DUPONT. Thank you, Mr. Chairman.

Mr. Train, I would like to raise some questions in what I think is an area that maybe we ought to make a direct about face from the previous Federal practice and that is in the question of permitting overlapping State jurisdiction. I have recently had some contacts with the Environmental Protection Agency in regard to the enforcement of the Air Quality Act and frankly it is an administrative disaster over there and I will take that up with those people when they come.

Looking for a minute at ocean dumping and the fact that you might permit States to set up standards of their own, it seems to me that there are four questions raised that suggest very strongly that we

ought to completely free up this area and get the States out of it. I would like your comments.

First of all, in an area such as the Delaware River where you have two States bounding either side of the river you have the problem of allowing a dumper to choose his jurisdiction. New Jersey sets up one standard and Delaware another one and they are different. The dumping company or the dumping concern could choose between the two of those if both of them had standards that were more stringent than the Federal.

Second, as soon as you permit a State to set up its own law that is more stringent than the Federal law and preempt the Federal law thereby, then you throw out the window all the Federal enforcement procedures. If you take away the Federal law, you take away Federal enforcement, you take away the Federal court system, any citizen suits that you permit, anything of that kind.

Mr. LENNON. Would the gentleman let Mr. Train comment on both of these various good questions?

Mr. DUPONT. All right. I have two more.

Mr. LENNON. He may not get a chance to answer any of them.

Mr. DUPONT. Perhaps we could start with those two and get your comment generally.

Mr. TRAIN. Let me be sure I understand the question. Your concern with the case within the 3 mile limit is where a State would have more stringent standards for disposal than would Federal Government and what that would do to the system. Now as I understand the act, Mr. DuPont, all dumping will require a permit from EPA, all of it in every case. Under the Water Quality Improvement Act of last year, Section 21(b) wherever the Federal Government grants a license for an activity which by a discharge could affect State and water quality standards it must get a certification from the State of the effect of the discharge in light of the standards and that I think is what would happen in this case. The State would say, "We have stronger water quality standards with respect to this 3 mile area and we would not approve a dumping tested only by the Federal standards, and this is what you would have to do for us to go along with it.

Mr. DUPONT. So the State would have the final authority.

Mr. TRAIN. No, the Federal Government would give the permit, as I understand it, but only if it met the State water quality standards.

Mr. DUPONT. In other words——

Mr. TRAIN. You better permit me to send you an answer for the record on that.

Mr. DUPONT. I would appreciate it.

Mr. TRAIN. I am really not familiar enough with the interrelationship of these more than to just muddy the record for you.

Mr. LENNON. Mr. Train, I think the two questions, you have two more yet to go, are very vital to the ultimate decision this committee would have to make in the point of time that it has to report out the bill. You can see a permit issued by the State of South Carolina within the 3 mile limit but who is going to bear that? You said you cannot just move the length of the ship off the coast of North Carolina and dump or off the coast of Georgia and dump, move out of Port Charleston, Wilmington, or Morehead, N.C. I am just illustrating those because I do know them. Do go into that in depth.

(The answer follows):

The interelationship of Federal and State controls over ocean dumping involves consideration of both water quality standards and ocean dumping criteria. H.R. 4723 saves from preemption State rules of either type.

Moreover, state-adopted water quality standards would be a consideration in the evaluation of a Federal ocean dumping permit application, if the application were for a dumping to take place within the three mile territorial sea. Section 21(b)(1) of the Federal Water Pollution Control Act provides in part that: "Any applicant for a Federal license or permit to conduct any activity . . . which may result in any discharge into the navigable waters of the United States, shall provide the licensing or permitting agency a certification from the State in which the discharge originates . . . that there is reasonable assurance . . . that such activity will be conducted in a manner which will not violate applicable water quality standards. . . .No license or permit shall be granted until the certification required by this section has been obtained or has been waived . . ." Section 21(b)(2) goes on to provide for a means of dealing with the situation where a discharge would affect more than one State's waters.

Mr. DUPONT. The third question and fourth question are kind of wrapped together on the same subject. If you are going to have EPA issuing permits on the basis of State law, then I think you have a very difficult jurisdictional question and that is whether a Federal agency has the power to interpret and enforce State law. I think you will find those who want to dump will take advantage of this and bring innumerable suits involving due process and a lot of things to set the whole thing.

Perhaps if you are going to make some comments in this area you would let us have the benefit of your thoughts on taking the States out of this field entirely. We are generally dealing with non-State bodies of water, we are dealing with really interstate and international water almost exclusively. If you would give us your comments on eliminating the States completely, and let the Federal Government preempt entirely.

Mr. TRAIN. Be happy to do that.

Mr. DU PONT. Thank you.

(The answer follows:)

States could be involved in controlling ocean dumping only where they have jurisdiction, *i.e.*, ordinarily in their territorial sea, which normally extends three miles from shore. Since States would necessarily become involved through establishing their own permit system alongside a Federal permit system, and since both permits would be required, the State standards would necessarily have to be stricter than the Federal criteria to be meaningful. In consideration of a State's close interest in the waters near its shore, and in light of the fact that ordinarily is exercise of jurisdiction is restricted to these ocean waters, we did not believe that preemption of State regulatory efforts was necessary.

Mr. DUPONT. No further questions, Mr. Chairman.

Mr. LENNON. The gentleman from Michigan, Mr. Ruppe.

Mr. RUPPE. Thank you very much.

Is there anything in the existing legislation, Mr. Train, or in this legislation here before us that would actually reduce the pollution in our territorial seas to the extent that perhaps in 5 years or 10 years the dredge material will be removed therefrom? This is a major problem in the Great Lakes and I am sure in the Atlantic Ocean. Is there a chance then of alleviating the basic pollution problem in this dredge material?

Mr. TRAIN. I think that the impact of the dumping of these materials will lessen, as I pointed out in response to an earlier question. It

is the policy of the port at the present time to take the impact of disposal into account in making a decision as to whether to dredge in the first place, and I understand this is reducing the amount of dredging and dumping situations in the case of polluted spoils.

As I also pointed out, the increasing impact of water quality standards over the years will certainly reduce the pollution of bottom materials in harbors and river bottoms.

Mr. RUPPE. You cannot do much to eliminate the pollution that is already there but you feel it can immeasurably reduce the pollution that would take place in the future.

Mr. TRAIN. Yes; over a long period of time and then also the impact of the dumping of these spoils can be minimized by careful selection of site, shifting of sites, and so forth.

Mr. RUPPE. Do you know if the program in the Great Lakes of not dumping back any polluted dredge spoils has actually taken effect yet? Is there anything to demonstrate concrete results?

Mr. TRAIN. I believe this is underway. It is something to be done over a period of years. It is not a complete answer at the present time.

Mr. RUPPE. Have you had anything to do in your agency with the dumping of mine tailings or taconite sands in Lake Superior?

Mr. TRAIN. I am generally familiar with the problem. No; we have not had any specific activity.

Mr. RUPPE. Would they fall into one of the classifications you consider should be eliminated or terminated under the identifications you have listed in this testimony?

Mr. TRAIN. Well, I think it quite clear that they would be either under this dumping control or they would be under the permit system set up under the Refuse Act which the President ordered in December.

Mr. RUPPE. You say they would be effective?

Mr. TRAIN. Yes. They certainly would be controlled one way or the other.

Mr. RUPPE. But the determination would have to be made, either controlled or eliminated. This bill would not specifically eliminate them as such, is that correct?

Mr. TRAIN. That is correct. This bill provides the authority for regulating.

Mr. RUPPE. Thank you.

Thank you, Mr. Chairman.

Mr. LENNON. Thank you.

The subcommittees will stand in recess until 2:15.

Whereupon, at 12:45 p.m., the subcommittee recessed, to reconvene at 2:15 p.m.)

AFTERNOON SESSION

Mr. DINGELL. The subcommittee will come to order.

This is a continuation hearing on ocean dumping begun this morning.

At the time the subcommittee adjourned we were hearing from our good friend, Russell E. Train, Chairman of the Council on Environmental Quality.

The Chair will recognize for purpose of questioning our counsel, Mr. Everett, for any questions he wishes to ask.

Mr. EVERETT. Thank you, Mr. Chairman.

Mr. TRAIN. Before Mr. Everett begins, Mr. Chairman, there is one point we were talking about this morning where I think I may have misspoken, and that is with respect to the sewer outfalls that extend or coextend beyond the limits of the contiguous zone.

It is my understanding that the present version of the administration's proposals now before the Congress would extend water quality standards to outfalls that reached the high seas, and that is beyond the contiguous zone, if they originate in the United States. So, I was incorrect to the extent I suggested that neither under the pending legislation in the water quality field nor under this legislation as presently written would the Federal Government have a hand.

That was not correct.

Mr. DINGELL. Thank you.

Mr. EVERETT. Mr. Train, in connection with that same title, on page 3 of the bill, section (f), goes on to read, and says:

And provided further, That it does not mean the intentional placement of any device in the oceans, coastal, or other waters or on the submerged land beneath such waters, for the purpose of using such device there to produce an effect attributable to other than its mere physicial presence.

I was wondering if you could elaborate on that particular provision of the bill, as to what type of device we are talking about.

Is that part of the national defense feature, or just what?

Mr. TRAIN. I am sure it covers all of those things. It would cover oil well drilling and production platforms, military installations, I presume, of various kinds, and oceanographic surveillance, and monitoring systems.

None of these things would normally be thought of as examples of dumping, but for purposes of certainty, the bill seeks to insure that the definition of dumping does not include them.

Mr. EVERETT. But some of these devices could result in a discharge of an effluent that could be constituted pollution, could it not?

Mr. TRAIN. Yes.

Mr. EVERETT. But based on the way this section is written, it would exclude those from being covered under the act, things like pipelines, drilling structures, things of that sort?

Mr. TRAIN. Drilling structures, and I think pipelines also are covered by regulations of the Department of the Interior, which include very stringent environmental protection elements.

Pipelines are to some extent, I believe, regulated by the Department of Transportation, and also, I believe, by the Coast Guard.

Mr. EVERETT. How about nuclear reactors?

I understand there is a program on the way to investigate the desirability of placing nuclear reactors in these offshore waters.

They would also be excluded?

Mr. TRAIN. I do not think we are saying quite the same thing when we say they are excluded.

We are excluding the placing of the structure from the definition of dumping.

This does not go to discharges, and things of that sort, from the structure itself.

Mr. DUPONT. Mr. Train, are you saying if an oil structure, or nuclear powerplant, or something is placed a mile offshore, will or will not this bill cover the effluent from that structure?

Mr. TRAIN. It would not cover any oil discharges, as that is specifically excluded by the bill, as it is governed by other legislation.

Mr. DUPONT. If you had people living on it, how about simply sewage from the structure?

Mr. DINGELL. I believe that is excluded, too, am I correct, Mr. Train?

Mr. TRAIN. No, I am not positive. I am not sure whether it is covered. I would think by this legislation, or other water quality standards, and the Refuse Act permit authority, but I cannot answer your question specifically.

Mr. DINGELL. Would you get us an answer to that?

That is a very interesting point.

Mr. DUPONT. If the chairman would yield, also, and perhaps a little more relevant is the question of heated water discharge from the nuclear powerplant in the Delaware River, and I don't know if this bill covers that, or if it is covered under the previous Water Quality Act.

Mr. TRAIN. Well, that is being dealt with under the permit authority, under the Refuse Act.

This has been construed to include thermal discharges now by the administration, so that I would be pretty sure would not be covered by the dumping legislation.

Mr. DINGELL. Mr. Train, counsel has observed to me the relevant section of the bill to which we are addressing ourselves appears to be on page 3, at the top of the page, and the question I think concerns outfall, and since we are not talking about a vessel, does this fall under the meaning of dumping, or just what does this matter of the runoff and effluent fall under?

Mr. TRAIN. I think it could fall under either one, depending on how the different acts are administered, and I think this could probably be clarified as to which of the intentions it is.

I do not know the specific answer to the question.

Mr. DUPONT. Let me focus a minute on procedural questions from another point of view.

How do you envision the permit issuing process as working?

An application is made from some firm. Is there a hearing on each permit, or once the EPA has generally classified areas, can they issue permits with no hearing?

Mr. TRAIN. EPA clearly has the authority to hold hearings, and they doubtless will have hearings in a number of cases.

There is no requirement in the statute that they hold a hearing in every single case of an application for a permit under this authority, and I would not think that Congress would require a permit and hearing in every such case.

This is true, for example, with the Corps of Engineers dredging and filling permit authority under the Rivers and Harbors Act.

They do have hearings in many cases, but they decide this of their own discretion, such as in cases of great public interest, new questions, or questions of importance and so forth.

They issue some 6,000 such permits a year, and it would be an administrative impracticality to have hearings in each case.

Mr. DUPONT. As the environment groups get more and more strength, I wonder that each time a permit is sought, that some group, either

continuing or ad hoc, will not spring up and fight the dumping and request a hearing.

I wonder if we ought to have anything in our legislation to deal with a situation of that type.

Mr. TRAIN. I think it would be perfectly appropriate to require public notice of an application for a permit.

This has been done, for example, under the Refuse Act permit program.

The final regulations being issued by the Army, I think later this week, on Wednesday, as a matter of fact, will spell out this in great detail.

I happen to have a copy of the Refuse Act regulations with me. The requirement of publication extends to all of the information and data pertaining to the application, and I would imagine that administratively this will be required in the case of the dumping permits.

Mr. DUPONT. I would think that would be a sensible approach, and then if you had to have a public notice, you could have some further mechanism.

Mr. TRAIN. And, of course, there is as in all such cases, opportunity for judicial review.

Mr. DUPONT. All right.

Thank you. I have no further questions.

Mr. EVERETT. I have some further questions.

Mr. DINGELL. I am just curious about this.

In regard to language in a piece of legislation of this type such as "After notice and opportunity for hearing," would you have any objection to that kind of language with regard to proceeding with the issuance of a dumping permit?

Mr. TRAIN. I do not know that there is any problem in principle, Mr. Dingell.

There is no such statutory language pertaining to the dredge and fill permit authority.

Having said that, I would like to have the opportunity to expand on that for the record.

Mr. DINGELL. We are running into a constitutional problem that you deny the applicant a hearing.

Anybody could have a constitutional question, and I suspect probably the Administrative Procedures Act requires it anyway, so it occurs to me there probably would not be too much objection.

Mr. TRAIN. No. It may be in some cases superfluous, and in some cases may raise a question because of rights under other legislation or the constitution.

Mr. DINGELL. Let me ask this question.

There is no intent anywhere in the legislation to repeal or modify the National Environmental Policy Act in section 102(2)(C) thereof, is there?

Mr. TRAIN. No, sir.

Mr. DINGELL. As I understand, 102(2)(C) requires the issuance at this time, am I correct?

Mr. TRAIN. Not in the way the National Environmental Policy Act has been administered to date. I think, as you know, we have construed the legislative history of the act as expressing an intent to exclude

environmental regulatory activities from the environmental impact statement requirement.

Mr. DINGELL. It never has referred to the Corps of Engineers' permits.

The Corps of Engineers has always required the 102(2)(C) statements?

Mr. TRAIN. Yes, sir; but we do not consider their functions as one of the environmental regulatory activities.

Mr. DINGELL. You have a very clear question on this point, wherein the agreement between the corps and the Department of Interior was sanctioned by the courts, stating therein that the corps could disapprove of permits of this kind on environmental grounds.

This is permit to deposit material in the waters, and I am curious to understand just what the legislative history is.

My personal interpretation is an absence of expression would mean 102(2)(C) would apply.

I would like to hear your testimony. We have to have the matter very clearly nailed down here.

Mr. TRAIN. Well, obviously it could be administered either way, and I see no objection as a matter of principle to including an environmental impact statement requirement.

Certainly the criteria announced by EPA will be subject to very careful review, and it will be a matter of review by our Counsel under both the enabling legislation of the Environmental Policy Act and——

Mr. DINGELL. Let me go to another question.

Mr. TRAIN. I am trying to think what the policy considerations would be which would suggest that a dumping permit either should or should not be the subject of the environmental impact statement.

Mr. DINGELL. Let me ask this question, if I may.

Who carries the burden of proof on whether dumping will unreasonably degrade or endanger human health?

Mr. TRAIN. Well, mainly it is the applicant.

Mr. DINGELL. The applicant bears that burden?

Mr. TRAIN. Yes.

Mr. DINGELL. Now, tell me, must there be specific findings, must the Administrator make specific findings in each case where the permit is issued subject to public review?

This relates to the question that I raised before.

Should he file the 102(2)(C) statement under the Environmental Policy Statement Act?

Mr. TRAIN. It is my understanding the Administrator would make such findings.

Mr. DINGELL. And would the materials submitted by the applicant for permit be open to public inspection?

Mr. TRAIN. As I indicated in response to Mr. DuPont's question, following the same procedures which have been or are being announced for the permit program under the Refuse Act, yes, but this is not set forth in the legislation, and I am just assuming this would be the practice followed by the Administrator.

Of course, the Freedom of Information Act has some generally applicable requirements that would extend to this entire procedure.

Mr. DINGELL. I am sure you are familiar with the Fish and Wildlife Coordination Act which requires consultation with sister agencies,

particularly with the Interior Department and with other similar conservation oriented organizations.

I note a reading of the Administration's bill permits the Administrator of the EPA to consult, but does not require him to do so.

Is it the intention of the Administration by this particular language to change or to amend the Fish and Wildlife Coordination Act?

Mr. TRAIN. No, it is not my opinion that it does.

Mr. DINGELL. The question would be does this amend the Fish and Wildlife Coordination Act?

Mr. TRAIN. Mr. Chairman, rather than give an off-the-cuff answer, I would like to look at the exact language of the Fish and Wildlife Coordination Act in this language and render you a legal opinion on that.

Mr. DINGELL. Very well. It would be helpful to me if you did, and I also would like you to indicate to us what is your intention, if it is to alter the Fish and Wildlife Coordination Act as it applied traditionally to the Corps of Engineers in its dumping permits.

As a matter of fact, they are specifically included in that statute, and in their dredging and fill permits, and I would be curious to know why a rather similar permit issued by the Environmental Protection Agency would not be under the Fish and Wildlife Coordination Act, so in your response, would you indicate to me any difference in treatment, if you propose to have a difference in treatment.

Mr. TRAIN. I would be glad to do that.

(The information follows:)

The Fish and Wildlife Coordination Act does not contain a statement defining the territorial extent of its requirements, including the requirement of consultation found in Section 2 (16 U.S.C. § 662). Normally, however, a statute of the United States is presumed to be applicable only within the territorial jurisdiction of the United States, *i.e.*, includling, but not beyond, the waters of the territorial sea. *American Banana Co. v. United Fruit Co.*, 213 U.S. 347 (1909) (Holmes, J.). The special authorization for consultation contained in Subsection 5(a) of H.R. 4723 is designed to allow the Administrator to accomplish consultations such as those described in the Fish and Wildlife Coordination Act, even if the terms of that Act might not otherwise apply because the dumping itself is to take place within the contiguous zone or on the high seas. The fact that the material is transported from a U.S. port may not be a factor bringing the Fish and Wildlife Coordination Act's provisions into play. In any event, there is no intention to amend or limit in any way the terms of the Fish and Wildlife Coordination Act.

Mr. DINGELL. Mr. Train, now, this does concern the Chair, because there is no requirement, as I read the bill, that the other agencies provide comments. For example, the Department of Interior would not be compelled to give information as to dumping permits, or give comments, and it occurs to me philosophically, there should be direction that there be consultation to protect the fish and wildlife values. This would tend to indicate to me there might be some reason to be very apprehensive of a bill of this kind, until and unless there is a requirement for clear consultation and the views from relating agencies to be put in writing.

This is in direct confrontation to the Fish and Wildlife Coordination Act.

Would you like to comment on that also, sir?

Mr. TRAIN. There is certainly ample authority in the legislation to permit consultation, and I would certainly suggest strongly that the Administrator consult widely in the granting of these permits.

Mr. DINGELL. As I read it, Mr. Train, there is no requirement to do so.

It says he may. There is a very wide difference between may and shall, as I am sure you would agree.

It only says he may consult. It does not say he should receive the comments of the sister agencies. I am sure you can understand there is a very distinct difference there.

Mr. TRAIN. There is a very definite difference. I think it is a question as to what extent such a formal requirement of written request and written comment in each of what may be many thousands of applications is really serving the purpose of environmental protection; such a thing could hold down the administrative machinery in paper work.

Mr. DINGELL. I am glad you mentioned that, because as you will notice, the statute that the administration has presented us with, in its criteria, that the Administrator of the Environmental Protection Agency must consider, no mention is made to fish and wildlife values, or protection of fish and wildlife from hazards, and, of course, you can understand the importance of the living resources, and I am curious to know why that should be omitted if EPA is not being required to consult with other related agencies.

Mr. TRAIN. The language of the bill very clearly covers fish and wildlife through its reference to marine environmental and ecological systems.

This covers fish, wildlife, and all other elements of the ecosystem.

Mr. DINGELL. But I am referring now to the latter section dealing with the specific matters he is considering.

For example, on page 5, line 9, he is considering "the likely impact of the proposed dumping on human health, welfare, and amenities, and on the marine environment, ecological systems, and economic potentialities, including an assessment of—(*a*) the possible persistence or permanence of the effects of the proposed dumping; (*b*) the volume and concentration of materials involved; and (*c*) the location proposed for the dumping."

You are saying ecological system, ecological potentialities including fish and wildlife values?

Mr. TRAIN. Marine environment and ecological systems certainly includes fish and wildlife.

Mr. DINGELL. Now, would you please, Mr. Train, comment on this particular point.

The report of the Council on Environmental Quality recommended to the President that ocean dumping be immediately halted on chemical biological warfare materials, such as high level radioactive wastes and toxic industrial wastes.

While the Administrator would have the power to do this he would not. Can you tell us why the difference in the drafting of the bill and the recommendation of your Agency?

Mr. TRAIN. First, the recommendation as to chemical warfare and biological warfare weapons has already been implemented by the Department of Defense by order of the Secretary, so legislation is not necessary in that case.

Mr. DINGELL. Of course, the administrative regulation can be changed by administrative move.

Mr. TRAIN. I believe as I pointed out in my statement, that before you ban something, you had better be sure that there is no better way, or that there is a better way of disposal available.

Mr. DINGELL. I am simply taking your recommendations, and contrasting with the bill, and I am asking you for your comment.

I would assume the Agency was dead serious when it made that recommendation.

Mr. TRAIN. You will also find in our report, Mr. Chairman, a full recognition of the need for the development of an alternative disposal site and methods; this runs through the entire report.

It is in our view unrealistic just to ban things, when there is no suggestion as to any alternative method of disposition.

Mr. DINGELL. You are bringing up another matter which I think is important.

Your report indicated the necessity for substantial research in the area of ocean dumping.

The bill provides neither authority nor funding for such research.

Can you comment to us as to the reason for that, or whether or not some consideration by this committee should be given to the establishment and funding of a research program in this area?

Mr. TRAIN. There is, as I pointed out in my statement, we believe ample authority at the present time for the various agencies interested in the marine environment for research, and that has a bearing on this legislation.

That is true for the Environmental Protection Agency. It is true for the Coast Guard. It is true for the National Oceanic and Atmospheric Administration.

Mr. DINGELL. This question I am certain will be asked of this committee when the matter comes to the floor.

Can you outline to us, not at this particular time, but at your convenience, when you have more opportunity for an understanding, precisely what kind of research is going on, and the kind of research that the administration contemplates will be needed to receive the answers that are necessary in the field of ocean dumping.

I would like this so we can understand precisely what you have in mind with regard to the research program.

I am sure our colleagues will ask this question when the matter comes before us on the House floor.

Mr. TRAIN. I can certainly try to break down the prevalent research programs as they exist, and as they have been proposed by the President in his 1972 budget.

It is just a bit difficult to speculate what will be proposed subsequent to that.

I would note that it is not easy to break down the parts of the research programs, as, for example, in NOAA, to define exactly those portions which you would say ocean dumping related research, or simply marine environment in some other, but related matter.

You could say that practically all of the marine biological research being done by the US. Government in any agency is of importance, and real significant to this legislation.

Mr. DINGELL. Well, I am curious to find out the limit of it.

I have the feeling we are always told the research is related to something, but on more careful study, oftentimes one finds this is really not so.

The bill refers to emergencies where permits will not be required.

What would these emergencies constitute, and what would be the handling of emergency procedures?

Mr. TRAIN. It has been suggested to me that this is dealing with, in part, the case where a vessel may be in distress on the seas, and dumps its cargo, or some part of it as a matter of saving lives, or something of that sort.

Mr. DINGELL. Is that the only emergency to which that section alludes?

Mr. TRAIN. It is the only one I have any knowledge of myself.

I will be glad to explore this further.

Mr. DINGELL. I think the committee would be grateful for your help.

I have a distinct feeling that if the emergency is alluded to, the bill should be more precise.

Do you contemplate any emergency disposal matter from land sources, like carrying radioactive materials, rockets, nerve gas, or something for dumping on an emergency basis?

Mr. TRAIN. Certainly nothing of that sort is contemplated.

I suppose it is perfectly possible, if for some reason something will blow up inside of a half hour, you will try to get rid of it.

I do not see anything of that sort here, and it is not the reason for this provision as far as I know.

Mr. DINGELL. Would it not be possible in some kind of land origination to ocean disposal, that if that was necessary, you could authorize the Administrator of EPA to set up some kind of emergency procedures to handle this kind of thing on a quick basis, rather than say they could proceed without a permit?

Would you want to give the committee your views on that, Mr. Train?

Mr. TRAIN. Well, I do not think I can really add to what I have already said, Mr. Chairman, without a little more information as to just the kind of situation that this covers.

It is in fact a vessel in distress sort of thing, I do not think there are any procedures that could be set up that would not be too slow.

Mr. DINGELL. Now, the Chair would like to consider very carefully the relationship of permits called for under the legislation to other permits authorized under present laws.

You have, first of all, the permit under the Refuse Act.

That would not be impaired; am I correct?

Mr. TRAIN. That is correct.

Mr. DINGELL. You have the 1888 act, am I correct, which dealt with the harbor in Philadelphia, and so forth, that would not be impaired?

Mr. TRAIN. This would be superseded by this legislation.

Mr. DINGELL. All right.

You have the requirement of the Fish and Wildlife Coordination Act.

Mr. TRAIN. No.

Mr. DINGELL. Then I am rather curious, we seem to be getting ourselves in a situation where there is a potentiality for two permits, possibly three permits in these matters.

Is that really desirable?

Mr. TRAIN. Well, I do not suppose it is desirable, although there are many cases wherein both State and Federal permits are required, but insofar as multiple Federal permits, that certainly is not desirable.

Mr. DINGELL. Of course, it is clear the Refuse Act permit system now under the corps is beginning to work rather well; is that correct?

Mr. TRAIN. It is a little early to say. It has just gotten underway, and the regulation will be issued this week, but I am hopeful it will be working well.

Mr. DINGELL. The indications are that it will be working well, and it includes requirements of the Fish and Wildlife Coordination Act, and an agreement between the Interior and the corps.

Would the legislation before us be subject to the same limitation, that is, the requirement of the Fish and Wildlife Coordination Act, and also the requirement of the agreement between Interior and the corps, with regard to fish and wildlife values and dumping?

Mr. TRAIN. As I said, this legislation requires consideration of fish and wildlife values.

It requires this consideration not only within the territorial limits with regard to the Fish and Wildlife Coordination Act, but also to the high seas, where it does not extend.

Mr. DINGELL. Now, on page 6, lines 6 to 9—and I would hope that you would refer to those sections, Mr. Train—the statute refers to the following language.

It says, and I quote:

> In reviewing applications for permits, the Administrator shall make such provision for consultation with interested Federal and State agencies as he deems useful or necessary.

I know we have gone over this ground a couple of times, but would you tell us again, does this amend the Fish and Wildlife Coordination Act in any fashion?

Mr. TRAIN. Not to my knowledge.

Mr. DINGELL. Now, this does trouble me greatly.

There are no provisions in the bill for public participation, or in consideration of permit applications, such as notice in public hearings.

Can you tell us why that requirement was excluded from the bill?

Mr. TRAIN. I suppose we thought it was not necessary. I have no doubt that permit applications and all of the data that is part of the application will be made available to the public as a matter of course under the regulations of the Administrator.

That is done under the permit authority.

Mr. DINGELL. Let's suppose the Administrator of EPA was determined to set up a dumping ground right in the midst of the best oyster beds off the U.S. coast.

Under this bill, there is no requirement in the legislation before we hold hearings.

What would a citizen do if he were a shell fisherman, or something of that kind, to protest if he felt under the particular circumstances that the bill provides no relief to him?

Mr. TRAIN. I presume one thing he might do, if he is well advised, to go into court to get an injunction for violation of the National Environment Act.

Mr. DINGELL. With regard to 102(2) (C) statement?

Mr. TRAIN. Not in violation of the 102(2) (C) statement, but there is the general violation of the congressional policy that environmental conditions and circumstances must be taken into account in making decisions.

Mr. DINGELL. I am delighted to hear you say that.

I want you to know that. I think that would be excellent, but I have no recollection of the courts ever extending the breath and width of the National Environmental Policy Act so wide as that.

Now, they have enjoined governmental actions where there was a failure to care for the requirement of 102(2) (C), but never do I recall them enjoining actions of policy statements.

If there is some new change in the law, it would help the committee to know.

Mr. TRAIN. Well, I am not changing the law, Mr. Dingell.

Mr. DINGELL. I am not accusing you of that.

I know of no changes in the law which dealt with this particular point.

Well, you suggested, I gather, if the Administrator of EPA violated his proper discretion, and issued a dumping permit for an area where it is clearly harmful, in your opinion, under this act, and under the National Environmental Policy Act, a citizen, or a citizens' organization, would have a pretty good chance of going into court and enjoining such an act.

I would like as wide as possible an interpretation of a statute in this direction.

I enthusiastically support your interpretation, but even I in my enthusiasm have never interpreted it quite so broadly as the point you alluded to.

I do not think the courts have joined either one of us on this point.

How would a citizen get a hearing under the statute before us?

He might have a redress under some other statute, but I see no redress under the statute you have here.

Mr. TRAIN. All I can say relates to the way it works under the dredge and fill permit authority, for example, of the Corps of Engineers. Under the Rivers and Harbors Act, there is no statutory provision for public hearing.

The corps provides for public hearing at its own discretion.

Whenever there is any interest in public hearings, the corps has them.

While there has been a lot of interest with some of the final permit actions on the part of the public, very little dissatisfaction has come about with the hearing procedure, to my knowledge.

So far as I know, we expect this to also be true under the administration of the permit program under the Refuse Act, and as I indicated there is nothing in the Refuse Act which requires public hearing in connection with those permits.

However, the Department of the Army's regulations are being issued this week, and they do provide for public notice, and I believe

hearing in cases where this is held to be desirable, and I would expect this will work equally efficiently.

Mr. DINGELL. This being so, then there would be no strong objection to require notice of hearing in connection with the bill before us?

Mr. TRAIN. This could well be. You certainly do not want to require a hearing as a matter of course in all of these permit applications, I would think.

Mr. DINGELL. Now, you are going to have some cases where you are going to have dual permit authority.

Who will issue the permit for ocean dumping, will it be done by both agencies, or will it be done through some joint permit issuing process?

Mr. TRAIN. The issuing authority is the Environmental Protection Agency.

Mr. DINGELL. You will find certain instances where ocean dumping will be covered by the permit requirements of the statute, that are proposed before us today, and also through the 1899 act.

Mr. TRAIN. I think I may have misspoken before. This supersedes the Refuse Act.

Mr. DINGELL. It does supersede the Refuse Act in total?

Mr. TRAIN. In connection with dumping covered by this act.

Mr. DINGELL. Well, thank you very much, Mr. Train.

Mr. Everett.

Mr. EVERETT. Thank you, Mr. Chairman.

In connection with the question you just answered, you did state a moment ago this act did not supersede the 1899 Refuse Act, and I note now you say that it does.

Mr. TRAIN. Yes. You will find that on page 14.

Mr. EVERETT. Yes, sir.

Mr. TRAIN. Subparagraph (e).

Mr. EVERETT. It is not clear to me what the net effect would be with respect to those portions of the 1899 act that are superseded, and I was wondering if you could summarize just what the net effect of subsection (e) is on section 13 of the Rivers and Harbors Act of 1899.

Mr. TRAIN. Frankly, Mr. Chairman, it sounds like I am ducking the question. I do not mean to. This is a highly technical complicated area of the interrelations of three or four different statutes.

One program is really not even in effect yet. One is the legislation before you, much of the application of which is going to turn upon the kinds of regulations which will be issued by the Administrator.

I would be happy to address myself in writing to the committee as best I can, in talking with other agencies on these questions, but I think I probably will be doing a disservice to this committee if I should try to speak off the cuff to that particular question.

I will be most happy to answer that in writing.

Mr. DINGELL. In perfect fairness to you, it is a highly technical question.

I will direct this question to be answered in writing.

(Answer follows:)

Section 7 of H.R. 4723 deals with the relationship of this legislation to other laws. Generally, except as provided in subsections 7(b) and 7(c), it provides that after the Act's effective date, existing licenses, permits, or authorization would be terminated to the extent they authorize activity covered by this proposal, and

that further licenses, permits, or authorizations of a similar nature could not be issued.

Subsection 7(b) maintains present responsibility and authority contained in the Atomic Energy Act of 1954, and provides that the provisions of Sections 4 and 7(a) of the bill do not apply to actions taken under that Act. However, the AEC must consult with the Administrator before issuing a permit to conduct any activity otherwise regulated by this proposal. Moreover, the AEC must comply with the radioactive-material standards set by the Administrator, and the Administrator is directed to consider the policy expressed in subsection 2(b) of this proposal along with the factors stated in subsections 5(a)(1) and 5(a)(2) in setting such standards for the waters covered by this proposal.

Subsection 7(c) relates to authorities contained in the Rivers and Harbors Act of 1899, respecting dredging, filling, harbor works, and maintenance of navigability. The powers are exercised for the most part by the Secretary of the Army and the Chief of Engineers. Except for the limited supersession found in subsection 11(e), the Rivers and Harbors Act authorities are not negated or abrogated, nor are existing licenses or permits issued under the Act terminated. Rather, in situations where this bill and the Act of 1899 both would apply to dumping of material in connection with a dredge, fill or other permit issued by the Corps of Engineers, issuance of the permit requires a certification by the Administrator of EPA that the activity is in conformity with this proposal and any regulations issued under it. The Administrator will not issue separate permits in such cases.

Subsection 11(e)'s limited supersession of the Rivers and Harbors Act pertains only to Section 13 (the "Refuse Act"). Nonetheless, after this Act becomes effective, the Department of the Army's permit program under the Refuse Act, which is administered in close cooperation with EPA on all water quality matters, will continue to regulate the disposition of any effluent covered by the Refuse Act from any outfall structure regardless of the waters into which this disposition occurs. In addition, the Refuse Act will continue to apply to all depositing of material into those navigable waters of the United States or their tributaries which are not covered by subsection 4(b) of this Act.

The objective of the limited supersession is to remove a double permit requirement in the area of overlap between H.R. 4723 and the Refuse Act. To achieve this objective, subsection 11(e) supersedes the Refuse Act only insofar as it applies to dumping as defined in subsection 3(f), of material in the waters covered by subsection 4(b). One further consideration deserves mention. Simple supersession of part of the Refuse Act's coverage would leave an accompanying gap in protection of navigation. Accordingly, subsection 7(d) provides for consultation by the Administrator of EPA with the Secretary of the Army in cases where the Administrator finds that proposed activity regulated by the ocean dumping system may affect navigation or create an artificial island on the Outer Continental Shelf.

Besides the provision relating to Refuse Act, Section 11 contains a number of other repeals or supersessions. Subsections 11(a) and 11(b) repeal the Supervisory Harbors Act of 1888, as amended (33 U.S.C. §§ 441–451b), and the provision of the Rivers and Harbors Act of 1899 (33 U.S.C. § 418) which preserved the Supervisory Harbors Act from supersession by the 1899 Act. The Supervisory Harbors Act provides a special authority to control transit in and from the harbors of New York, Baltimore, and Hampton Roads, Virginia. This authority has been used to regulate ocean dumping. The proposed Act would replace that authority. Subsection (e) repeals Section 2 of the Act of August 5, 1886 (33 U.S.C. § 407a), which pertains to deposits of debris from mines and stamp works. These deposits are covered by this bill or the Refuse Act. Lastly Section 4 of the Rivers and Harbors Act of 1905 (33 U.S.C. § 419), which has been used to buttress the Corps of Engineers' authority to regulate ocean dumping, is superseded, insofar as it authorizes action that would be regulated by this proposal.

Section 4 of the 1905 Act has been used to set aside areas for oyster cultivation. If the oysters and other material placed in the oyster beds were "devices", they would be exempt from the coverage of this bill under the second proviso to subsection 3(f). A "device", however, ordinarily connotes a mechanism or a piece of equipment, and accordingly oysters and thus oyster beds are not exempted from coverage. As a further result, section 4 of the 1905 Act would be superseded in the area.

As an alternative to the foregoing approach, the Committee could delete the supersession of section 4 of the 1905 Act. The Corps could then continue to use

this section to designate areas for oyster cultivation. While H.R. 4723 would also apply, the Administrator could use the authority of subsection 5(e) to issue general permits for "dumping" oysters and supporting material in the areas so designated.

Mr. EVERETT. Mr. Train, if you would provide for the record, particularly at the bottom of page 13, just what section 11(a), which relates to a portion of the 1899 act, and subsection (e) relate to, it would be most helpful, and that I would appreciate.

Now, with respect to the 1905 act, I am concerned about the areas that are set aside for oyster cultivation, under section 4 of the 1905 act, and I am wondering what this particular language in the bill would have on that public law. Also with respect to the N.Y. Harbor, Hampton Roads Harbor law I note that one of the provisions that law has a finders fee in it.

I am going to ask you what your thinking is on how effective that finders fee provision has been?

Mr. TRAIN. I do not really know how well that has been working.

Of course, for the finders fee under the 1899 Refuse Act, I cannot answer your question.

I do not know whether that has proven to be an effective device or not.

Mr. EVERETT. After you have had a chance to reflect on that also, I wish you would give the committee the benefit of your thoughts.

Could you do that for us?

Mr. TRAIN. I would be most happy to.

(Answer follows:)

We do not advocate adapting to this bill an informer's fee similar to that found in Section 16 of the Rivers and Harbors Act of 1899. Problems have arisen with administration of Section 16, see *United States v. Transit Mix Concrete Corp.*, 2 E.R.C. 1074 (S.D. N.Y. 1970), and we would prefer to rely on other avenues for citizen participation in administration of an ocean dumping regulatory statute. For example, we believe that citizens and citizen groups are most likely to be helpful in reviewing criteria and in commenting on individual applications for a dumping permit. We have also gone on record as favoring citizen suit provisions analogous to Section 304 of the Clean Air Act as "an important complement to Federal enforcement efforts where Federal environmental standards and procedures have been established."

Mr. EVERETT. Also, would you provide, somebody has to do it for us, the estimated cost of this legislation?

If you would also submit that for the record, I would greatly appreciate it.

I think one of the requirements ought to be what you anticipate for the next 5 years if the legislation were enacted, what would be the cost to the Government?

Mr. TRAIN. We do have those estimates. We will be glad to provide those.

Mr. DUPONT. I would like that also to include enforcement from the Coast Guard point of view.

Mr. TRAIN. Yes; that will be included.

Mr. DINGELL. That is an admirable suggestion, because I am apprehensive with the limited resources the Coast Guard has at this time to carry out its responsibilities, whether it would take on any additional chores like chasing ocean dumpers.

(Answer follows:)

Our estimate of the cost both of administering the permit system and of developing and using alternate disposal means to ocean dumping were made at or

near the time we issued our ocean dumping report. See, for example, the table on page 20 of the report comparing estimated solid waste disposal costs. The operating agencies, particularly the Environmental Protection Agency, the Coast Guard, and the National Oceanic and Atmospheric Administration have more recently developed estimates of the cost of administration. We understand that these agencies can provide the desired information for you.

Mr. EVERETT. On page 13, under subsection (c) of section 8, it says:

The Secretary of the department in which the Coast Guard is operating shall conduct surveillance and other appropriate enforcement activity to prevent unlawful transportation of material for dumping or dumping.

Does this give the Coast Guard sufficient authority to enforce deviation of the permit?

Mr. TRAIN. What do you mean by that?

Mr. EVERETT. It looks like the prohibition goes to the transporting or the dumping, where there has been no permit issued.

Now, where a permit has been issued, and the dumping is in a different locality, this does not meet the requirements or conditions attached to the permit, and who has the authority to enforce this?

Does subsection (c) give the Coast Guard the authority, or should the Coast Guard have that authority?

Mr. TRAIN. I think clearly——

Mr. EVERETT. The language seems to be written narrowly to prevent transportation or dumping.

Mr. TRAIN. Certainly an unlawful transportation would in my view include any transportation followed by a dumping in violation of a permit, and I would include as a violation of a permit a substantial divergence from its terms.

Mr. EVERETT. I notice under the provisions under section 6, you say:

A person who violates section 4 of this Act, or regulations promulgated under this Act, or a permit issued under this Act by the Administrator shall be liable to a civil penalty of not more than $50,000 for each violation to be assessed by the Administrator.

But I am just wondering if the language is broad enough in subsection (c) on page 13 to include violations of a permit issued under the act.

You might reflect on that.

Mr. TRAIN. I think if there is any uncertainty there, it could well be clarified.

We will be glad to take a look, another look at that to see if that could be strengthened.

Mr. EVERETT. You have the authority to designate areas where safe sites can be located for purposes of dumping.

Do you have any indication as to how long it would take to study these areas with respect to identifying them for this purpose?

Mr. TRAIN. No, Mr. Everett; I do not have any information I could give you on that.

The act takes effect, as you know, 6 months after enactment, but that does not give any indication as to when that study could be concluded.

Mr. EVERETT. One other thought with respect to the Coast Guard.

It is not spelled out in the bill, but do you think, either in the bill or the regulations, that there should be some requirement that the vessel operator, or the vessel itself, should have a permit displayed on the vessel in some appropriate place so that it could be readily seen and checked by the Coast Guard?

Mr. TRAIN. I would certainly assume that the regulations would cover this.

I would rather doubt that it is necessary to put it into the statute.

Mr. EVERETT. One last question with respect to the Atomic Energy Act of 1954.

I am not sure as to the effect of this legislation on that act. Would you exclude all radioactive waste from the provisions of the Atomic Energy Act?

I wonder if you could enlighten us on that some?

Mr. TRAIN. There is not any exclusion. It is just a matter of how it is handled.

First, as you know, none of these things are being dumped at the present time.

The Atomic Energy Commission has stopped all of these disposals; however, what we have done under the legislation is to continue the Atomic Energy Commission's existing permit authority, rather than try to shift it to another agency, yet at the same time requiring with the language beginning on line 21 of page 10, that prior to issuing any permit for dumping radioactive materials the Atomic Energy Commission would be required to consult with the Administrator, and that in issuing any such permit, the Atomic Energy Commission would be required to comply with standards set by the EPA Administrator, respecting limits on radioactive exposure levels, or concentrations or quantities of radioactive materials.

Mr. EVERETT. I am wondering, why you would go to all of the trouble to require conditions to be established by EPA and to be met in consultations with AEC, why not just require the Atomic Energy Commission to comply with the legislation like all other Federal agencies?

What justifies their exclusion, if I may ask, or different treatment from the other Federal agencies?

You say they are not dumping now.

I am at a loss to understand the rationale with respect to the other agencies.

Mr. TRAIN. The Atomic Energy Commission traditionally has had regulatory authority throughout an entire process that in any way relates to radioactive materials, transport, and so on.

Mr. EVERETT. The whole range of activities related to radioactive materials?

Mr. TRAIN. That is correct.

Mr. DINGELL. Is the Atomic Energy Commission permitted to dump radioactive matter into the waters is defiance of Federal policy standards?

Mr. TRAIN. At the present time——

Mr. DINGELL. Are they permitted to violate those policies?

Mr. TRAIN. They are not doing any disposal offshore.

Mr. DINGELL. The statutes, the Air and Water Quality Acts apply to the Atomic Energy Commission; do they not?

Mr. TRAIN. I do not know what the relation is between those acts, Mr. Chairman.

Mr. DINGELL. I am curious why the Atomic Energy Commission would be different from all other agencies, and why it would be given this rather special treatment under the proposed statute.

Mr. TRAIN. It had the authority ever since the beginning, and all of the handling of radioactive materials is under regulation by the

Atomic Energy Commission throughout every step of the process and it always has been, and this legislation would simply continue that legal arrangement, but it does say that no permit can be granted by the Atomic Energy Commission for the disposal of radioactive wastes without the agreement of the Environmental Protection Agency.

It says:

In issuing any such permit, the Atomic Energy Commission shall comply with standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive material.

It says:

In issuing any such permit, the Atomic Energy Commission shall comply with standards set by the Administrator * * *.

Mr. DINGELL. Go ahead, Mr. Everett.

Mr. EVERETT. The previous sentence that concerned me, it says "shall consult" and then you say, "in issuing any such permit, and so on," but I am wondering where is the language that requires the Environmental Protection Agency or directs them to set the standards.

It says AEC shall abide by standards set by the Administrator. Where is the authority directing him to set the standards?

Mr. TRAIN. The Environmental Protection Agency has that authority in my opinion under existing law through Reorganization Plan No. 3 of last year.

Mr. DINGELL. Is not this going to give us one set of standards administered by two different agencies?

Mr. TRAIN. Well, in one sense, I suppose; yes.

Mr. DINGELL. Now, the Atomic Energy Commission usually does not in its disposal of substances use the oceans, and it will be giving permits to other persons who will in turn engage in practice of ocean dumping; am I correct, Mr. Train?

Mr. TRAIN. I believe that would be the case, as a rule.

It would be an Atomic Energy Commission contractor or something of that sort.

Mr. DINGELL. I find myself hard put. I might be able to swallow the idea that the Atomic Energy Commission could do its own dumping, but I find myself hard put to see why the Atomic Energy Commission should become the permitting agency.

Mr. TRAIN. Well, it is.

Mr. DINGELL. For dumping.

Is not the reason the Environmental Protection Agency set up to have one place for all environmental matters, where all of those matters will be handled?

Was not that the basis on why Reorganization Plan No. 3 was issued?

Mr. TRAIN. I do not see any great objection in principle either way the Congress would prefer to handle it.

Mr. DINGELL. I really think we ought to keep it all in one place, to having one set of standards administered by two different agencies, I am rather curious as to why, and as I read the wind, the Atomic Energy Commission will be rather anxious to get rid of this stuff, and that being so, they might tend to view the environmental protection standards rather differently than would the Environmental Protection Agency, and it occurs to me, where you allow the Atomic

Energy Commission to engage in permits under the circumstances, it is not good.

Mr. TRAIN. Let's remember the Atomic Energy Commission has taken the lead worldwide in stopping ocean disposal of radioactive waste.

Mr. DINGELL. I can remember the day when they were loading the rivers with just hundreds of tons of curious radioactive materials, and this was the water source of many communities out there in New Mexico, Arizona and Colorado.

Now, it may be the Atomic Energy Commission has arrived in the 20th century, but I am prepared to see that more clearly than I have so far.

Well, thank you.

Mr. EVERETT. That is all I have.

Mr. DUPONT. One final question.

I have looked at your data in your policy report concerning tonnage dumping, and so forth, but nowhere in here do I see an estimate of, if you had a permit issuing authority in Environmental Protection Agency, how many permits a year you think you would be dealing with.

Are you talking of 10,000, or a thousand?

Have you any feel for that at all?

Mr. TRAIN. No, Mr. duPont.

Now, maybe we do have that information. I am sure that in arriving at estimates of expenditure requirements for the administration of this permit system, that there are some estimates that have been developed.

How accurate they are, I don't know, but I will certainly see to it we develop something before you.

Mr. DUPONT. I think the primary responsibility of EPA is in trying to pull its air quality standards together. If you take 10,000 permits, and require a hearing, and put this in addition, they will have to have a substantial increase of manpower, and we appreciate that.

Mr. TRAIN. Yes, sir.

(Material follows:)

The Environmental Protection Agency has estimated that at least 3,000 permit applications per year will be received under this bill if enacted. We generally concur with this estimate. The number of total regulatory actions required by EPA may be higher if requests for EPA certification of the dumping aspects of corps dredge and fill permit applications under the Rivers and Harbors Act of 1899 are added to the number of direct applications for an ocean dumping permit.

Mr. DINGELL. Mr. Anderson.

Mr. ANDERSON. Mr. Train, in circumstances where degrees of statutory stringency exist among various regulatory bodies, I can see the possibility of serious complication and much confusion arising.

For example, if a State or local government has its own regulations and the Federal Government its regulations, would the applicant be required to obtain a permit from each of the local governments as well as the Federal?

Mr. TRAIN. It is the intention that EPA would regulate all dumping offshore, including within the 3-mile limit, but that in cases where

the State in question had stricter rules than those prescribed by the Administrator, that the Administrator in granting the permit would take those more strict rules into account.

Mr. ANDERSON. Who would be the one to determine which is more strict?

I could see where a small jurisdiction could have more stringent requirements in a particular area while a larger State jurisdiction, for example, could have strict requirements overall. Who determines which requirements apply?

Mr. TRAIN. Well, of course, the Administrator will be referring his permit application for comment to the applicable State and the local water quality agency where there is a case of dumping within the 3-mile limit, and the State would make representations at least as to whether or not the proposed dumping would contravene State water quality standards.

I suppose in the final analysis, the Administrator of EPA would have to make that determination.

Mr. ANDERSON. So there would then be one permit, but the applicant would in effect have to comply with the requirements of both?

Mr. TRAIN. Really it would be the requirements laid down by the Environmental Protection Agency, but they could in that case be stricter standards than EPA would be applying perhaps in some other coastal area.

Mr. ANDERSON. That is all, Mr. Chairman.

Mr. DINGELL. Mr. Pelly.

Mr. PELLY. No questions.

Mr. DINGELL. Mr. Train, it is always a privilege to have you before this committee, and you deserve congratulations with respect to your very fine work.

It is a long time since we have had you before this committee, and everytime it has always been a pleasure.

Mr. TRAIN. Thank you, Mr. Chairman. It is always a pleasure to be here.

Mr. DINGELL. We also express our thanks to your associate.

Our next witness is Mr. Paul A. Amundsen, executive director of the American Association of Port Authorities.

Mr. AMUNDSEN. Mr. Chairman, I understood we were to testify tomorrow afternoon.

Mr. DINGELL. The witness list indicates you were to be heard today.

If you wish to be heard tomorrow afternoon, we will make an opportunity for you to be heard tomorrow.

Mr. AMUNDSEN. I would be glad to be heard, but I do not have my statement with me.

Mr. DINGELL. We will try to hear you tomorrow afternoon.

I suspect we have a rather full schedule tomorrow, but we will try to give you an opportunity to get your statement before this committee.

Mr. AMUNDSEN. Mr. Langlois is our witness tomorrow of the Port of Portland, Maine.

Mr. DINGELL. Perhaps it would be helpful for the Chair to read off the list of witnesses.

Tomorrow morning we have several of our colleagues scheduled to testify.

We have representatives of the Atomic Energy Commission. We have Mr. Harrison Loesch of the Department of the Interior.

In the afternoon we have our colleague, Congressman Williams, and we have Dr. Ketchum, associate director of Woods Hole Oceanographic Institute.

We then have Mr. Langlois of Port of Portland, Maine, and he will be heard at 3:15, and he is your associate, is that correct?

Mr. AMUNDSEN. That is correct.

Mr. DINGELL. Is there anyone else here who is on the witness list?

Well, perhaps, it would assist the committee to read the list of witnesses for Wednesday, but to finish for tomorrow first.

We have at 4 o'clock Mr. James Beggs, and then at 4:30 we have Mr. James J. Reynolds.

On Wednesday we have Congressman Harrington, Congressman Gallagher.

Also Mr. William D. Ruckelshaus, Mr. John R. Stevenson, Mr. Henry Douglas, Mr. James Wakelin, Brig. Gen. George Hayes, Dr. Richard Barber, Louis Clapper, and then the Sierra Club.

Mr. PELLY. It appears to me we have some important legislation on Wednesday, Mr. Chairman.

There may be a controversial issue, and now that we have a recorded teller vote, I doubt we will be able to hear all of the witnesses.

Mr. DINGELL. You may be correct.

Mr. PELLY. That may present a problem for Wednesday, Mr. Chairman.

Mr. DINGELL. The gentleman is probably correct as always.

The subcommittee will stand adjourned until 10 o'clock tomorrow morning.

(Whereupon, the committee meeting was adjourned at 3:30 p.m., scheduled to reconvene at 10 o'clock, April 6, 1971.)

OCEAN DUMPING OF WASTE MATERIALS

TUESDAY, APRIL 6, 1971

House of Representatives,
Joint Subcommittees on Oceanography and
Fisheries and Wildlife Conservation,
Washington, D.C.

The joint subcommittees met, pursuant to notice, at 10 a.m. in room 1334, Longworth House Office Building, Hon. Alton Lennon (chairman of the Subcommittee on Oceanography) and Hon. John D. Dingell (chairman of the Subcommittee on Fisheries and Wildlife Conservation) presiding.

Mr. Dingell. The subcommittees will come to order.

This is a continuation of the hearings begun yesterday on the series of bills regarding the matter of ocean dumping.

Our first witness this morning will be our good friend and colleague, the Honorable Charles W. Sandman, Jr.

Mr. Sandman, we are glad to welcome you.

Will you identify yourself fully, for the record.

STATEMENT OF HON. CHARLES W. SANDMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Congressman Sandman. Thank you, Mr. Chairman, and the distinguished members of the Subcommittees on Fisheries and Wildlife Conservation and Oceanography. These hearings are most timely.

I say timely because starting this Easter weekend and continuing through late fall, millions of American tourists and sportsmen will flock to the seashore resorts such as Atlantic City, the Wildwoods, and Cape May in the congressional district I represent.

They are attracted primarily by the Atlantic Ocean, its clean white beaches, its surf, the cool fresh air it brings to the shore and the bathing, fishing, boating and other recreational opportunities it provides. They will spend an estimated $3 billion this summer alone, an income upon which a large number of the people I represent are dependent for their livelihood. Yet the seashore as a vacationland may soon be a thing of the past if we do not act now to stop ocean pollution.

This committee's deliberations are also timely because one of the Nation's most historic, basic and important industries may well be threatened with near extinction because of ocean pollution. Commercial fishing hauls continue to go down in quantity and quality; the fleets are dwindling in size and recently, over 80 percent of the inshore waters in my district and large portions of offshore waters have been declared off limits for the taking of shellfish. All because of pollution.

Therefore on opening day of this session of Congress, I introduced H.R. 1661 (H.R. 5049 and 5050 for cosponsors), a bill to regulate and eventually eliminate indiscriminate ocean dumping.

The premise of this legislation is simply that the oceans and other waters are not the proper places to dispose of man's wastes: human, industrial or any other kind. Our marine resources are too valuable as a source of food and other natural resources and valuable as a source of recreation to spoil.

Therefore, my intention and hope is that this committee and Congress will, through unequivocal legislation, declare the oceans unconditionally off limits as dumping grounds.

Now I realize, Mr. Chairman, that ocean dumping has been going on for some time and that elimination of this practice in some cases cannot be expected to happen overnight. But this must not divert our attention from the real need: to phase out ocean dumping altogether.

I had the privilege of testifying before the U.S. Senate Public Works Committee hearing on ocean pollution on March 26 at Rehoboth Beach, Del. I spoke, I listened to and I later read the remarks of all who attended the hearings, conducted by the Subcommittee on Air and Water Pollution. I was the only Member of the House present.

Also, I personally initiated the two, already historic and precedent setting the U.S. district court cases on ocean dumping of industrial wastes. The research and legal strategy and negotiations on these cases was most extensive.

I mention these items of background, Mr. Chairman, not so much to establish my credentials, but rather to spare the distinguished members of these subcommittees a lengthy blow-by-blow account of events upon which I base the recommendations I will make to you here today. I am prepared to justify any of these points to you in detail.

There are eight points I want to bring to your attention briefly.

(1) There is no excuse for dumping wastes of any kind in the oceans. I am not impressed with any of the arguments advanced by those who try to defend or justify ocean dumping and I've heard them all. Other than the fact that the oceans contain vast amounts of water in which some materials can be diluted easier and perhaps cheaper than on land, ocean dumping exists for only one reason, best identified with the cliché: "Out of sight, out of mind." Ocean polluters operate with the very same intent as housewives who sweep dirt under the carpet.

(2) Safe and economical land-based waste disposal sites and facilities can be developed. The technology now exists and given a congressional ultimatum to cease ocean dumping, the creative genius of American enterprise will develop new, possibly cheaper and more effective methods of disposing of wastes on land.

In this connection, I do want to note in all fairness that waste disposal site selection and acquisition is a serious problem. Nobody, as the old saying goes, wants to live next to a dump. As a result of this, local zoning laws and sanitary landfill and other disposal site licensing requirements in most communities of the Nation tend to "freeze out" disposal facilities. It is possible there is a need for Federal legislation to cope with this very real problem.

As further testimony that ocean dumping is not necessary, I point with pride at the fact that the city of Bridgeton—the only municipal-

ity in my district that barged sewage sludge to the ocean to be dumped—has now ceased this practice. In January, Bridgeton stopped ocean dumping and is now allowing private nurserys to pick up its treated sewage sludge for use as fertilizer, one of the best available.

(3) Until all dumping can be phased out, the practice should and can be regulated effectively without undue hardship. I have proposed a simple permit system in my bill and am pleased to note this approach is included in other legislation now before these subcommittees. Simply, no dumping could take place unless a permit is first obtained from the Environmental Protection Agency (EPA). This permit would only be issued if the EPA Administrator is satisfied that the proposed dumping will not damage the marine environment.

Additionally, H.R. 1561 establishes an immediate ban against dumping anything between the Continental Shelf and the coast of the United States. This is a reasonable requirement in my opinion, for it is inside the first 75 to 100 miles that the current damage from ocean pollution has been done. Congressional support for this minimum distance for dumping, effective immediately, will accomplish two very important things. First, the immediate threat to fishing and recreation will have been alleviated. In time, the nearshore ocean floor will be cleansed by the flush of tidal action and therefore shellfishing and commercial and sport fishing will improve. Next, the increased distance a load of waste would have to be transported will tend to discourage dumping and encourage development of land-based disposal sites and facilities.

I want to point out briefly that I have seen detailed proposals by a private contractor showing that sewage sludge could be transported 100 miles offshore in the interim for approximately the same cost and in approximately the same time it now takes to transport the sludge only a few miles offshore. The idea is simple and sensible. It is to use fast, high-capacity ships instead of slow, low-capacity barges to transport the material. Based on this, I am confident such a dumping minimum as I propose will not pose an unsolvable problem to those who, in fact, will be unable to stop dumping immediately altogether.

(4) International regulations on ocean pollution are essential. In the long run, even assuming the United States is eventually able to phase out all dumping of pollutants in the oceans, cooperation from the other nations of the world must be sought immediately. I urge this committee, perhaps by a separate joint resolution, to urge adoption of pollution abatement programs such as ours by the other countries and through the various international organizations.

(5) No arbitrary time limits for ending dumping or allowing it to continue should be included in this legislation. There are a variety of proposals, Mr. Chairman, before Congress now to establish a specific time by which dumping will no longer be allowed. One bill asks 5 years; another says 2. My view is that more can be accomplished faster without any arbitrary time limits. If the committee reports a proposal that dumping shall be illegal after 5 years, for example, I am certain many of the municipal and industrial polluters will take the full limit to cease operations. I urge that scheduling be left up to the EPA which will act on each case individually to establish phasing-out of mean dumping.

(6) The traditional jurisdictional limits of the United States should not be tampered within order to regulate ocean pollution. We simply

don't have the time. The business of rewriting international treaties is a time-consuming one and in my opinion, this approach is cumbersome and unnecessary in order to establish the necessary jurisdiction to control ocean pollution.

(7) Adequate research and development funds should be available to help establish land-based waste disposal technology and facilities. I urge this committee to investigate whether existing Federal grant and loan programs are adequate to meet the needs for the transition from ocean disposal to land-based disposal of wastes. If it is determined that exising programs are inadequate, I will support new or increased appropriations for this purpose.

(8) New jurisdiction is needed to deal with ocean dumping. This is my final point, Mr. Chairman. It is one with which I am completely familiar because the matter of U.S. jurisdiction was the crux of my U.S. district court suits on ocean pollution.

Academically, I feel the Federal Government does now have a form of jurisdiction over ocean pollution. It is based on the concept that in our Federal Union, every State is expected to exercise reasonable regard for the health and welfare of the people of every other State. I have maintained in court that the loading, transporting, and dumping of certain pollutants constitutes a threat to the health and welfare of certain of our citizens.

The fact is, however, this case has not yet been argued to a decision in the courts. In both civil actions I initiated this year on ocean pollution, the defendants consented to the restraints I requested rather than to contest the jurisdiction upon which I based my cases. But I know from years of courtroom experience what raised eyebrows on the part of the presiding judge means. At best, Mr. Chairman, our current jurisdiction to control dumping beyond 3 miles is highly questionable. At worst, it doesn't exist.

In my bill (H.R. 1661) therefore, I propose that Congress establish controls where we now have jurisdiction without question; namely at the loading docks and ports of the Nation. To load any vessel with waste material intended for ocean dumping, the permit I have previously mentioned must be obtained.

Armed with this new jurisdiction, Mr. Chairman, and with the increased surveillance and minimum dumping distance required under the permit system I have proposed, this Nation can finally proceed to clean up and strive to protect forever our precious marine and coastal environment.

Mr. SANDMAN. Very basically, I think the most important thing we have to accomplish, Mr. Chairman, and the biggest obstacle we have is time.

We do not have time to lose in establishing a law that is going to give us some teeth by which we can control the promiscuous dumping in the ocean outside the 3-mile limit.

I feel that the only kind of measure that we can pass, and pass with dispatch, will be a bill such as the one I have introduced. Other members have introduced the same kind of bill in both the House and the Senate.

My bill is known as H.R. 1661, and it requires any person or company who is moving any kind of substance, any kind of waste substance,

that is going to be dumped in the territorial waters of the United States, to first get a permit from the Environmental Protection Agency.

That permit has in it a condition precedent that each applicant must show exactly how the wastes are going to be loaded, where it is going to be loaded, how it is going to be transported, and most of all, where it is going to be disposed of, and by what method.

This permit will give the U.S. district court jurisdiction, and it can give it a supervisory ability which we do not have now in the present law, and which we sorely need.

It will require that the U.S. Coast Guard be given at least 4 hours notice before any ship is leaving any port in the United States, and, secondly, broad powers are given to the Environmental Protection Agency on a regulation of the entire bill.

I have suggested in this bill that very heavy penalties be inflicted, because we are dealing with something highly dangerous to our environment.

I have recommended a first offense penalty of $50,000, a second offense penalty of a hundred thousand dollars, or confiscation of the vessel or both, and the liability should be joint and several with everybody involved.

The other measures that have been introduced basically have only few deviations from what I have proposed.

Some bills would like to set a cutoff time. So that we understand each other, it is my view that the ocean is not the proper place to dump anything; any kind of waste, whether it be toxic or otherwise. I would like to see this ended as quickly as possible, but I think it is wrong to put a time limit in any legislation, Mr. Chairman. You know, and I know, if you give any industry 5 years, or 2 years to do something, that is how long they will take to do it.

I would rather see the Environmental Protection Agency have the authority, because of experience with the various people and industries, as to when dumping must end.

Now, here is a good example. Of the three cities that have dumped only 10 miles from where I live, off the coast of Cape May, N.J., one of those cities, only 3 months ago developed a new method—new to them—on how they can use this waste for a fertilizer, and this is what they are doing today.

I can see that the city of Philadelphia, because of its tremendous problem, and its great volume, perhaps cannot stop disposing of the sludge immediately.

This might be too much of a hardship, and I can understand that. But as for the city of Bridgeton, which has already reached a point through its own exploration where it does not have to dump any of its waste, the cutoff time has already arrived as far as the city of Bridgeton is concerned, and they should not be permitted at any time to dump sludge into the Atlantic Ocean.

When the day arrives that the other two cities have reached that point, whether it be next month or next year, that is when their permits should expire.

There are many other things that I could elaborate upon; however, I know you have many other witnesses, and I have touched on those things I think are the most important, and, again, gentlemen, this is a very dangerous situation.

The Federal courts, in most legal minds today, does not have the jurisdiction that it should have to handle this kind of a problem adequately, and I am hopeful that your committee will be working, with dispatch to pass a measure that will regulate the dumping in the ocean.

Mr. DINGELL. Mr. Sandman, the committee is grateful to you. We are aware of your long assistance to this committee, during the last session of the Congress, and we are glad to say that this time we think we are able to move forward on legislation.

Mr. PELLY. Mr. Chairman, Mr. Sandman has made an unusual contribution, because he has had an active fight against the dumping, and in his experience I think it will be very helpful to this committee.

Mr. DINGELL. I thoroughly agree.

Mr. SANDMAN. Thank you, gentlemen.

Mr. DINGELL. The Chair is happy to welcome as our next witness, and a former member of this committee, Congressman Louis Frey, Jr.

We are sorry he is not here with us on the committee this year.

Mr. Frey, we are certainly happy to welcome you.

STATEMENT BY HON. LOUIS FREY, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. FREY. Thank you, Mr. Chairman. These bills, H.R. 4359, H.R. 4360, and H.R. 4361, were cosponsored by 52 members from both sides of the aisle, including the distinguished chairman of the oceanography subcommittee, Mr. Lennon. Other cosponsors who are members of the Merchant Marine and Fisheries Committee include Mr. Grover, Mr. McCloskey, Mr. Hathaway, and Mr. Keith. In addition, the bill introduced by Mr. Rogers—H.R. 662—and cosponsored by Messrs. Dingell, Pelly, McCloskey, Keith, Moss, and Conte differ in only one major respect from my bill—it does not provide for the establishment of a system of marine sanctuaries.

Mr. Chairman, we are all well aware of the seriousness of the present situation. Marine pollution has seriously damaged the environment and in some areas it is posing a great threat to human life. There have been heavy kills of fish and at least one-fifth of the Nation's commercial shellfish beds have been lost due to pollution.

Shellfish have been found to contain hepatitis, polio virus, and other pathogens. In the lagoons and estuaries in Brevard County, Fla., for example, heavy fresh water runoffs from agricultural areas have resulted in the banning of shellfish harvesting, which was a major industry in the area. Lifeless zones in the marine environment have actually been created.

Man has also been seriously affected. Not only has there been a loss of recreational opportunities and adverse esthetic effects, but there have been instances of lethal and sublethal effects. By 1965, over 41 persons living on Minamata Bay, Japan, had died due to mercury poisoning in fish and shellfish. Recent tests off Long Island indicate the presence of mercury in fish that is within the range reported for the first that caused the Minamata Bay disease in Japan.

According to the Council on Environmental Quality, 48 million tons of waste were dumped at sea in 1968. These wastes included dredge spoils, industrial wastes, sewage, construction and demolition

debris, solid waste, explosive chemical munitions, radioactive wastes, and miscellaneous materials.

There are at least 250 known official and unofficial disposal sites off U.S. coasts. Half of the ocean dumping grounds are located off the Atlantic coast while the other half is evenly divided between the gulf and Pacific coasts. A large area of the Atlantic Ocean off New York Harbor has become an ecological desert as a result of the dumping of sewage sludge in that location for 40 years.

Aside from areas such as that off New York Harbor which have been used continuously for the dumping of deposition by outfall of sewage and other toxic material, there have been hundreds of other incidents of spillage of hazardous material. A very thorough study recently compiled by the Coast Guard listed 157 separate instances of reported spillages of dangerous or hazardous materials in the past 2 years.

Decisions made by municipalities and industries in the next few years could lead to dramatic increases in the level of dumping. Because the capacity of land-based disposal sites is rapidly being exhausted in some coastal cities, communities are looking to the ocean as a dumping ground for their wastes.

Forced with higher water quality standards, the industries may also look to the ocean for disposal. The result could be a massive increase in the already growing level of ocean dumping.

It is largely the responsibility of the Federal Government to halt and reverse the environmental deterioration taking place along coastal areas, and particularly those adjacent to large urban centers. However, the Federal Government presently lacks sufficient authority and some of the Federal roles are overlapping with no clear-cut idea as to the lead agency responsibility. It was this tangled bureaucratic web that impelled me to search for a more comprehensive approach that includes specific guidelines.

Let's look at the present system. Ocean dumping in territorial waters is not "regulated" under the Refuse Act of 1899, the 1888 Supervisory Act, the 1905 River and Harbors Act, and the Federal Water Pollution Control Act of 1965, as amended. The first three acts are administered by the Corps of Engineers and the Water Quality Act by FWQA which is now a part of the Environmental Protection Agency.

Beyond the territorial sea, authority to enforce pollution laws applicable to U.S. nationals is assigned to the Coast Guard. Apparently, the authority applies only to vessels carrying oil. No Federal agency has authority to completely regulate or control dumping beyond the territorial sea. Applications to the Corps of Engineers for disposal of wastes at sea are hardly ever denied beyond the 3-mile limit even when public health groups object, because of a lack of explicit regulations and guidelines.

A recent study for the Bureau of Solid Waste Management concluded:

> Although there are many Federal, State, and local agencies involved in one way or another with the disposal of wastes from barges and ships in any one city, rarely did more than one of these agencies have a comprehensive picture of the total activities of this city. This lack of effective data management appears to be due primarily to both a lack of communication between agencies

involved and the concentration of interest in a given agency in only specific types of wastes.

Also, the expertise in one agency often isn't made available to another. There is also breakdown in obtaining and processing environmental data to assess future waste disposal activities. At present, there isn't a continuous monitoring and surveillance of disposal activities.

Furthermore, there is no regulation of dumping by other nationals within the contiguous zone. Legislation has not been passed to implement article 24 of the Convention of the Territorial Sea and Contiguous Zone of 1958.

Mr. Chairman, the legislation which I have introduced not only clears up this administrative mess, but also creates the authority necessary to effectively regulate clean dumping.

In my opinion, this bill offers several important and desirable features which are lacking in the bill proposed by the administration. In addition, by bill, unlike that of the administration, conforms closely to the recommendations of the Council of Environmental Quality as to what provisions ocean dumping legislation should contain. These recommendations, it should be remembered, were the result of a comprehensive study initiated by President Nixon on April 15, 1970.

It is important that we in the Congress decide the kinds and places of dumping that should be proscribed and not leave it simply to the discretion of the Administrator. After all, it is the lack of specific guidelines and direction which has caused indecisiveness on the part of the administering agencies. Furthermore, this is an area of such importance that strong legislation is required. Delegating full authority to the Administrator of EPA could easily result in a so-called balancing of interests which would result in less stringent regulations and enforcement. The Congress should establish a national policy embodying specific guidelines to halt the practice of using our coastal areas and Great Lakes as a dumping ground simply because it is the "cheapest method of disposal." The fact is that the dollar cost of ocean dumping coupled with the ecological costs make it the most costly method.

The legislation I have introduced has a threefold approach. First, instead of designating areas where dumping may be conducted safely, my bill concentrates on determining which areas of our marine environment are most valuable and setting them aside as sanctuaries. Second, similar to the administration's proposal, my bill also prohibits the dumping of waste material into the oceans, coastal waters, and estuarine areas, except under a permit signed by the Administrator of the EPA. Third, the bill proscribes absolutely the dumping of toxic, radioactive, and chemical biological warfare material.

I have chosen as a vehicle for this legislation the act of August 3, 1969, which declared as a national policy the concept that the estuarine areas of the United States are of great value to America and must be protected and conserved for the future of this Nation. This act was chosen, Mr. Chairman, because of the need to relate the problem of ocean dumping to the broader problem of preserving certain ecosystems within the coastal zone area. This need exists because the dumping of dredge spoil constitutes the largest single element in the growing volume of refuse being dumped into the ocean.

And most dredge spoil is dumped relatively inshore, where it may contaminate the valuable shellfish and fish species generally.

The report of the Council on Environmental Quality recommended:

High priority be given to protecting those portions of the marine environment which are biologically most active, namely, the estuaries and the shallow, near-shore areas in which many marine organisms breed or spawn. These biologically critical areas should be delineated and protected.

Both the act of August 3, 1969, and the report of the Council would seem to mandate that any ocean-dumping legislation would have to include a provision for setting aside as sanctuaries those areas of our marine environment which are determined most valuable.

Section 3 of the bill authorizes the Secretary of Commerce acting through the newly established National Oceanic and Atmospheric Administration, in conjunction with the Secretary of the Interior, the Administrator of EPA, and the Council on Environmental Quality, to designate as marine sanctuaries those areas which the Secretary determines should be preserved or restored for their recreation conservation, ecological or esthetic value. This section directs the Secretary to make an initial designation of marine sanctuaries within 2 years following the date of enactment of the legislation, and require him to submit an annual report to the President and Congress reviewing the activities under this act. Adequate funds are authorized for the conduct of studies leading to the designation of marine sanctuaries. The Secretary of Interior may not renew any license or permit for marine mining activity within an area under study for designation as a marine sanctuary, nor may the Administrator of EPA issue or renew any permit for dumping in any areas under study.

Section 2 of the bill amends section 6 of the 1968 act to prohibit disposal of waste materials without a permit issued by the Administrator of EPA, under such terms and conditions as he determines necessary to insure that the dumping or disposal will not damage the ecology of the marine environment.

The minimum guidelines which this bill sets forth for the issuance or permits corresponds with those suggested by the Council on Environmental Quality and differs markedly from those contained in the administration's proposed bill.

My bill calls for a gradual phasing out of municipal sewage and industrial waste outfalls. These outfalls constitute one of the major sources of marine pollution. Sewer outfall is the primary pollutant in the New York Bight. 130 municipal waste outfalls discharge 2 billion gallons per day.

Waste material is defined so as to include all solid and liquid industrial byproducts, chemicals, sewage, sludge, dredging spoils, and debris. Disposal is defined as the placing, releasing or discharging by any means whatsoever.

The administration's proposal, on the other hand, specifically excludes municipal sewage outfalls or industrial waste outfalls from the definition of dumping.

Following the recommendations of the Council on Environmental Quality, my bill proposes a phasing out of the dumping, or disposal of municipal sewage, or industrial wastes. After January 1, 1972, no disposal could take place unless such sewage or industrial waste has

received primary treatment in accordance with standards established by the Administrator.

After January 1, 1974, no permit may be issued unless such sewage or industrial waste has received primary and secondary treatment, and after January 1, 1976, no permit can be issued unless primary, secondary, and tertiary treatment has been received.

This gradual strengthening of standards will allow the companies and municipalities involved leadtime to develop new processes for treatment and also eradicate a major source of ocean pollution.

The dumping of radioactive wastes, toxic industrial wastes, and chemical and biological warfare material are completely prohibited. The serious adverse effects which the dumping of these materials could and do have, coupled with interim and long-term alternatives to their dumping in the oceans leads me to believe that no rational balance of interests requires the use of our oceans and coastal waters for their dumping.

In this regard, the Council on Environment Quality concluded that "no ocean dumping of chemical warfare materials should be permitted," and "ocean dumping of industrial wastes should be stopped as soon as possible." They also called for more stringent standards regulating the dumping of radioactive materials.

It should be noted that other studies, including a recent study of the New York Bight for the Department of Interior and a study by the Coast Guard, also recommend that the dumping of these categories of material should cease entirely.

Alternatives exist to outfalls of sewage sludge, industrial wastes, and the dumping of other toxic, chemical-biological and radioactive materials. In some cases these alternatives actually cost less. And when you add in the ecological costs imposed on the marine environment by dumping at sea, in almost every instance it would be less expensive, in both economic and social terms, to revert to land-based disposal systems.

Sewage sludge can be disposed of in sanitary landfills or used as a soil conditioner. Industrial wastes can be treated and disposed of on land, or they can be incinerated. Radioactive materials can be entombed in salt mines, and dismantled chemical and biological warfare material can be neutralized, incinerated, or buried. Of course, longer-term alternatives such as recycling can and should be explored.

Finally, the bill recognizes the fact that stringent enforcement of these regulations is required in the purpose and spirit of the act is to be accomplished. Fines for unauthorized use of dumping range from a minimum of $2,000 up to $10,000 for the first offense, and from $10,000 to $25,000 for each succeeding offense.

It further provides that any vessel or barge engaged in dumping in violation of the act shall be forfeited. The Administrator of EPA, the Coast Guard, and the Corps of Engineers, acting jointly, shall enforce the act. This legislation also empowers the Coast Guard to stop and search vessels in our territorial waters and in the contiguous zone to determine whether they are engaged in unauthorized dumping activities or related transportation activities.

I guess the problem of ocean dumping really hit home to me during the hearings on the dumping off the cape, when we found the laws we had just were not adequate, and did not do the job.

There is no reason to relate the problems to the committee of the great growth in pollution, and the fact that the ocean is becoming a garbage dump.

I think we recognize this, and we also recognize we have to do something about it.

The question in front of the committee is what are we going to do about it. Are we going to just make a pass at it, or are we going to put it under one roof and make it a tough law that has teeth in it.

Very briefly, my bill has a somewhat different approach from the administration's bill that has been introduced.

To begin with, the initial thrust of the bill is to set up sanctuaries, areas, where as a matter of national policy, there can be no dumping of any kind under any circumstances.

Second, it prohibits the dumping of waste materials in the ocean, the coastal waters, and the estuaries, except under a permit signed by the Administrator of the Environmental Protection Agency.

Third, we allow, or we prohibit absolutely the dumping of any toxic, radioactive, or chemical biological warfare material in any place.

The bill that I propose follows very closely the report to the President, prepared by the Council on Environmental Quality on ocean dumping which was filed in October, 1970.

The act also provides that the Coast Guard be given the funds to carry out surveillance of any dumping by the shipping that may be using these waters.

It also calls for Federal preemption and uniform regulation. I think we can see it in the Delaware Bay area. If we allow the States themselves to act, and Delaware, for instance, does not have as strict a standard as New Jersey, you will find people going over the line and dumping their garbage.

I think this is a national question. I do not think it should be one that the States themselves should decide.

The act I propose is somewhat different from the administration's act, in that it is broader. It prohibits, not only our flagships from dumping in our territorial and contiguous waters, but any foreign national from doing it.

It addresses itself to one other problem, and that is the question of waste disposal.

This is extremely important. The administration's bill does not say anything about waste disposal. It just ignores it. Part of the rational as I understand it, is that this will be handled by the Public Works Committee under the Water Quality Control Act. But even under that act, only the question of effluent standards is considered and not other factors, such as where the dumping takes place.

My bill calls for a gradual phaseout beginning in 1972 and ending in 1976. And, of course, there is precedence for this under the Air Control Act.

It, in essence, brings everything under one head, and it gives one agency, the power to carry this out.

I am somewhat puzzled at the reluctance to follow the recommendations of the ocean-dumping report of Council on Environmental Quality, which is I think of importance in drawing this act.

The penalties themselves are on a graduated basis for a first offense, being between $2,000 and $10,000, and more for the second offense.

I am not tied in my bill to any particular approach. I am not tied necessarily to the penalties, if they could be increased, but I feel very deeply the problem must be met.

It cannot be done piecemeal, and I am not for just delegating broad discretion to an agency to make up the rules.

I think this is of such importance to our Nation that the legislation should restrict to a good deal the ability to trade off, or to balance off the various interests, because I think the interests in preserving our ocean are greater than any other interests that might come into conflict.

I would be glad to answer any questions on this that you may have, but I think my statement is fairly complete in laying out this matter.

One last point, I do want to emphasize the difference between this approach, and the approach I think that the administration has taken. This bill, or a bill like it is a complete, not a piecemeal, approach to the problem.

It just does not take one particular part of it, and try and isolate it. It just does not work. It has not worked in the past, and I think we need to do a lot more in this area.

Mr. DINGELL. Mr. Frey, you have given the committee an excellent statement, and we are indeed grateful to you.

The Chair would appreciate receiving, at your convenience, such amendments to the administration's bill you might deem appropriate in addition to the comments you have made this morning.

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

Mr. DINGELL. Our next witness is our good friend and colleague, Hon. Sam Gibbons, Congressman.

Mr. Gibbons, we are glad to welcome you to present such statement as you wish to give at this time.

STATEMENT OF HON. SAM GIBBONS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. GIBBONS. Thank you, Mr. Chairman.

I am a cointroducer of a couple of the bills that are before you this morning, and I want to state I am not wedded to the specific language of any of the bills I have introduced.

I respect the ability of this committee.

I would urge you to bring out as early as possible a strong tough law on the matter of dumping, and the matter of the pollution of our coastal waters and estuaries.

I came here this morning to tell you from the point of view of a person who has lived very close to the sea all of his life, that I see what is developing, and I think something needs to be really done.

Let me describe my background. I am a native of Florida. I have lived near the gulf all of my life. I live on one of the most highly polluted estuary waters in the United States. That is not something to brag about, but it is a fact.

The port of Tampa is one of the largest, probably the eighth or ninth largest port in the United States.

The Bay of Tampa has been badly treated by the merchant marine and by the people of the Tampa area.

Last month when I was home, I took a tour of the bay, and it was the filthiest body of water I have seen. It has gotten progressively worse. It is a combination of things of sanitary sewage dumping, run-off from the streets, and also dumping from plants in the area, as well as the merchant marine ships in that area.

As you recall, we had one of the largest oil spills in my bay last year, and we have had very serious repercussions from that.

On the gulf coast of Florida, as far as the committee jurisdiction is concerned, you will find the bay scallops, and the small fish that used to grow in the bays around there no longer exist.

For years I have fished, and retrieved scallops and things of that sort from this area, and they no longer exist.

The whole opportunity to catch fish and use the estuary qualities of the bay has practically ceased to exist in my part of Florida.

It is a very hardy fish that can survive in the kind of pollution that has been created there.

The gulf beaches of Florida have become littered with broken bottles, with trash of all kinds, with all kinds of floating things from ships, and from people who are careless in their use of the beaches, and from people who use fishing piers in that area.

I think that in drawing a law, you must make sure it touches all of these things.

At Christmas time, I was using my boat, and I landed on a little island in the mouth of one of the passes, and there had been quite a bit of erosion.

Frankly, it was almost impossible to use the beach in a barefooted condition, because there were so many broken bottles on it.

I realize that is not completely within the jurisdiction of this committee.

It is not something the Merchant Marine and Fisheries Committee ordinarily would be taking up, but I think someone in the Congress must do so.

Some method must be found, either by putting a tax on bottles, requiring them to be returned, or to require them to be made from material that does not shatter, so that the beaches won't be a complete boobytrap for people.

I know of these hazards personally. A few years ago, I went in swimming in front of my house on the Gulf of Mexico, and I tripped, fell down, and put my hand down on the bottom, and cut myself on a very jagged piece of glass.

This is the kind of thing that is happening today. I say today because it is something that is happening more frequently.

For years I have fished in the gulf waters, and I find that there is more and more trash in these waters, beer cans, bottles, everything you can think of.

Fishing fleets have been putting out for years, and I have watched nets retrieved on my shore, and frankly now, you catch a few fish, and an awful lot of bottles and can. These are coming from not only people but from boats on the sea, from fishing piers, and from party boats.

Although the beaches in the Miami area, are some distance from my area, I have gone there many times to fish.

After the war, they said because so many subs, and so many merchant marine ships were sunk, there was a lot of oil on the beach.

Here 25 years or a quarter of a century since that time, there is still fresh oil floating up on Miami Beach, and you cannot go swimming at any of the most expensive hotels, or any of the hotels, down there, without having to come out and practically take a bath in some kind of solvent to get the oil off your feet.

It gets on everything.

Of course, I think most of this is coming from ships that just dump the material out, helter-skelter all over the ocean.

I think the time is now, and the time is very critical, and I hope that you gentlemen will use all of the skill and all of the determination you have on this committee to do something about it. It needs to be done.

Mr. DINGELL. Thank you.

This committee is grateful to you for your very helpful testimony.

The committee would appreciate any suggestions you might give us with regard to amendatory language to the administration's bill.

We thank you very much for your fine statement, Mr. Gibbons, and we appreciate your help.

Mr. GIBBONS. Mr. Chairman, I have a prepared statement I would like inserted into the record.

Mr. DINGELL. Without objection, let the prepared statement of the gentleman appear at this point in the record.

(The statement follows:)

STATEMENT OF HON. SAM GIBBONS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. Chairman: Thank you for this opportunity to present testimony to this Committee concerning the need to regulate the dumping of waste materials into the ocean. I had the privilege of introducing H.R. 4218, a bill to prohibit the discharge into any of the navigable waters of the United States or into international waters of any military material or other refuse without a certification by the Environmental Protection Agency approving such discharge. I am also a co-sponsor of H.R. 807, a bill to amend the Fish and Wildlife Coordination Act to provide additional protection to marine and wildlife ecology by providing for the orderly regulation of dumping in the ocean, coastal, and other waters of the United States.

Recent reports have left no doubt that our current practice of haphazard disposal of wastes by ocean dumping has seriously damaged certain areas of our coastal zone and is on the verge of causing worldwide, irreversible environmental effects. In order to alleviate the existing problem and to forestall it from becoming worse, many members of the Congress have introduced, either as individuals or in conjunctions with one or more of their colleagues, legislation regulating ocean dumping. I am told that the number of bills dealing solely and directly with ocean dumping exceeds 44, and that many other measures concerned with water pollution or with coastal zone management have sections regulating ocean dumping. Because there have been so many measures introduced, I would like to briefly review the major provisions of HR 4218 and HR 807.

HR 4218 is a very short bill, yet quite inclusive. It states that after the date of enactment, no person shall discharge, either directly or indirectly, into any of the navigable waters of the United States or into international waters, any munitions, or any chemical, biological, or radiological warfare agent, or any other military material except in accordance with a certificate issued by the Administrator of the Environmental Protection Agency. Further, this bill would prohibit the dumping of any other kind of refuse material of any kind or de-

scription whatever except as approved by the Administrator of the Environmental Protection Agency.

HR 807 is far more specific in its approach. It identifies the waters to be protected including the oceans, gulfs, bays, salt-water lagoons, and other coastal waters where the tide ebbs and flows, the Great Lakes, and all waters in a zone contiguous to the United States extending twelve miles seaward from the baseline of the territorial seas as provided for in the Convention of the Territorial Sea and Contiguous Zone.

Like HR 4218, this bill declares that the Administrator of the Environmental Protection Agency shall be responsible for administering this act. The Administrator will, in conjunction with the Secretary of the Interior, and in consultation with the Secretary of the Army, establish standards for the deposit or discharge of waste materials into the coastal waters of the United States. The kinds of materials which will be regulated include dredge spoil, sewage sludge, industrial wastes, building rubble, and all other materials which might be harmful to the quality of the receiving waters or to its inhabitants. The purpose, of course, of the standards program is to guarantee that disposal of waste materials will cause no damage to the natural environment.

In the administration of this act, the person seeking to discharge waste will bear the burden of proof that his action will not violate the standards established, and he must present evidence to this effect before any permit can be granted. The Administrator may, at his discretion, include additional requirements that he feels are necessary for the orderly regulation of ocean dumping.

These standards will be adopted and enforced by any arm of the Federal and State Governments issuing any license, permit, or any other authorization which regulates dumping into coastal waters. Further, these standards will be applicable to all the departments, agencies and other instrumentalities of the Federal Government, the various State governments involved, and to any person operating under any kind of license or permit from any of these authorities.

Unless the State standard is more stringent than the one established by the Administrator of the Environmental Protection Agency, the Federal standards will apply in all coastal waters. The decision as to which standard applies in the various State jurisdictions will be made by the Administrator. The actual legal jurisdiction shall fall to the District courts of the United States. Violation of the standards will make a person liable to a civil penalty of not more than $10,000 nor less than $5,000. In the case of a continuing violation, each day counts as a separate offense.

Upon the effective date of this Act, all licenses, permits, and authorities which have been issued under any other provision of law shall be terminated.

Mr. Chairman, I feel that there is real need for the Congress of the United States to enact strong legislation establishing a national policy on ocean dumping and establishing an effective mechanism for regulating this common and widespread method of waste disposal. There is no doubt of the destructiveness of promiscuous ocean dumping. Within the last year, several excellent reports have been released documenting the extent of environmental damage being wrought. An example of the extent of this abuse may be inferred from just one statistic taken from the report submitted to the Secretary of Interior on June 24, 1970, entitled: "Evaluation of Influence of Dumping in the New York Bight." On page 26 of this report, the following statement is made: "During fiscal year 1968 disposal of materials in dumping grounds amounted to 17,110,144 cubic yards . . ." For purpose of comparison, this volume is almost exactly four times that of Hoover Dam on the Lower Colorado River. Bearing in mind that this is the amount of material dumped into the New York Bight alone, it is disheartening to note that the report on Ocean Dumping prepared by the Council on Environmental Quality identified 246 dumping sites off the coasts of the United States. And even at the present vast levels of dumping, the Council felt that ocean dumping is not a serious nationwide problem now but could become one within the next few years because of the rapid rate of increase in ocean dumping.

I urge this Committee to move quickly in the direction of effective legislation which will control this growing threat to the marine ecosystems of the United States. It is imperative that legislation be enacted promptly which will provide for strong and effective regulation of ocean dumping.

Mr. DINGELL. Our next witness will be the gentleman from California, Hon. Don Edwards.

STATEMENT OF HON. DON EDWARDS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. EDWARDS. Mr. Chairman, to say that effective legislation establishing a national policy on ocean dumping is needed is to greatly understate the crisis this country is likely to observe in the near future. The relative and absolute increase of pollution in the face of disastrous health, economic and environmental consequences is shocking. The President's Council on Environmental Quality has reported that between 1964–68 an average of about 7.5 million tons of waste was dumped at sea. Without proper controls, this can be expected to climb to over 150 million tons by 1980. If such activity continues, the only and inevitable consequences we can expect is the unleashing of a Pandora's box producing a mixed bag of interrelated and almost insoluable problems.

What is astonishing is to discover that the Federal Government is the Janus-headed offender in the field of water pollution. By virtue of the Government's tardiness in handling the problem of ocean dumping, toxic pollutants have been deposited in the ocean, creating harmful and unattractive waters. By its laxity in enforcing statutes already on the books, the Government has been a conspirator to the pollution of our coastal and inland waterways. But the blame cannot end here.

Above all, what is most horrifying is that the U.S. Government has been traditionally the major offender in the area of ocean dumping. To begin with, it is estimated that the Department of Defense plans to dump 88,835 tons of munitions alone this year; exploding large quantities of explosives results in pollution and destroys marine life. The Defense Department believes that a detonation of 1,000 tons of explosives—not an unusual amount to be disposed—will be sufficiently strong to kill marine organisms from 1 to 4 miles—depending on the species.

Yet, this activity is miniscule in scope when compared with the extent of other offenses. Empowered with the right to dump sludge into waters, the Army Corps of Engineers is responsible for most if not all of dredge dumping, which experts calculate constitutes 80 percent of the weight of all ocean dumping. The Army has admitted that at least one-third of these wastes are polluted. This type of dumping is responsible for adding oxygen-demanding materials and heavy metals which are detrimental to whole communities of marine organisms.

The administration's bill is but a slight improvement over what we have on the books now. Due to the application of legislative cosmetics, H.R. 4723 would make it difficult to halt Government dumping operations. I refer specifically to the construction of section 3(e) which does not place "any employee, agent, department, agency, or instrumentality of the Federal Government" under the sanctions of section 6. Then too, because the bill fails to clearly delineate the jurisdiction of the courts, it is unlikely that private citizens will have the opportunity for a forum in which to seek redress from Government dumping operations. Moreover, section 11 of the administration's bill discourages public involvement in reporting illegal dumping activities by repealing the finder's fee provisions of the Rivers and Harbors Act of 1899.

It is for these reasons, Mr. Chairman, that I suggest the committee report out H.R. 805 as a substitute for H.R. 4723.

Mr. DINGELL. Thank you for a fine statement, Congressman.

We will now hear from our colleague from New York, Hon. Lester Wolff.

STATEMENT OF HON. LESTER L. WOLFF, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. WOLFF. I very much appreciate this opportunity to express my strong support for legislation to control ocean dumping. I am a cosponsor of two of the bills under consideration by the subcommittee—H.R. 808, to provide for the orderly regulation of dumping in the ocean, coastal, and other waters of the United States; and H.R. 4359, to regulate dumping of waste materials and authorize the establishment of a system of marine sanctuaries.

For several years, I have been deeply involved in the fight to restore and protect Long Island Sound, which is used for recreational purposes by residents of New York, Connecticut, and Rhode Island. Eleven million residents of those States live within 15 miles of the sound. Unfortunately, however, the sound's waters are becoming less and less appealing for recreational activities.

One of the chief causative factors in the sound's rapid deterioration has been man's dumping of his wastes—sewage, sludge, or, worse yet, untreated sewage; dredge spoils; industrial wastes. Strong Federal legislation to control such dumping is urgently needed if we are to prevent further destruction of the sound and other bodies of water, and eventually reclaim and preserve them.

Both of the bills I have cosponsored would help halt indiscriminate dumping of man's waste products in our coastal waters. H.R. 808, of which Congressman Harrington is the chief sponsor, would place the burden of proof on the person who wishes to dump to demonstrate that the waste materials would not endanger the natural environment and ecology of the area in which he plans to dump. The Administrator of the Environmental Protection Agency and the Secretary of the Interior would be authorized to establish standards to govern ocean dumping—standards to insure that no damage to the natural environment and ecology of the ocean, coastal, and other waters of the United States would result from any discharge or dumping activity. Failure to comply with the established standards would result in a fine of $5,000 to $10,000.

H.R. 4359, of which Congressman Frey is the principal sponsor, carries these principles a step further by authorizing the Secretary of Commerce to designate as marine sanctuaries those areas of the Nation's tidelands which should be protected for their recreation, conservation, ecologic, or esthetic values. These marine sanctuaries, which would be analogous to the wilderness areas in our national parks system, would be out of bounds for mining activities, industrial development, and dumping or disposal of waste material.

In addition, H.R. 4359 would prohibit the dumping of waste material into the oceans, coastal waters, and estuarine areas, except under a permit issued by the Administrator of the Environmental Protection Agency after he determines the dumping will not damage the ecology

of the marine environment. The dumping of radioactive wastes, toxic industrial wastes, and chemical and biological warfare materials would be flatly prohibited, and standards would be established for treatment of sewage and industrial wastes disposed of under a permit. Violation of the permit requirement would be punishable by a fine of $2,000 to $10,000 for a first offense, and $10,000 to $25,000 for each succeeding offense.

Recent news reports about the contamination of marine life, including the fish we eat, by mercury, DDT, and NTA, and the destruction of the waters of the New York Bight through excessive sludge dumping, prove the danger of indiscriminate dumping. Remarkable as the marine ecosystem may be, it cannot continue to cleanse itself indefinitely while man dumps infinite amounts of waste into the ocean.

Action to protect our marine environment is urgently needed, and I urge adoption of a strong bill by these subcommittees and by your full committee.

Mr. DINGELL. The subcommittee appreciates your time for an excellent and informative statement.

Next we wish to have our good friend and very able minority leader of the House, Hon. Gerald R. Ford.

STATEMENT OF HON. GERALD R. FORD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. FORD. Thank you Mr. Chairman. The horrendous problems created by our pollution of the environment have finally come to the forefront of the national conscience and are receiving the attention they deserve.

Cleanup has become an everyday word. But how much better it would have been had we forestalled the pollution which is necessitating cleanups throughout the Nation and throughout the world.

There are environmental problems that are far more critical than ocean dumping. But there is no time better than the present for acknowledging that the current level of ocean dumping is creating serious environmental damage in some areas.

We should recognize now that the volume of wastes dumped in the ocean is increasing rapidly.

We should warn ourselves now that a vast new influx of wastes is likely to occur as municipalities and industries look to the oceans as a convenient spot to dump their wastes.

We should view with alarm now the trends indicating that ocean dumping could become a major, nationwide environmental problem.

The oceans cover nearly three-fourths of the world's surface. They are critical to maintaining our environment. They contribute to the basic oxygen-carbon dioxide balance upon which human and animal life depends.

We must act now to safeguard our basic environmental balance by banning unregulated dumping of any materials into the oceans and by strictly limiting the ocean disposal of any materials harmful to the environment.

I have introduced a bill, H.R. 6771, which would accomplish these objectives. Needless to say, I strongly endorse the identical bills now

being considered by the subcommittee. I urge favorable committee action on this legislation.

Mr. DINGELL. Thank you Gerry, we are very grateful for your thoughts.

The gentleman from Pennsylvania, the Hon. Lawrence G. Williams, will be our next witness.

STATEMENT OF HON. LAWRENCE G. WILLIAMS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. WILLIAMS. Mr. Chairman and members of the committee, I am here this morning to testify in behalf of H.R. 4723, introduced by Mr. Garmatz, and H.R. 5050, which was introduced by Mr. Charles Sandman of New Jersey for himself and for a number of other members, including myself.

I believe that it is long past the time when we must stringently control the discharge of waste into our oceans in territorial and international waters. We know that there are methods in which to dispose of waste that will not contaminate our oceans or other bodies of water. These methods may be somewhat more expensive but this increased cost is a small price to pay to avoid pollution of our oceans.

I can remember as a young teenager seeing parts of Lake Erie posted for "no swimming" due to pollution. This pollution was ignored and during the 91st Congress, I heard a number of Members refer to Lake Erie as being "dead." Of course, back in the 1920's, everyone thought that Lake Erie could take everything that was put into it. This, of course, was a complete fallacy. During the intervening years, raw sanitary sewage and industrial wastes were dumped into Lake Erie until, today, Lake Erie has almost no marine life worthy of mention and the lake is entirely polluted.

Even during the 91st Congress when Members were deploring the sad condition of Lake Erie and called it "dead," raw sewage and industrial waste continued to flow into Lake Erie.

Privately, I asked some of these same Members how long it had taken the States abutting Lake Erie to kill it and why they were surprised that the Lake "died."

Precisely the same thing can happen in our oceans. In many cases, raw sanitary sewage sludge from sanitary sewage treatment plants is being taken by barge down our rivers and dumped into our oceans. I have heard some comments to the effect that this has no detrimental effect on our oceans. This is just plain nonsense.

If the solids from sanitary sewage have no effect on marine life, why has it killed all of the fish that used to be in our rivers on which metropolitan areas are located? Why has the shad disappeared from the Delaware River?

Further, what sense does it make to build sanitary sewage treatment plants costing millions of dollars in order to remove the solids from the sanitary sewage and then dump these same solids in the form of sludge back into the ocean?

We must make certain that all sanitary sewage is processed by sewage treatment plants that contain primary, secondary and tertiary facilites. This type of plant provides a 90–94 percent efficiency in treat-

ment when measured by the biological oxygen demand (BOD). These sewage treatment facilities must include on-site sludge incineration facilities.

The fact is that sludge incineration facilities can be built with the ultimate in air pollution controls. A proper sludge incineration plant can reduce sludge to 3 percent of its original volume and produce an inorganic ash that can be used as fill without fear of contamination.

Modern incinerators, with adequate air pollution controls, have been developed that will do almost the same thing as the disposal of trash, garbage and other solid waste materials.

Industrial waste which is now being dumped in our oceans must be treated by the industry that is producing such waste. The cost of properly treating industrial waste to avoid pollution must be part of the cost of doing business and this is just one reason why national standards must be established to control air and water pollution.

As far as dumping dangerous materials into the ocean, I am confident that proper scientific research will produce means of treating these dangerous materials chemically so that they can be rendered harmless. Of course, this chemical treatment of such things as nerve gases and other types of gases could be a slow and rather costly program. However, again, the cost would be justified by keeping these dangerous materials out of our oceans.

It is a matter of public record that thousands, and perhaps millions, of pounds of seafood have had to be taken off the market due to mercury contamination and other forms of contaminants. Unless we stop dumping waste materials of any kind in our oceans, this problem will continue to become more acute and have an adverse effect on our entire population.

I want to commend these subcommittees for devoting the time to consider these matters and I want to express my appreciation for having the opportunity to appear before you.

Mr. DINGELL. Thank you Congressman, that was an excellent statement.

Our next witnesses are from the Atomic Energy Commission. Welcome to the committee.

STATEMENT OF HON. JAMES T. RAMEY, MEMBER, JOSEPH F. HENNESSEY, GENERAL COUNSEL, AND HAROLD L. PRICE, DIRECTOR OF REGULATIONS, ATOMIC ENERGY COMMISSION

Mr. RAMEY. Thank you, Mr. Chairman.

I am James T. Ramey, member, of the Atomic Energy Commission.

I have with me Mr. Joseph F. Hennessey, General Counsel of the Atomic Energy Commission.

On my right is Mr. Harold L. Price, Director of Regulations of the Atomic Energy Commission.

Mr. DINGELL. Gentlemen, we are happy to welcome all of you to the committee.

Mr. RAMEY. Mr. Chairman, members of the committee, I have a prepared statement which I will read.

We are pleased to accept the subcommittee's invitation to appear before you today to testify concerning legislation dealing with the

problem of ocean dumping. The committee counsel has asked that we address our remarks to section 7(b) of H.R. 4723, "a bill to regulate the dumping of materials in the oceans, coastal, and other waters, and for other purposes."

We strongly support effective measures to protect and preserve our environment. The problem of ocean dumping has been extensively examined by the Council of Environmental Quality in its report, "Ocean Dumping; a National Policy" October 1970. In implementation of the recommendation in this report, a proposal for legislation dealing with ocean dumping was included in the President's message to the Congress on pollution control, dated February 8, 1971, and has been introduced in the House as H.R. 4723.

Since the committee is fully familiar with the provisions of H.R. 4723, rather than present a summary of the bill, I shall address myself directly to the caption "Relationship to Other Laws," in the middle of page 10 of the bill. Under that caption the bill provides in section 7 (b) that:

> Nothing in this Act shall abrogate or negate any existing responsibility or authority contained in the Atomic Energy Act of 1954, as amended, and section 4 and subsection 7(a) of this Act shall not apply to any activity regulated by that Act: Provided, the Atomic Energy Commission shall consult with the Administrator prior to issuing a permit to conduct any activity which would otherwise be regulated by this Act. In issuing any such permit, the Atomic Energy Commission shall comply with standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive material. In setting such standards for application to the oceans, coastal, and other waters, the Administrator shall consider the policy expressed in subsection 2(b) of this Act and the factors stated in subsections 5(a)(1) and 5(a)(2) of this Act.

Under the Atomic Energy Act of 1954, as amended, the Atomic Energy Commission regulates the receipt, use and disposal of source, special nuclear and byproduct material to assure the common defense and security and public health and safety. AEC regulations governing the disposal of radioactive materials have been established in 10 CRF parts 2, 20, 30, 40, and 70.

Because of the nature of radioactivity, the AEC has vigorously exercised its authority in regulating the marine disposal of radioactive wastes and materials. No new licenses authorizing radioactive waste disposal at sea have been issued in the past 10 years. Only one commercial organization (which has never conducted any sea disposal), two Government agencies, and one university are still authorized to dispose of radioactive wastes in the ocean. The major contractors of the AEC have not disposed of any wastes at sea since 1962.

We believe that the AEC has exercised and is exercising effective regulation over the ocean disposal of radioactive substances to the extent that this type of operation poses no threat to the marine environment now or in the foreseeable future. In this regard, the AEC has as one of its primary responsibilities the protection of the ocean and its ecosystem from any harmful effects of radioactivity.

Thus, we believe that the policy and purpose of the proposed bill, that is, "to regulate the dumping of materials in the oceans, coastal, and other waters and for other purposes," already is being effectively carried out with respect to radioactive substances regulated by the AEC. Section 7(b) recognizes this fact and continues, in effect, the

full licensing and enforcement authority of the AEC over ocean disposal of radioactive material. This provision eliminates the possibility of dual regulation over these materials, yet it provides for full participation by the Environmental Protection Agency in the program. The provision in section 7(b) of the bill requiring consultation and the setting of standards is a useful one in that it will assure an "across-the-board" approach to the problems associated with ocean dumping. Also, it will assure that the relationship between EPA and the AEC will be consistent with the relationship set forth in Reorganization Plan No. 3.

In continuing to regulate the disposal of radioactive materials at sea under the provisions of section 7(b), the AEC would plan to continue its practice of prohibiting the disposal of high-level radioactive wastes in the ocean. We believe that ocean disposal of other solid radioactive wastes should be prohibited to the extent that practicable alternatives are available which provide less risk to man and his environment.

I will be glad to answer any questions you may have.

Mr. DINGELL. We are very grateful to you for your very helpful testimony.

Mr. Lennon.

Mr. LENNON. Thank you, Mr. Chairman.

I want to be as specific for the record as I can. Your representation here this morning that you gentlemen are making is on behalf of the Atomic Energy Commission, and you are the representatives of the Atomic Energy Commission, is that correct?

Mr. RAMEY. Yes, sir.

Mr. LENNON. Are either one of you three gentlemen members of the Commission?

Mr. RAMEY. Yes, sir; I am.

Mr. LENNON. Well, I am delighted to see this spirit of cooperation and recognition on the part of the Atomic Energy Commission, and for the sake of the new members, I am going to just quickly recapitulate my experience with the Atomic Energy Commission last year.

When the Congress learned after the fact the decision had been made to dump off Cape Kennedy some 416, as I recall, coffins of nerve gas, which was, and I recall that the Secretary of the Army, and the recognition that the fuses on the rockets, and the propellers were deteriorating, and, therefore, there was some reason to believe there was imminent danger, so that the Secretary of the Army called on the National Scientific Foundation to recommend an ad hoc committee, of scientists to determine how best we could dispose of the caskets, or coffins of the nerve gas. He convened this committee of scientists, and they came up with recommendation No. 1, that they could be disposed of by the Atomic Energy Commission, and the Atomic Energy Commission was asked to look into the matter, which they did. This committee of scientists said we do not have experience in ordnances, munitions, or explosives, and they suggested to convene an ad hoc committee of these gentlemen who have experience, and they came up with the same specific and definitive recommendation, that the Atomic Energy Commission be called on to dispose of these 416 plus coffins of nerve gas, and the Atomic Energy Commission in turn went to its, I believe you called the Lawrence Radiation Laboratory, and they came back, and said yes, we can dispose of it.

They said, we have a place, where it can be done, but it will interfere with—if you gentlemen want to read the record, I will not misstate anything, but it will interfere with our on-going projects.

We suggest you ship it out here. This is a recommendation of your laboratory, ship it out here, and we will store it in a safe isolated spot, and in time we will dispose of it.

I recall in those hearings, some of them were held in the evenings, nighttime, and we confirmed this, and the Commission made a decision that this was not politically the smart thing to do for the Atomic Energy Commission, instead of writing to the Army, and putting it in writing, saying, we do not want to do this, because of the problems we are having around the country with atomic energy reactor power, we suggest you move it from Alabama, out of Blue Grass Kentucky, down to a point in North Carolina, and ship it to Cape Kennedy, and dump it in the ocean, but you did not put it in writing.

You called the Army late one night, and you told them you just could not get involved in it, and the Army did not have the intestinal fortitude——

We call it guts in my part of the country, to take that decision to the President, and let him resolve it, and I lost most of the respect I ever had for the Atomic Energy Commission, because of your unwillingness, or gutless attitude in that respect, and as much as I love the services, and I am on the Armed Services Committee, I lost a great deal of respect for them, that they did not have the courage to take that decision to the President.

I am sure he would have followed the recommendation of your laboratory, the Lawrence Laboratory.

Now, you have moved right far, and I am delighted to see it.

If you gentlemen do not believe what I said is the truth, all I ask you is to do is to take the record and read it.

It is all in there.

That is the reason I am delighted that you have finally accepted the fact that Government agencies should be as responsible for ocean dumping as private enterprise.

I am pleased to see the change in attitude, but having lived with this thing between the Federal district court, and North Carolina was a trying experience. We brought the Surgeon General here before the committee, and he having just made a public statement that they were giving every hospital in the entire area some sort of antidote to be injected in case anybody inhaled this gas. We asked him, how long it took him to park his car, and get to his office, and he then said you would take this injection of antidote within 2 minutes, from the time you inhaled it, or within 10 minutes, or it was lethal. When he came here, I asked him the question if he drove to work occasionally. He said he did. I said how long does it take you to get from your car where you park it in the office, and he said about 10 or 12 minutes.

I said then the only way this antidote would avoid a lethal dose of this gas would be to be fortunate enough, unfortunate enough to be sitting in the emergency room of a hospital, but not for that purpose, and after you inhaled the gas that came through the window, you might avoid it by getting an immediate injection. I want to make that crystal clear to you gentlemen, it was your decision which caused those coffins to be dumped off the Florida coast.

You told the Army no, we do not want to do this, our political interests would be hurt, and you did not have the guts to put it in writing.

You did it in a late telephone call one night.

Thank you.

Mr. DINGELL. Thank you very much.

Mr. RAMEY. Mr. Chairman——

Mr. DINGELL. I think you are entitled to at least say something at this point.

Go ahead.

Mr. LENNON. And then that will permit me to say something. (Laughter.)

Mr. RAMEY. Mr. Chairman, I would be glad to provide for the record a little statement on this.

This sort of starts us out in the hole, you might say. Of course I was familiar with this problem when it occurred. However, I do not recollect that, and I would doubt that, the Commission would recommend any type of disposal of some other agency's materials.

One of the things the Commission gets accused of a lot is of not being very aggressive in any of its recommendations.

I would also point out that the method of disposal of these gases so far as the possibilities of it being done by the Atomic Energy Commission through nuclear means, was a type of disintegration using atomic explosives underground. This was a method that some of the laboratory people thought could be effective, but it was one that was essentially untried, and in the required time sequence this would have been a rather difficult thing to have been accomplished. The Commission did not believe that it could undertake this—certainly not at that time.

That is about all I have to say, Mr. Chairman.

Mr. DINGELL. We thank you very much, Commissioner.

Mr. Pelly.

Mr. PELLY. I have just one question, Mr. Chairman.

I would like to ask the Commissioner why is it possible for the Commission to revoke the authority that he referred to in the statement?

How can he revoke that authority of other agencies when his own agency is disposing of the same radioactive waste of one university and two agencies that I know of?

Mr. RAMEY. These are essentially licensees involved in research activities, and the licenses are in the process of being terminated.

Mr. PELLY. I think for the record, we would like you to name the university and the two agencies.

Mr. RAMEY. One of the agencies is the NIH, and the other is the National Oceanographic and Atmospheric Administration. The university is the University of Hawaii.

Mr. PELLY. And then there is one commercial organization, is there not?

Mr. RAMEY. There is one commercial organization, yes, sir. The California Salvage Co. of San Pedro, Calif.

As I mentioned, they have not engaged in the actual disposal of radioactive waste.

Mr. PELLY. It might be well before they do to revoke it, because that word "salvage" kind of scares me.

It sounds like they want to get rid of anything they have.

Anyway, I raised the point, and you have indicated that the Agency has taken its course. I would indicate that you implement that action.

Mr. DINGELL. Thank you.

Mr. Rogers.

Mr. ROGERS. I would like to question on this.

How much has been dumped in the ocean?

Mr. RAMEY. Mr. Price, do you have the figures?

Mr. PRICE. We have some figures, Mr. Rogers, going all the way back to 1946.

Mr. ROGERS. Why don't you just give us the last two nearest.

Mr. PRICE. 1970?

Mr. ROGERS. Can you submit that?

Mr. DINGELL. Without objection, the full list will be inserted in the record at this point, subject, gentlemen, to appropriate discussion of your staff and our staff with regard to the actual security questions.

(The subject list follows:)

SEA DISPOSAL OF RADIOACTIVE WASTES—HISTORICAL TRENDS, 1946–70

Year	Number of containers	Estimated activity at time of disposal (in curies)
1946 through 1960	76,201	93,690
1961	4,087	275
1962	6,120	478
1963	129	9
1964	114	20
1965	24	5
1966	43	105
1967	12	62
1968	0	0
1969 [1]	36	26
1970 [1]	22	3
Total	86,758	94,673

[1] The number of containers differs from the number contained in ocean dumping—A national policy, A report to the President prepared by the Council on Environmental Quality, October 1970 to reflect information recently received on disposals made by the University of Hawaii in 1969 and 1970. The quantity of radioactive material disposed by the University of Hawaii in 1969 was approximately 7 millicuries and in 1970 approximately 25 millicuries which does not significantly change the quantity of radioactive material disposed in 1969 and 1970.

Mr. PRICE. In the last 2 years: 1970, two containers, 3 curies; 1969, 26 containers, 26 curies.

Mr. ROGERS. What is a curie?

Mr. PRICE. It is a measure of radioactivity.

Mr. ROGERS. How could you explain it to a layman?

Mr. PRICE. I will have to get some technical help, please.

Dick Cunningham, could you say something?

This is Richard Cunningham.

Mr. CUNNINGHAM. A curie is a measure of radioactivity in terms of a rate of decay. It is 3.7×10^{10} disintegrations per second.

It is a measure of rate of decay of radioactive material.

Now, as an example, an average wristwatch being manufactured today has 5 millicuries on it, and a millicure is one-thousandth of a curie.

Mr. ROGERS. In other words, the curie is a thousand times more than you have in your wristwatch?

Mr. CUNNINGHAM. Yes, approximately.

Mr. ROGERS. And you say it is the rate of disintegration?

Mr. CUNNINGHAM. Yes.

Mr. ROGERS. How long does it take to disintegrate?

Mr. CUNNINGHAM. That depends on the type of radioactive material.

Mr. ROGERS. Give us this example of what you are dumping in the ocean.

Mr. CUNNINGHAM. Sir, I do not know what radioisotopes were involved on the list of disposals I have here.

The rate of decay, depends on the type of radioisotope.

It may go to half its activity in seconds or it may take hundreds of thousands of years, depending on the radioisotopes.

Mr. ROGERS. Could we estimate?

Mr. CUNNINGHAM. For any specific radioisotope, yes, sir; we do know.

Mr. ROGERS. Do you have those figures on the dumpings?

Mr. CUNNINGHAM. I do not have them available here.

Mr. ROGERS. Does the Commission have them?

Mr. RAMEY. Yes, sir; we do.

Mr. CUNNINGHAM. Could you let us know what those are for the record?

Mr. PRICE. We have those; yes, sir.

Mr. CUNNINGHAM. We have the coordinates on the dump locations.

Mr. ROGERS. Where have these been dumped?

Mr. PRICE. In the Atlantic Ocean, beyond the Continental Shelf, east of Norfolk.

Now, all of these places are beyond the Continental Shelf, and we could furnish for the record the exact locations.

Mr. ROGERS. I would appreciate that.

(The information follows:)

The radioactive material disposed of at sea contained types and quantities of radioactive material associated with research and development activities of the Atomic Energy Commission, use of radioactive materials by hospitals, universities, industrial firms, and other places where radioisotopes are used for various purposes. Such wastes were most often in the form of contamination on equipment such as test tubes, bottles, rubber gloves, paper wipes, etc. Most of the radioactivity involved radioisotopes with atomic numbers 1 through 83. It also includes some uranium and thorium and to a very much lesser extent, transuranium elements.

Mr. ROGERS. Now, is the dumping supervised?

Mr. PRICE. Well, the packaging is supervised, but we do not send somebody out.

I cannot tell you for sure whether we send somebody out on each ship.

I think we have in cooperation with the Coast Guard and the NIH in connection with their dumping, but I am not sure.

Mr. CUNNINGHAM. The Coast Guard has taken the NIH materials out to sea.

On other dumpings, we have had an inspector on board ship.

Mr. ROGERS. In all instances?

Mr. CUNNINGHAM. No, sir.

Mr. PRICE. Not in all.

Mr. Rogers. I think this would be a rather important point.

You leave it to a contractor or some agency. I am not sure they go all the way out, as you say, or put it in the proper place.

How do you know they do?

Mr. Price. Well, if we are not there, we cannot be sure.

Mr. Rogers. That is correct.

Mr. Price. But these quantities, they are so small, that it really is not very important.

Mr. Rogers. Even though you are dumping them all at the same spot, maybe, there is no buildup?

Mr. Price. No, sir, we do not think there is.

Mr. Rogers. You do not think so?

Mr. Price. Not for these quantities, that is right, sir.

Mr. Ramey. Last year there were only two containers.

Mr. Rogers. But there were 26 in the year before.

What is the highest you had?

Mr. Price. In 1961, 4,000 containers, approximately 275 curies; 1962, 6,000 containers, approximately 478 curies.

Now, they were not all at one place. Some of them were off Norfolk. Some of them were off New Jersey.

All of them were out at about 150 miles.

Mr. Rogers. What is the area that you had been concerned with recently?

Mr. Price. We have stopped ocean dumping effectively.

Mr. Rogers. What is the level that you are really concerned with?

Mr. Price. I do not think we know of a level, Mr. Rogers.

Mr. Rogers. You could dump any amount, is that right?

Mr. Ramey. No, sir. The permissible level of radioactivity on the surface of the cask effectively limits the quantity of radioactive material which can be handled and dumped. But back in the late fifties, and early sixties, there was concern expressed, particularly on the problem of a few casks which were allegedly washed up. But these were low-level radioisotopes being disposed of; and with the means of land disposal the Commission has adopted, it is no longer a problem.

Mr. Rogers. I do not think you have quite gotten to what I asked.

I asked at what level do you consider a dangerous amount, and you said some of them even washed up on shore.

Mr. Ramey. A very few, yes, sir.

Mr. Rogers. When did that happen?

Mr. Ramey. Back in around 1959, 1960, 1961.

Mr. Rogers. Have we had any other examples of that washing ashore?

Mr. Ramey. Not in recent years.

Mr. Price. There have been none in recent years.

I think, Mr. Rogers, if we would be permitted, we would like to supplement the record on this quantity safety situation that you have raised, because back in the early sixties, the National Academy of Sciences published a report on ocean disposal, in which they concluded that there were about 25 sites along the Atlantic coast, I think it is about 25, close in, as close as 3 or 4 miles, where it would be perfectly all right to dump x quantities per year.

We never did that, but it was in the furor over that report that people thought we were dumping in those close-in areas, in those quantities, that we in effect stopped all ocean dumping for all practical purposes, except for these few little amounts that are now being cleaned up, so I think we would like to supplement the record in the light of that report, because I do not think we today can give you a number that would say up to here it is all right, and beyond that it is not, but that report would help to put this in perspective.

Mr. ROGERS. I think we should have that, and I think we should have a summary on where the heavy dumpings have been.

(The information follows:)

DUMPING SITES OF RADIOACTIVE WASTES

The major areas used for dumping of radioactive wastes in the ocean were at the following locations:

ATLANTIC OCEAN

1. 30°38′N, 72°06′W approximately 150 miles southeast of Sandy Hook.
2. 37°50′N, 70°35′W approximately 230 miles southeast of Sandy Hook.
3. 36°56′N, 74°23′W approximately 105 miles east of Cape Henry, Virginia.
4. 42°25.5′N, 70°35′W approximately 12 to 15 miles from the coast in Massachusetts Bay.

PACIFIC OCEAN

1. Within an area bounded by points designated as
   37°38′N, 123°18′W; 37°38′N, 123°30′W;
   37°43′N, 123°24′W; and 37°43′N, 123°30′ W
approximately 48 miles west of the Golden Gate.
2. 33°39′N, 119°28′W approximately 53 miles west of Point Vicente, California.

NOTE: All sites listed above are beyond the continental shelf where the depth exceeds 1000 fathoms except No. 4 for the Atlantic Ocean which was a toxic chemical dumping area designated by the Corps of Engineers. The last disposal at this site was in August 1959.

Mr. ROGERS. Do you monitor where you dump this material?

Mr. PRICE. We did where we were authorizing the dumping.

There was a periodic monitoring of these dumping areas.

Mr. ROGERS. How often?

Mr. PRICE. We would have to check the record.

Mr. ROGERS. But there is no more monitoring?

Mr. RAMEY. There is very little dumping.

Mr. ROGERS. It is already down there. We are not monitoring what may be happening then?

Mr. RAMEY. I think it is not being monitored now.

Mr. ROGERS. I think we ought to know that for the record.

Mr. PRICE. We would be glad to clear the record.

(The information follows:)

MONITORING OF RADIOACTIVE DUMPING SITES

In October, 1957, a survey of the Atlantic Ocean disposal area located approximately 150 miles southeast of Sandy Hook was conducted by the Chesapeake Bay Institute in cooperation with the U.S. Coast and Geodetic Survey. The survey consisted of taking a series of samples of ocean bottom in and near the disposal site. Radiological analyses of these samples indicated no radioactivity detectable above background levels. A similar survey by the Scripps Institute of Oceanography of Pacific Ocean disposal areas located off the Farallon Islands and in the Santa Cruz Basin indicated comparable results.

In June, 1959, a site in Massachusetts Bay was surveyed by the U.S. Coast and Geodetic Survey. Core samples, sediment samples, and water samples were

analyzed. There was no indication that there had been any change in the level of radioactivity at the site as compared with levels of radioactivity found at other ocean sites where no wastes were disposed.

In March, April, and November of 1960, studies were made by the Pneumo Dynamics Corporations, El Segundo, California, of the two Pacific Ocean sites noted above. Assays of samples of bottom sediment, organisms, and bottom-caught fish revealed no evidence of radioactivity above natural background levels.

The sea disposal of radioactive waste diminished considerably in the 1960's because of the opening of land burial facilities for disposal of waste. In view of the 1957–1960 survey results and the diminution in the quantities of radioactive wastes dumped in the ocean since the studies were made, there has not appeared to be a need for further monitoring studies of the type conducted. Accordingly, no further surveys of waste disposal sites have been made.

Mr. ROGERS. Would 275 curies injure anybody in this room?

Mr. PRICE. It certainly could, but not on the bottom of the ocean.

Mr. ROGERS. If it washed ashore?

Mr. RAMEY. 275 curies would not be injurious in a cask. Not in the way it would be shielded.

Mr. ROGERS. If it is shielded, what is the point of dumping it out in the ocean?

Mr. RAMEY. It was a means of providing for permanent disposal.

Mr. PRICE. Please understand, we are not arguing now for ocean dumping.

We have effectively stopped it, but in the time when waste was being dumped it was mostly in solid concrete mixtures in 55 gallon drums designed to sink to the bottom in whatever the depth is beyond the Continental Shelf.

Mr. ROGERS. But evidently some did not.

Mr. PRICE. I think a few drums did wash up on the shore, and there never was——

I would have to go back to the record.

This is a long time ago.

Mr. ROGERS. I would be concerned about this, because if you have dumped 6,000 drums 1 year, 4,000 drums another, it seems to me without any monitoring, I do not know how many would be out there, and I do not think this committee would, and I think we should at least have some monitoring.

Mr. PRICE. There was a followthrough during those years.

I do not believe it has been continued in recent years, but I would have to supplement the record on that.

Mr. ROGERS. I understand, but I think it ought to be done.

I should think in quantities of that amount, they are dumped off the shore, and where we have had examples where they have come into the shore, we certainly ought to keep track of this.

Mr. PRICE. I will submit some information on that.

(The information follows:)

RECOVERY OF ITEMS DUMPED IN THE OCEANS

The following summaries identify the 13 occasions on which drums were found either washed ashore or picked up at sea. Of the 13 cited items, only 3, 11, and 12 appeared to involve radioactive materials. None of these three occasions involving radioactive materials appeared to have resulted from any violations of Atomic Energy Commission regulations and, consequently, no action was taken by the Atomic Energy Commission.

1. *July 1959.*—A 55-gallon drum washed ashore at Coos Bay, Oregon, was thought to contain radioactive material but analysis determined the contents to be lubricating oil and sea water. No radioactive materials were associated with either the drum or its contents.

2. *September 1959.*—A 55-gallon drum was found on a beach at Tacoma, Washington, on September 27, 1959. The drum bore a radiation symbol and the words, "Do not open." Investigation showed that neither the drum nor its fluid contents were radioactive. The fluid contents were a type of mineral oil used in refrigerator compressors. No information could be obtained as to the source of the drum.

3. *September 1960.*—A 30-gallon drum was netted on September 29, 1960, in about 275 feet of water about 12 miles east of Marblehead, Massachusetts. The drum was examined by the Coast Guard, Boston, Massachusetts, on October 3, 1960, and no breaks were found in the drum. The radiation levels at the surface of the drum were found to be well below the radiation levels permitted for normal transportation of radioactive materials as specified in Interstate Commerce Commission regulations. Crossroads Marine Disposal Corporation, an AEC license, identified the drum as one dropped by it. Crossroads took possession of the drum and shipped it to Oak Ridge National Laboratory for disposal.

4. *October 1960.*—On October 22, 1960, Mr. Eisendrath, Daily Herald, Biloxi, Mississippi, informed Oak Ridge Operations Office that some picnickers had found a plastic container with a wooden top and bottom on the beach at Biloxi. The container had stenciled on it, "Danger—Radiation. Use Equipment Within 10 Feet. AEC 19637 MISS." The container was not seaworn and appeared to have been recently placed in the water. The police were informed and they notified Kessler Air Force Base. A representative from the Air Force Base surveyed the container with a radiation survey meter and found no evidence of radiation. The container was disassembled and the inside of a vacuum bottle was found therein. Inside the vacuum bottle insert were flashlight batteries connected to a buzzer which was activated when the container was moved. It was concluded that this was a hoax.

5. *March–April 1961.*—Seven commercial fishing trawlers netted about 40 steel drums about 80 miles southeast of Manaquan, New Jersey. All the drums were dumped back into the sea by the fishermen shortly after they were netted. No evidence was found by AEC that any radioactive waste had been disposed of in that area, nor was there any evidence that the drums contained any radioactive materials.

6. *January 1962.*—Three steel drums, two of 55-gallon size and one of 30-gallon size were netted by a fishing trawler off the New Jersey coast. Two of the drums contained a plastic-like material and the third drum was empty. A sample of the material was analyzed and found to be organic material and non-radioactive. The Bureau of Explosives concluded that the material was a residue from a plastic manufacturing process.

7. *June 1962.*—Ten drums were found along the Florida coast which were determined to contain metallic sodium and were not radioactive. They were taken out to sea and destroyed by a Naval Demolition Team. The drums were from a shipment aboard the motor vessel "Heedless" which sank in the Gulf of Mexico on January 29, 1962.

8. *July 1962.*—A 2-inch by 2½-inch cork wrapped in lead foil was found on the beach at Oceanside, Oregon. There were no AEC markings but there was a radiation symbol, apparently attached as a tag. It did not appear to have been in the water very long. It was taken to the Coast Guard Station at Garibaldi, Oregon. The cork was surveyed at Hanford and no radiation above background was found.

9. *March 1965.*—A refrigerator door was found on the beach at Long Branch, New Jersey, on March 28, 1965. There was a 1-inch by 6-inch tape on the door with the radiation symbol and the words, "Caution—Radioactive Material." The Safety Director from Fort Monmouth, New Jersey, surveyed the door and the beach in the immediate vicinity and found no radiation above background.

10. *April 1967.*—Four drums and three smaller containers washed ashore near Gloucester, Massachusetts. Investigation by the Coast Guard revealed that the contents were petroleum derivative wastes and were nonradioactive. They had been dumped 10 miles out by a Massachusetts firm.

11. *May 1967.*—A fishing boat netted a concrete container about 5 miles off the coast at Scituate, Massachusetts. Markings that were noted on the container before it was dumped back overboard identified it as a container that had been delivered to Crossroads Marine Disposal Corporation in August 1957 for disposal

by the Naval Research Laboratory, Washington, D.C. It reportedly contained radium dials and thorium oxide but was dumped back overboard before authorities could check it. Surveys of the vessel showed no evidence of contamination.

12. *September 1968.*—The fishing trawler "Resolve" picked up three drums while trawling about 60 miles off Atlantic City. Two of the drums were returned to the ocean by the "Resolve." A Coast Guard Cutter rendezvoused at sea with the "Resolve" and monitored the third drum and found a maximum radiation level of 0.7 milliroentgens per hour. The drum was returned to the ocean. The drums appeared to have been in the area for several years and had started to deteriorate so that it was not possible to identify them. A survey of the trawler by the Virginia State Health Department upon return of the trawler to Hampton, Virginia, revealed no contamination.

13. *July 1970.*—The Coast Guard at Galveston, Texas, reported on July 30, 1970, to the Manned Spacecraft Center at Houston, Texas, that a shrimp boat had retrieved a 55-gallon drum, which was labeled "Atomic Waste," from the Gulf of Mexico on July 29, 1970, and had docked at Freeport, Texas, with the drum aboard. Investigation was made by a Coast Guard monitoring team from Freeport and the investigation revealed that the drum was labeled "Resin Paint Thinner," bore no "Atomic Waste" wording or caution labels, and was not radioactive.

Mr. ROGERS. Now, I would like to know something about the relationship between the Environmental Protection Agency and the Atomic Energy Commission.

I notice now in all of these pollution matters, there is always a little clause that nobody can tell the Atomic Energy Commission what to do.

Now, you have the final determination on what standards will be, or does the Environmental Protection Agency?

Mr. RAMEY. The Environmental Protection Agency establishes the standards.

Under Reorganizational Plan No. 3 of the Federal Radiation Council, which had been responsible for establishing radiation standards, and its functions were transferred to the Environmental Protection Agency. The plan provided that EPA would exercise the standard setting, but that the Atomic Energy Commission would continue to license, and to implement the standards that the Environmental Protection Agency sets. This proposed legislation, concerning ocean disposals provides that the Environmental Protection Agency will provide the standards, and that the Atomic Energy Commission consult with them before any type of radioactive waste disposal could be made.

Mr. ROGERS. It says nothing in this act shall abrogate or negate any existing responsibility or authority contained in the Atomic Energy Act.

What does that mean?

Mr. RAMEY. That means that the Atomic Energy Commission has the licensing authority.

Mr. ROGERS. That is all?

Mr. RAMEY. Essentially, I believe so, yes, sir: and then at the bottom here, it provides, that:

> In issuing any such permit, the Atomic Energy Commissiion shall comply with standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive material.

Just before that, it says:

> The Atomic Energy Commission shall consult with the Administrator prior to issuing a permit to conduct any activity which would otherwise be regulated by this act.

Mr. ROGERS. Let me ask you a final question here.

Do you see any reason why you should continue to permit radioactive wastes to be dumped in the ocean?

Mr. RAMEY. Essentially, no; except in very minor situations.

Mr. ROGERS. Would you have the Commission review this, and let this committee know whether you are going to continue these existing permits?

Mr. RAMEY. As I indicated, we are not going to do any dumping.

Mr. ROGERS. When are you going to take action?

Mr. RAMEY. Existing licenses are in the process of being phased out now.

Mr. ROGERS. What is the time element?

Mr. RAMEY. I would say 6 months, a year.

They are essentially research activities, you understand, Mr. Rogers, by these agencies.

Mr. ROGERS. To dump wastes?

Mr. RAMEY. They are using radioactive materials for their research, as I understand it.

Mr. ROGERS. But you plan to phase all of this out?

Mr. RAMEY. Yes, sir. Now, the report by the Environmental Quality Council did indicate that there may be in the future situations where in balancing the risk and benefit, that some type of disposal might be necessary, but again——

Mr. ROGERS. Would you file an impact statement in that instance?

Mr. RAMEY. Yes, sir; we would be required to.

Mr. ROGERS. That is clear

Mr. RAMEY. Yes, sir.

Mr. ROGERS. Thank you very much.

Mr. DINGELL. Mr. Keith.

Mr. KEITH. Thank you, Mr. Chairman.

Were any of you gentlemen on the Commission in 1960?

Mr. RAMEY. Mr. Price was Director of Regulations, and Mr. Hennessey was Associate General Counsel at that time.

I happened to have been the Staff Director of the Joint Congressional Committee of the Atomic Energy Commission at that time, watching this situation.

Mr. KEITH. Well, good.

Were the casts identifiable? Were they marked in case one of them washed ashore so you would know the contractor that put them there and where they came from?

Mr. PRICE. They were required to be, as far as I know.

Mr. KEITH. Do you happen to know what action was taken to get damages for failure to comply with the terms of the contract?

Mr. PRICE. Well, sir; I will have to go back to the record.

You mean on those few that washed up on the shore?

Mr. KEITH. Yes.

Mr. PRICE. My recollection is they were never positively identified as containing radioactive material.

Some of them had some labels on them, but I would have to check back.

Mr. KEITH. You are hung by your own statement.

You just said they were identified.

Mr. PRICE. I said that disposal containers are supposed to have identification marks on them, and I would like to check the record.

Mr. KEITH. I did not realize you said they were supposed to have been marked.

I thought you said they were identifiable.

Mr. PRICE. Here again, if somebody does not comply with the requirements, and we do not know about it, I am just recognizing that that could happen.

Mr. KEITH. It seems to me, as you said, you did know about it.

I do not want to pursue it, but it does not look very good on the record.

Mr. PRICE. Sir, I am trying to clear the record. I think you are talking about the cans that washed up on the shore.

I do not think we were ever able to trace them to any particular person, but I would have to check the record.

That was a long time ago.

Mr. KEITH. My question was certainly leading up to whether or not they were identifiable, and, therefore, corrective action could be taken.

I would have thought all of you as witnesses would have anticipated what I had in mind.

Mr. RAMEY. I might say, Mr. Chairman, we were requested to testify yesterday, to come in this morning.

Mr. KEITH. Excuse me.

Mr. PRICE. I would like to submit something on that to clear the record.

Mr. KEITH. Fine.

(The information follows:)

RADIOACTIVE WASTE LABELING REQUIREMENTS

Each container of radioactive waste dumped at sea was required to be labeled with the following information:

1. Total activity in millicuries, or in the case of source and special nuclear material, the total weight of the radioactive material;
2. Principal radioisotopes;
3. Radiation level at the surface of the container and at one meter; and
4. The name and address of the licensee.

In 1970, two disposals at sea were made. One disposal, by Chevron Research Company, Richmond, California, consisted of two drums containing about 25 millicuries of cobalt 60 in sealed sources, 6 millicuries of cobalt 60 metal, 35 millicuries of strontium 90 in sealed sources, 22 millicuries of cesium 137 fixed on catalyst beads, and 3 curies of tritium (hydrogen 3). The other disposal, by the University of Hawaii, consisted of 20 packages containing about 5 millicuries of carbon 14, 10 millicuries of calcium 45, and 10 millicuries of tritium (hydrogen 3).

Mr. KEITH. Now, the Atomic Energy Commission in accordance with this bill will be excluded from complying with the terms of the act, as though they had sufficient capability to police their own actions.

Mr. RAMEY. It is not just our own actions, Mr. Keith. The Commission is a regulatory authority. The Commission is regulating nuclear powerplants, utilities, and others, and under its authority, as we indicated, we have cutback on ocean disposal, and are in the process of phasing it out.

Mr. KEITH. I think what we are concerned about is what the people are concerned about.

The reliability of the Government agencies, is to conform to the statutes, and the intent of the statute, and you said you were responsible for the regulation of nuclear atomic powerplants.

Mr. RAMEY. Yes.

Mr. KEITH. I have in my constituency a nuclear powerplant, and I am naturally concerned about how thoroughly it is being monitored and regulated and how much statutory authority there is, to make certain that the plant does not get constructed in an area where it could be a contaminant, either with atomic or other radioactive fallout, and also in terms of thermal pollution.

Is it your agency that is responsible for monitoring, first anticipating any possible hazard, and then monitoring the operation?

Mr. RAMEY. Of the nuclear powerplant?

Mr. KEITH. Yes.

Mr. RAMEY. Yes, sir.

Mr. KEITH. Would you briefly describe how the public is protected in the authorizing of a site, and the design, and operation of the plant?

Mr. RAMEY. That is a——

Mr. KEITH. That is a big thing.

I would like you to give us a quick appraisal that will reassure the members of this committee and our constituencies.

Mr. RAMEY. The Commission under the Atomic Energy Commission Act is responsible for issuing rules and regulations concerning the use of radioactive materials and it has issued quite a number to regulate the safety and site selection of nuclear powerplants.

It is also responsible for listening to individual complaints.

We have a separate regulatory organization under Mr. Price here as Director of Regulation through which the Commission regulates the site selection, the design, the construction, and the operation of these plants.

In establishing its regulations, the Commission is implementing radiation standards which have been issued by the Federal Radiation Council, and which will now be issued by the Environmental Protection Agency.

The Commission has issued regulations that essentially cover both the design and the site for nuclear powerplants. The regulations, governing the suitability of sites, from a radiological standpoint, also factor in population density, meteorological conditions, and so forth.

When a utility, called an applicant, under the Commission's regulations files an application to construct a nuclear powerplant, the application has to be submitted with a great deal of factual material, and it is usually about 12 inches thick. Copies of these applications have in the past, and are at present, sent to Federal and State agencies that have an interest in them, and their comments are solicited. Included are agencies such as the Fish and Wildlife Services, and also the Geological Survey, both of which are in the Department of Interior. The Commission gets their comments on the radiological aspects of the proposed plant, and its relationship to the environment.

More recently, under the National Environmental Policy Act, we required the utilities to submit, not only this application and safety analysis, but also an environmental report.

Copies of that report are also sent to all interested agencies of the Federal and State Governments, and comments are obtained on it. I previously testified before this committee concerning the Commission's regulations on this. Based on the comments, and on the original report, the regulatory staff then puts out a final environmental statement, analyzing the environmental impact of a proposed nuclear powerplant.

The regulatory staff also, as I mentioned, reviews the safety analysis report which the utility has submitted on radiological safety aspects.

The applicant's safety analysis report and these environmental statements go through sort of a four-part process in the Comission's regulatory consideration of the license application.

First, the safety analysis report is reviewed by the Commission's regulatory staff. Then there is review by our Advisory Committee on Reactor Safeguards, which is a——

Mr. KEITH. May I interrupt?

It sounds quite impressive—and may in fact be. The thing that concerns me a little bit and I have seen it in the advisory commissions statute, it says that the Atomic Energy Commission shall consult.

Now, in these procedures you have outlined, is there any agency of Federal or State Government that can say stop, or are you the final authority?

Mr. RAMEY. Well, this licensing authority that the Commission is exercising is essentially a quasi-judicial function. I had not gotten quite to that, but the Commission has Atomic Safety and Licensing Boards. We have a mandatory hearing process on each nuclear powerplant before this Board. It is an independent board, independent of our regulatory staff, and its decisions are reviewed by an appeal board, under limited conditions.

It can be reviewed by the Commission, and then can ultimately go to the courts.

Mr. KEITH. Somebody over here asked if you would kindly say, "Yes" or "No."

Mr. RAMEY. Unfortunately it is not a question that one can give a yes or no answer to, because it is a quasi-judicial process, similar to any other regulatory proceeding.

Mr. KEITH. May I interrupt?

If a State agency, or another agency of the Federal Government disagreed with your decision to put a plant in a particular place, would that agency then have to take it to the administrative procedure in order to adjudicate the difference of opinion?

Mr. RAMEY. On the question——

Mr. KEITH. Yes or no; is that correct?

Is the Administrative Procedures Act the recourse that the other agencies of Government have for appealing a decision you have made?

Mr. RAMEY. Generally, where a Government agency appears as a party before the Licensing Board, on the question of the radiological safety of the plant, and the adequacy of the site from the radiological safety standpoint——

Mr. KEITH. Is "Yes" the answer in those areas?

Mr. RAMEY. In those areas; yes, sir.

Mr. KEITH. I appreciate your generosity with your time.

Mr. RAMEY. I would point out, Mr. Chairman, if I might, just to have a complete record here, that we have been working with interdepartmental agencies and groups, including the Environmental Protection Agency, on the President's legislative proposal on the siting of powerplants, and in this context, the role of the States. As the traditional organization that worries about land use, and other aspects of the siting of industrial facilities including powerplants, the States could exercise a fairly large role if they chose.

Mr. DINGELL. Thank you.

Mr. PELLY. I just want to recall the fact that we have had witnesses before this committee from the Federal Power Commission. Their ecological adviser was an engineer, formerly consultant to private power companies, and he has no background as far as I could tell as an expert in either radiation or thermal pollution, or anything else as far as the environment is concerned, so I assume in that case, you perform that function; is that right?

Mr. RAMEY. Well, the Federal Power Commission does not have any jurisdiction over the licensing of nuclear powerplants.

They have some authority over hydroelectric plants, and they also regulate rates of plants from an economic standpoint in interstate commerce, as I understand it.

Mr. PELLY. All right. I feel better.

Mr. RAMEY. As I indicated, we have people technically trained on our regulatory staff.

We also, as I indicated, go to the expert agencies in the Federal and State Governments for their advice, such as the Fish and Wildlife Service, the Geological Survey, and we have worked with these and other agencies for many years.

Mr. DINGELL. We must move rapidly along here. I want to give you all of the time you need to respond to questions, and the Chair is trying to give every member a full opportunity to ask questions.

I hope that you will limit yourself, if you please, to the point of the question, and also, if you please, as briefly as possible, so that the members can get the questions that they desire to ask into the record.

Mr. Downing.

Mr. DOWNING. How do you dispose of atomic waste now?

Mr. RAMEY. The high level waste is stored at the present time on an interim basis, at Atomic Energy Commission sites.

These wastes are in tanks at Hanford and Savannah River, and at one commercial facility south of Buffalo, N.Y.

Low-level waste is buried in AEC or State-regulated land-based disposal facilities.

Mr. DOWNING. What is done with it?

Are they still in containers somewhere?

Mr. RAMEY. Yes, sir.

Mr. DOWNING. So you have not really disposed of them?

Mr. PRICE. The low-level waste, Mr. Downing, of the kind that used to be disposed of at sea is packaged and buried at land burial sites, and those sites of course are monitored, but it is buried, covered up.

This is low-level waste, and as Mr. Ramey said, the high-level waste is kept in tanks at Commission installations.

Mr. DOWNING. Does this constitute a danger?

Mr. PRICE. Yes.

Mr. RAMEY. The high level?

Mr. DOWNING. Yes.

Mr. RAMEY. The program and plan the Commission has established is to require that these high-level wastes which come from licensed nuclear powerplants, must be solidified, and permanently stored far below the ground, such as in a salt mine.

Mr. DOWNING. When are you going to do this with the high-level waste?

Mr. RAMEY. We are in the process of this now. We have plans and a program for a demonstration facility to be prepared in the next few years.

We have done many experiments on storing there high-level wastes in dry salt mines, and we believe this is the best technological form for this permanent storage.

Mr. DOWNING. When a submarine carrier is recalled, what do you do with that?

Is that radioactive?

Mr. RAMEY. The reactor is, of course, but there is essentially no disposal of waste in a harbor.

Mr. PRICE. The "spent" fuel cores, from U.S. Navy vessels are sent to an AEC chemical reprocessing plant, and it is the waste from that operation which is the so-called high-level waste. It is stored in tanks at a Commission installation, and then solidified and put in long-term storage.

Mr. DOWNING. You have not pursued any further with the idea of atomic disposal of this material?

Mr. RAMEY. This has not been an alternative method that has been seriously considered.

Mr. ROGERS. I am somewhat concerned about these plants that have been built, and the thermal pollution.

Did you previously allow any thermal pollution to exist?

Mr. RAMEY. Mr. Congressman, this is again a pretty broad subject. I have to remember the chairman's prescription here.

Mr. ROGERS. Just yes or no.

Mr. RAMEY. Until NEPA was passed, and the Muskie act was passed, the Commission did not have authority to consider the thermal effects of nuclear powerplants.

Since that time, as I testified before this committee, the Commission does apply the requirements of NEPA and the Muskie act.

Mr. ROGERS. Do you still permit mixing areas?

Mr. RAMEY. We essentially apply the requirements of the State agencies, and we get a certificate from the State water pollution people as a condition of our granting a construction permit, so it would depend on what the State water pollution people did in consultation with the Environmental Protection Agency.

Mr. ROGERS. As I understand it then, your standards are set by the States, not by you as far as thermal pollution is concerned?

Mr. RAMEY. That is right.

Mr. ROGERS. Should you set the standards?

Mr. RAMEY. This has been discussed a great deal. We believe that under the current Federal-State pattern, with the States in con-

sultation with, and subject to arrangements and regulations that they have with the Environmental Protection Agency, the States are the appropriate group.

Mr. ROGERS. You mean the Environmental Protection Agency now sets the standards?

Mr. RAMEY. Yes, sir. They have to approve the State standards.

Mr. ROGERS. Do you advise the Environmental Protection Agency on the standards?

Mr. RAMEY. Only in the sense that we do have authority to conduct research and development.

Mr. ROGERS. I thought you said they would consult with you.

Mr. RAMEY. Under this proposed bill.

Mr. ROGERS. They do not presently?

Mr. RAMEY. No, sir.

Mr. ROGERS. They do not presently consult with you as to what the standards should be?

Mr. RAMEY. We discuss in a more general sense the results of our research and development.

Mr. ROGERS. But not standards specifically?

Mr. RAMEY. It is fairly early at this stage, they have only been in existence for less than a year, and we are——

Mr. ROGERS. We have had the Water Pollution Control Agency for some time, the quality of standards of water, but you have not consulted that?

Mr. RAMEY. Not as to specific standards.

Mr. ROGERS. That is shocking. I am surprised.

Thank you.

Mr. DINGELL. Mr. McCloskey.

Mr. MCCLOSKEY. Thank you, Mr. Chairman.

Mr. Commissioner, as I understand your testimony, within 6 months you expect to phase out all ocean dumping of radioactive materials?

Mr. RAMEY. Yes.

Mr. MCCLOSKEY. If that is true, and this act does not become effective for 6 months, under section 12, why is there any need in the act for section 7(b)?

Since you are going to do it in 6 months anyway, why not allow this act to absolutely prohibit any waste disposal of radioactive waste in the ocean?

Mr. RAMEY. I think the only possible future use is, as far as it was brought out in the CEQ report on ocean dumping, I think it is on page 27, in which they recommended that the door sort of be left open on a benefit risk basis.

For example——

Mr. MCCLOSKEY. Let me refer you to Chairman Train's testimony. He said ocean dumping of other radioactive waste should be prohibited.

That was as I understand the administration's testimony. He says it should be prohibited.

Do you have any objection to that?

Mr. RAMEY. I think there was a sentence before that.

Mr. MCCLOSKEY. It says that low-level liquid discharge to the ocean from vessels and land-based nuclear facilities are and should continue to be controlled by Federal regulations and international standards.

Do you have any objection to this bill prohibiting ocean dumping of radioactive solid wastes, yes or no?

Mr. RAMEY. I would just refer you to this report as stated.

Mr. McCLOSKEY. Mr. Ramey, you are one of the most intelligent lawyers I know. We have had a good deal of experience in the courts together. You know what a yes or no answer would be.

Does the Commission object to the prohibiting of dumping of radioactive solid wastes in this bill?

Mr. RAMEY. I would request we be given an opportunity to answer that question.

Mr. McCLOSKEY. You cannot answer it with a yes or no?

Mr. RAMEY. I can.

Mr. McCLOSKEY. What is your answer?

Mr. RAMEY. I would say that——

Mr. McCLOSKEY. Yes or no.

Mr. RAMEY. I would have to speak from my own standpoint on this, because the Commission's position has been essentially what was the CEQ position in its report.

Mr. McCLOSKEY. The answer to the question is yes, you do not feel we should prohibit solid radioactive solid waste disposal?

You feel you should have freedom to dispose of some radioactive solid waste?

Mr. RAMEY. I think it has to be that the door should possibly be left open in a very minor way.

Let me give you a kind of example.

Mr. McCLOSKEY. I want to make sure I understand your testimony.

You do not want this committee to prohibit solid radioactive waste disposal by the Atomic Energy Commission, do you?

Mr. RAMEY. What I would like would be an opportunity for the Commission to take up this specific question that you are raising, and to supply you with our position on it.

Mr. McCLOSKEY. The answer to my former question is at this time you cannot answer the question yes or no because the Commission has not deliberated on this question.

Is that your answer to my question?

Mr. RAMEY. Yes, sir; that is what I was trying to say.

Mr. McCLOSKEY. Well, that is fine. That is a perfectly legitimate answer. If you do not want to answer the question at this time, because the Commission has not deliberated on it, that is fine.

Now, Chairman Train has testified ocean dumping of radioactive waste should be prohibited, including solid radioactive waste.

You will take up that question?

Mr. RAMEY. Yes.

Mr. McCLOSKEY. How soon?

Mr. RAMEY. Within the next week or 10 days.

Mr. McCLOSKEY. Then we will await that answer.

(The information follows:)

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., April 26, 1971.

Hon. PAUL N. McCLOSKEY, Jr.,
House of Representatives.

DEAR MR. McCLOSKEY: I am pleased to submit for the record the position of the Atomic Energy Commission with respect to three questions which you raised during my appearance before the Subcommittees on Oceanography and Fisheries and Wildlife Conservation on April 6, 1971.

Question 1. Does the Commission object to a prohibition of the dumping of radioactive solid waste in H.R. 4723?

Answer. The Commission participated in the writing of the report of the Council on Environmental Quality entitled "Ocean Dumping: A National Policy", dated October 1970. At page 28, the report stated:

> Because of the need to keep all sources of radioactivity at the lowest possible level, ocean disposal of the wastes should be avoided except when no alternative offers less harm to man or the environment. These cases should be carefully examined to assure that no safe and practical alternatives do exist. If ocean disposal is necessary, it should be carefully controlled.

As I indicated in my testimony, the AEC has not permitted ocean disposal of high level radioactive waste and is phasing out licenses to dump waste materials containing low levels of radioactivity into the ocean and has no intention of dumping any such material from its own operations. However, it does not follow that a complete prohibition of such dumping is indicated. We are in the early stages of a great deal of national research into the effects of various actions on the environment. We believe that until more is known about the environmental effects of other types of waste disposal, it is not in the national interest to make a decision at this time which would foreclose a particular disposal, in the future, of radioactive waste under proper conditions and controls in some part of the ocean. A possible candidate for such disposal could be a reactor pressure vessel from the dismantling of a civilian power plant located at an ocean-side site or from the dismantling of a propulsion reactor in a military vessel. Until scientific bases are sufficiently advanced for enlightened decisions with respect to alternate methods of waste disposal, we believe it would be premature to foreclose all options.

Question 2. Does the Commission object if it is brought under the Ocean Dumping Act and required to secure a permit from EPA in connection with the disposal of radioactive waste generated by its own operations?

Answer. We do not believe that it is necessary, in order to assure that AEC waste disposal actions are consistent with the Act, for the AEC to secure a permit from EPA. Under the bill as presently drawn, if the Commission should wish to make an ocean disposal of its own radioactive waste under some unusual circumstances, as described in the CEQ report, it would first consult with the Administrator, and comply with the standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive materials, in the same manner as under section 7b. of the bill required for AEC licenses. If the Congress were to amend section 7b. to require an EPA permit for all Government agencies proposing ocean disposal of radioactive waste, we foresee no resulting undue interference with Commission operations. Other Government agencies, however, planning ocean disposal of radioactive waste would still be required, in addition to securing an EPA permit, to secure an AEC license.

Quesion 3. Is the Commission agreeable to the applicability of civil and criminal penalties to AEC employees for violation of laws on ocean dumping?

Answer. As a Government-wide matter, it is not desirable to impose civil and criminal penalties on Federal employees arising in the course of the substantive performance of agency missions. To do so can seriously inhibit the performance of necessary Government functions. Thus, the Commission opposes applicability of civil or criminal penalties to Federal employees for violation of laws on ocean dumping. To charge each Federal employee with knowledge of laws pertinent to the discharge of his official duties, pursuant to direction of his supervisors, and with the requirement that he pre-assess at his peril compliance with such laws, is, in our view, unrealistic, unduly burdensome, and not likely to result in the prompt and efficient conduct of official business. We doubt that, in the private sector, subordinates would, in fact, be charged with violation of ocean dumping laws—rather, the violation would be charged to the head of the organization. Thus, the responsibility for violations of ocean dumping laws should likewise be that of the head of the Government agency conducting the operations. No useful purpose would be served by subjecting higher echelon Government officials to such penalties. (Agencies are, in appropriate cases, answerable civilly under the Tort Claims Act.) In any event, we think the responsibility for assuring compliance by Federal departments and agencies with such laws in the operation of their facilities should rest with the President of the United States.

Submissions for the record in connection with other matters discussed at the hearing will be transmitted to you separately.

Sincerely,

JAMES T. RAMEY, *Commissioner.*

Mr. McCloskey. Now we come to the question that Chairman Train testified to about low liquid waste discharges, of vessels and land-based.

I take it you want the Commission to have the right to continue to regulate those nuclear facilities?

Mr. Ramey. Yes.

Mr. McCloskey. Section 7(b) of this act reads as follows:

> Provided, The Atomic Energy Commission shall consult with the Administrator prior to issuing a permit to conduct any activity which would otherwise be regulated by this act. In issuing any such permit, the Atomic Energy Commission shall comply with standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive material.

That refers to a permit. Presumably a private party of governmental agency is included in that.

Do you intend that the Atomic Energy Commission should have the ability without permit to continue this kind of liquid low-level waste from vessels and land-based facilities?

Mr. Ramey. That would have to be under a permit.

Mr. McCloskey. The language of the administration's bill would leave you free to do this without a permit.

Mr. Ramey. Under the Atomic Energy Commission Act, it has to be by means of a license or permit.

Mr. McCloskey. Even of your own agency when you are referring to yourself?

Mr. Ramey. You mean the operational activities of the Atomic Energy Commission?

Mr. McCloskey. Yes.

Mr. Ramey. I would prefer to have Mr. Price answer that question.

Mr. Hennessey can also if he wishes.

Mr. Hennessey. I interpret this section 7(b) would have the effect of exempting the Atomic Energy Commission's own activities from any requirement for a permit.

Mr. McCloskey. Do you have any objection if the Atomic Energy Commission is brought under the act and required to comply with the act as an agency itself?

You would have to get a permit from the Environmental Protection Agency before you could do any of this dumping yourselves.

Would you object to that?

Mr. Ramey. Again, I would like to provide you with a written answer.

This is again something which we have not specifically taken up in connection with this testimony.

As I pointed out, we were informed that we were being requested to testify yesterday, and we have not had a Commission meeting in that period.

Mr. McCloskey. You will examine that second question?

Mr. Ramey. Yes, sir.

(See section 2 of the letter dated April 26, 1971, which may be found on p. 249.)

Mr. McCloskey. Could you also examine a third question? That is whether or not you are willing to be bound by an administration permit, like any other agency of government, and to respond as to whether or not civil or criminal penalties should be or could be assessed against your employees if they violate the law?

Mr. RAMEY. We will examine that. This is more of an across-the-board policy for the Federal Government.

Mr. MCCLOSKEY. That is exactly correct.

(See paragraph 3 of letter on p. 249.)

Mr. MCCLOSKEY. Do you recall, that the President, shortly after taking office, created an Environmental Policy Council, and it was stated by Dr. DuBridge that we need not pass an environmental protection act because environmental protection was already being handled by the Federal agencies?

The Department of Defense and the Atomic Energy Commission were specifically excluded from that Environmental Policy Council as it was first set up, and I think it is extremely important we have your reaction whether your agency should be excluded from criminal and civil penalties, and whether you are willing to submit to Environmental Protection Agency proceedings.

Mr. DINGELL. I would just like to have Mr. Ramey tell us why the Atomic Energy Commission is the only agency in government which is exempt from the Environmental Protection Agency's license requirement.

What I am curious to know is if there is any logic behind that.

Mr. RAMEY. Do you mean under——

Mr. DINGELL. Under the administration's bill, why is the Atomic Energy Commission exempt from licensing requirements?

Why is it and its contractors not compelled to go to the Environmental Protection Agency?

I am very curious as to that very quaint situation.

Mr. RAMEY. Well, I believe that one of the main reasons is that under the reorganization plan, it was determined by the Congress and the administration that in the field of radiation, and radiological matters, affecting nuclear powerplants, and the whole nuclear cycle, the Government had set up a pattern with the Atomic Energy Commission continuing to exercise a fairly broad licensing authority. The standards making authority had always been in the Federal Radiation Council, so this was following the same pattern in transferring the standards making to the Environmental Protection Agency, and retaining the licensing authority in the Atomic Energy Commission.

Mr. DINGELL. We find ourselves then in passing strange conditions, where the Atomic Energy Commission will issue the permit, but according to the language on page 10, line 24, under 7(b), this lanuague appears as follows:

> In issuing any such permit, the Atomic Energy Commission shall comply with standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive material.

So as I read this particular statute, the Atomic Energy Commission will be issuing the permit, out to comply with the standards and qualifications set out by the Environmental Protection Agency.

Now, is that not a very, very strange thing?

Why do we need to have two different permit issuing agencies, when effectively they will meet the qualifications and standards which will be laid down by the Environmental Protection Agency.

It appears that the Atomic Energy Commission will simply be serving as a ministerial clerk to process some of the Environmental Protection Agency's papers.

Now, why should that legislation go through?

Mr. RAMEY. Well, my understanding of the Environmental Protection Agency's role, generally, is that in their standard-setting in the radiological area, they have taken over what the Federal Radiation Council has accomplished for the last 10 or 12 years. This language in the pending administration bill would carry forward that general pattern, of an agency setting overall standards, and another agency, as the licensing agency, implementing them.

Now, I recognize in the case of ocean dumping we are talking about something that from a practical standpoint is of no very great consequence. I just think the general pattern as set forth in the bill is consistent with the reorganization plan, and the way the Commission will be operating in the general radiological area.

Mr. DINGELL. We keep coming back to the same point: that the Atomic Energy Commission will be doing what the Environmental Protection Agency is supposed to be doing.

Mr. RAMEY. Well, as I said, the Environmental Protection Agency, presumably will be issuing relatively broad scale types of standards.

Mr. DINGELL. I am curious as to why we have to have an Atomic Energy Commission doing this work though, and regardless of your organization plan, and the wisdom of it, I do not think we should be debating.

I happen to be one who opposes the particular organizational plan, so I would like to challenge its validity, but regardless of its validity, why should the Atomic Energy Commission be doing the Environmental Protection Agency's work, if you are not going to have any discretion, you will simply be stamping these things approved or disapproved, according to the standards the Environmental Protection Agency has laid down.

It seems to me we have a very curious situation before us.

Mr. RAMEY. As I mentioned, Mr. Chairman, in this field of radiological regulation, the Commission has by far the greater amount of experience and expertise, particularly in relation to the whole sequence of the fuel cycle.

Mr. DINGELL. Excepting that here you shall be issuing permits using the Environmental Protection Agency's standards. That does not indicate that whoever drafted this bill had much greater faith in your capacity to issue permits than set standards, does it? I am still curious to find out why you folks will be doing essentially what they will be doing.

Why should you folks be excepted from the act at all?

Mr. RAMEY. As I indicated, Mr. Chairman, in the whole radiological field, the Environmental Protection Agency has taken over the responsibility from the Federal Radiation Council to issue standards, so in the future, the Atomic Energy Commission will be implementing EPA general standards.

They will be reviewed from time to time by the Environmental Protection Agency. I do not think we will be exercising anything unusual in this whole subsidiary regulation area, and in the specific licensing of powerplants, and so on, we will not be exercising a ministerial or clerical role.

I do think in relation to ocean disposal, in view of the fact that we are phasing out even the very small amounts going on, and that any

future uses of the ocean would be very minimal, from a practical standpoint, we are not arguing about a lot.

Mr. DINGELL. Commissioner, I want to thank you, and I just want to observe you play a bad hand rather well.

The Chair recognizes Mr. Tiernan.

Mr. TIERNAN. Thank you, Mr. Chairman.

With regard to your first answer to Mr. McCloskey's questions, you indicated the Commission had not taken any position, and you want to supply that for the record.

Mr. RAMEY. Yes. We have supported the language in the CEQ report.

Mr. TIERNAN. Mr. McCloskey quoted Mr. Train's statement before this committee yesterday, and that report was filed in October.

I assume you have had chance to review the language in that report, and also the administration's bill, and it seems you are in contradiction to the Administrator who testified here with regard to the objectives.

Mr. RAMEY. I would not make it quite that degree of disagreement.

Mr. TIERNAN. Well, what degree would you make it?

Mr. RAMEY. The bill of course does not contemplate, it does not have authority for——

Mr. TIERNAN. But the Administrator saw no other reason for that authority, except to liquefy radioactive materials, is that correct?

Mr. RAMEY. I am not sure that that was it.

Mr. TIERNAN. You question the quote of Mr. Train's statement?

Mr. RAMEY. I would take it that he was saying under this authority he would expect that it be prohibited.

Mr. TIERNAN. And you do not agree with that?

Mr. RAMEY. I have stated that I would like to review this with my fellow commissioners.

Mr. TIERNAN. You mean since October, and since the bill was introduced in February, that the Commission has not considered this at all?

Mr. RAMEY. No. I say we have not considered it since we saw Mr. Train's statement.

Mr. TIERNAN. When did you see Mr. Train's statement?

Mr. RAMEY. This morning.

Mr. TIERNAN. You saw the bill the administration placed before the committee?

Mr. RAMEY. Yes, sir.

Mr. TIERNAN. And in view of that, you think that Mr. Train's statement is of further restriction than the language in the bill?

Mr. RAMEY. It is not a restriction in the language of the bill. It indicated——

Mr. TIERNAN. You think his statement indicates a further restriction in the application of the language of the bill?

Mr. RAMEY. It indicated how he would expect the bill to be administered, and it is a further restriction on what is stated in the report of the CEQ, of which he was chairman.

Mr. TIERNAN. And if we were to act on his recommendation, you say the Commission has not taken a position yet?

Mr. RAMEY. No, sir.

As I indicated, from a practical standpoint, I do not think it is a big problem.

Mr. TIERNAN. Now, with regard to the issuing of permits and sites of construction of nuclear powerplants, have you ever denied a permit for construction?

Mr. RAMEY. Yes.

Mr. TIERNAN. When?

Mr. RAMEY. In the case of the Malibu Atomic Power Plant, the city of Los Angeles, this must have been about 4 or 5 years ago, the Commission approved the denial of a construction permit by a Licensing Board for building of that powerplant.

Mr. TIERNAN. At that particular site?

Mr. RAMEY. Yes.

Mr. TIERNAN. Was it built at another site?

Mr. RAMEY. No.

Mr. TIERNAN. How many applications have been filed for construction before the Commission, how many applications have been filed?

Mr. RAMEY. I would like Mr. Price to answer that.

Mr. PRICE. I think probably close to a hundred. I don't know exactly. That is for powerplants.

Mr. TIERNAN. That is powerplants, generating plants.

How many have been denied?

Mr. PRICE. I would have to check that.

Mr. RAMEY. There have been other examples, whereby in the process of review, the applicant—the utility has withdrawn its application.

For example, Con Edison proopsed to build a plant across the East River in Queens. That did not get through the Commission's Advisory Committee on Reactor Safeguards, before they asked enough questions that the utility decided to withdraw the application.

Mr. TIERNAN. Mr. Price, how many of those hundred applications have been refused?

Mr. PRICE. Let me just give my best guess, and I will provide the specifics for the record, but I would say that either by the staff, my staff, or the ACRS telling the applicant that the site was not good enough, or that the case had too many problems in it, that about six to 10.

Mr. TIERNAN. Six to 10?

Mr. PRICE. Yes.

Mr. TIERNAN. Could you tell me whether or not there has been——

Well, when was the first application filed with your agency?

Mr. PRICE. Back in 1955 or 1956.

Mr. TIERNAN. 1955 or 1956?

Mr. PRICE. Yes.

Mr. TIERNAN. Those six or seven applications. Were they recent denials, or were they over the period of 1955 to 1956?

Mr. PRICE. They are spread out, because sometimes we will have the applicant come in and talk about a site, and we will say we do not think that is a very good site.

Mr. TIERNAN. Is that Con Edison application included in those six or seven?

Mr. PRICE. That is right.

Mr. TIERNAN. Do you feel that your Commission has an objective viewpoint on the applications?

Mr. PRICE. We try to, Mr. Tiernan.

Mr. TIERNAN. Do you have any outside advisory group?

Mr. PRICE. We sure do. We have not only the technical staff of the Commission, but we have an Advisory Committee on Reactor Safegards that are independent, and then when we get through, and they get through, there is a public hearing before a licensing board, and that is reviewed by the appeals board, and sometimes the Commissioners themselves.

In addition, in working through these cases, we consult, like on earthquakes, with the Geological Survey group.

Mr. TIERNAN. Mr. Chairman, I think that was pretty well gone over step by step as to that procedure.

I would like to request the Commission supply for the record the actual step-by-step procedures.

Mr. DINGELL. I think that would be helpful, if you would do so, and without objection, that will be inserted in the record.

(The information follows:)

STEP BY STEP PROCESS FOR LICENSING OF POWER REACTORS BY THE ATOMIC ENERGY COMMISSION

Introductory Note

As was pointed out by the Commission's responses to Mr. Tiernan's questions on April 6, before a formal application is made by a utility for a construction permit, the prospective applicant is encouraged to meet with AEC regulatory staff to discuss the overall suitability of the plant site. Such discussions have in the past led to applicants deciding not to build specific plants at specific locations.

Once an application is submitted, the Commission regulatory staff and ACRS spend from 12-20 months reviewing the utility's application and environmental report and discussing the site and the plant design with him. There frequently are revisions made in the applicant's plans, including the design of the plant, as a result of these discussions.

The numbers of withdrawals by applicants and denials and suspensions of construction permit or site approval applications have to be considered within the context of the above two features of the licensing process.

The role of nuclear reactors in the production of electricity is growing rapidly. With this increased use of nuclear power reactors has come greater public interest in, and awareness of, the safeguards to public health and safety which are provided for these nuclear power plants.

When the atom is split, or "fissioned," in a reactor, it produces energy—heat energy and radiation energy. Positive control of this energy is achieved in a reactor through the design of the facility and by careful operation. By these means, constant care is taken to prevent injury to employees or to the general public.

Comprehensive safeguards to protect public health and safety are engineered into power reactor plants. These include: a system of controls to regulate the reactivity and rate of energy release in the reactor core where the nuclear fuel elements are placed; a heat extraction system to convert the thermal energy from the reactor to the generation of electric power; containment systems designed to prevent the escape of harmful amounts of radioactivity in the event, however remote, of an accident; and a waste handling system to control the release to the environment of the low-level radioactive effluents produced during normal operation. These systems are checked periodically to assure that they are working properly.

Protection of health and safety is the primary goal of the Atomic Energy Commission's regulatory program. Under this program, the licensed uses of radioactive materials and the construction and operation of licensed nuclear facilities, of which reactors are one type, are regulated by AEC.[1] State and local officials are kept informed of AEC licensing actions taken in connection with a power reactor project.

[1] Commission owned power reactors located at non-AEC sites and operated as part of conventional utility systems are not licensed. However, procedures which are parallel to those discussed here are used in the issuance of authorizations for construction and operation of these reactors.

SELECTION OF A REACTOR SITE

The selection of a reactor site is the responsibility of the company proposing to build the reactor. To assist prospective applicants, the Atomic Energy Commission has published criteria which it uses as guides in the safety evaluation of proposed sites for stationary licensed power and test reactors.

Factors considered by the Commission in judging the safety of proposed sites for power reactors include dimensions and characteristics of the site under the operator's control; population density in the area surrounding the proposed site, and the uses which are made of this area, such as industrial, farming or residential; and the seismology, meteorology, geology and hydrology of the area. Other factors considered are the characteristics of the proposed reactor, including maximum power level, and the particular safeguards to be engineered into the plant either to prevent accidents or to limit their consequences; and the extent to which the design of the reactor incorporates unique or unusual features that may have a significant bearing on the probability or consequences of an accident.

Before formally filing an application for construction and operation of a power reactor a prospective applicant is encouraged to discuss informally the possible sites for the reactor with the Commission's regulatory staff. In this way an applicant can receive additional guidance as to the acceptability of a site and the information which must be included in the application for a license to construct and operate a reactor.

APPLICATION FOR A CONSTRUCTION PERMIT

Before a company can begin to build a power reactor at a particular site, it must obtain a construction permit from the Commission. Such things as site exploration, site excavation, procurement or manufacture of components and construction of non-nuclear facilities may be done before an AEC construction permit is received.

As a major part of the application, the company files a preliminary safety analysis report. This report presents the preliminary design and safety features of the proposed reactor, as well as comprehensive data on the proposed site. The report discusses various accident situations and the safeguards which will be provided to prevent accidents or, if they should occur, to prevent overexposure of the public and employees to radiation.

Copies of the application are sent to the Commission's Advisory Committee on Reactor Safeguards (ACRS). The ACRS is a committee established by law to advise the Commission on safety aspects of reactors. It is composed of scientists and engineers who are eminently qualified in the various fields related to reactor technology. Copies also are sent to the state and local officials, and are placed in the AEC's Public Document Room. A public announcement of the receipt of the application is issued by AEC and a notice is published in the Federal Register and in trade and news publications which will give reasonable notice to municipalities, public bodies, private utilities and corporations which might have a potential interest in the facility. Copies of all correspondence and filings relating to the application are placed in the public records of the Commission, which are available to any member of the public at the Commission's Washington office.

REVIEW AND SAFETY EVALUATION

The application is reviewed by technical experts of the Commission's regulatory staff. This staff is headed by the Director of Regulation, who reports directly to the Commission. There are seven divisions under the Director of Regulation. They are the Divisions of Reactor Licensing, Reactor Standards, Materials Licensing, Radiological & Environmental Protection, Compliance, State and Licensee Relations and Nuclear Materials Safeguards.[2] The review includes

[2] The Division of Reactor Licensing handles AEC staff review of applications to construct and operate nuclear reactors. The Division of Reactor Standards develops standards, criteria and guides for location, design, construction and operation of reactors. The Division of Materials Licensing issues licenses for the use of radioactive materials and reviews applications to build and operate reactor fuel reprocessing plants. The Division of Radiological and Environmental Protection develops and recommends to the Commission regulations to limit exposures of persons to radiation from licensed activities; and develops, as required by the National Environmental Policy Act, statements which evaluate the environ-

consideration of all the radiation safety aspects of the proposed reactor, as well as the applicant's technical and financial qualifications. The Division of Reactor Licensing supplements this study of the safety analysis report with conferences with the technical staff of the applicant, and may ask for further information if required.

The data submitted should provide the necessary information to permit evaluation of the adequacy of the proposed site for a reactor of the power level and type planned. Even though final design details are usually not available at the time of the application for a construction permit, the data submitted should provide reasonable assurance that the proposed reactor can be constructed and operated at the selected site without endangering the health and safety of the public, including plant employees.

ACRS SAFETY EVALUATION

The Division of Reactor Licensing prepares an evaluation of the safety aspects of the proposed power reactor for the Advisory Committee on Reactor Safeguards, which has already received the applicant's preliminary safeguards report. Particular problems which may exist are identified for consideration by the ACRS. The Advisory Committee considers the applicant's preliminary safety analysis report, together with the evaluation prepared by the Division of Reactor Licensing. Representatives of the applicant and members of the technical staff of the Division of Reactor Licensing meet with the ACRS to deal with questions that arise during the Committee's review of the reactor. Usually a subcommittee meeting is held, often at the proposed site, before full Committee review. When it has reached a conclusion as to the safety aspects of the proposed reactor, the ACRS reports its views to the Commission. This letter report is made public.

HEARING ON CONSTRUCTION PERMIT

The Commission has begun the practice of giving earlier notice in nuclear power plant licensing proceedings which is expected to facilitate participation by the public in licensing hearings and at the same time minimize licensing delays. In addition, a public announcement is issued by AEC and sent to the news media in the vicinity of the site.

The Commission's rules of practice permit persons whose interests may be affected by the proceeding to intervene as parties in accordance with the requirements of the regulations. Person who wish only to make a statement of their views concerning the project may be permitted to make "limited appearances."

In advance of the public hearing, an evaluation of the safety aspects of the proposed reactor, prepared by the Division of Reactor Licensing, is made available to the public. This evaluation takes into account the recommendations and advice of the ACRS. Copies of the evaluation are also furnished to state and local officials and to newspapers in the area which surrounds the proposed site of the reactor.

An Environmental Report is submitted by the applicant in accordance with AEC regulations (10 CFR 50, Appendix D). As required by the AEC's policy statement implementing the National Environmental Policy Act of 1969, the regulatory staff prepares a draft detailed environmental statement and forwards it along with the Applicant's report to the appropriate Federal, State, and local agencies for comment. At the conclusion of the comment period, the regulatory staff prepares a final detailed environmental statement which includes a discussion of any problems or objections raised and the disposition thereof. The detailed environmental statement is then made available to the public and will accompany the application through the Commission's review process.

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mental impact of nuclear facilities proposed for license by the AEC. The Division of State and Licensee Relations administers the AEC program for transferring part of the Commission's regulatory authority to the states, conducts the licensee indemnity program, and export licensing. The Division of Compliance conducts inspections of licensees and initiates enforcement actions to assure that the provisions of licensees and AEC regulations are being met. The Division of Nuclear Materials Safeguards reviews safeguards programs of those licensees authorized to possess and use more than 5,000 grams of contained U-235, U-233 and/or plutonium in a form other than sealed sources and issues safeguards amendments to licensees to incorporate nuclear material controls as licensee conditions. Safeguards inspections are conducted at licensed facilities to determine compliance with regulations.

The public hearing usually is conducted by a three-member atomic safety and licensing board appointed by the Commission. The board is composed of two technical experts and one lawyer, who acts as chairman of the board for the hearing.

The application, any amendments to the application which may have been filed, and any other pertinent documents are submitted for the record. The proposed findings by the regulatory staff and the proposed construction permit are presented. Testimony is given both by the applicant and by the AEC regulatory staff on the safety aspects of the reactor and on the applicant's technical and financial qualifications to construct the facility.

The board considers matters of radiological safety involved in the application for this proposed reactor at the selected site. In addition, any party to the proceeding may raise as an issue whether the issuance of the permit would be likely to result in a significant, adverse effect on the environment. If such a result were indicated, in accordance with the declaration of national policy expressed in the National Environmental Policy Act of 1969, consideration will be given to the need for the imposition of requirements for the preservation of environmental values consistent with other essential considerations of national policy, including the need to meet on a timely basis the growing national requirements for electric power.

With respect to those aspects of environmental quality for which environmental quality standards and requirements have been established, proof that the applicant is equipped to observe and agrees to observe such standards and requirements will be considered a satisfactory showing that there will not be a significant, adverse effect on the environment. Certification by the appropriate agency that there is reasonable assurance that the applicant for the permit will observe such standards and requirements will be considered dispositive for this purpose. In any event, there will be incorporated in construction permits a condition to the effect that the licensee shall observe such standards and requirements for the protection of the environment as are validly imposed pursuant to authority established under Federal and State law and as are determined by the Commission to be applicable to the facility that is subject to the licensing action involved.

In a hearing on an uncontested application for a construction permit, the licensing board will determine (1) whether the application and the record of the proceeding contain sufficient information and (2) whether review of the application by the AEC regulatory staff has been adequate, to support the findings proposed to be made by the Director of Regulation and to support issuance of a construction permit also proposed by the Director of Regulation. If an application is contested—that is, if there is a controversy between the AEC regulatory staff and the applicant concerning the issuance of a permit or any of its terms or conditions, or if the application is opposed by an intervening party to the proceeding—then the licensing board will consider any matters in controversy.

The proceedings are conducted informally, consistent with legal requirements and fairness to all parties.

FINAL ACTION ON CONSTRUCTION PERMIT

The licensing board considers the evidence which has been presented, together with any briefs which may have been filed, and issues a decision. The decision is effective immediately, unless the board finds that good cause has been shown by a party why it should not be. If authorized by the decision, a construction permit is issued. The decision and the permit are subject to review by the Atomic Safety and Licensing Appeal Board or by the full Commission upon filing of exceptions or on its own motion. The Commission may, on its own motion, review certain appeal board decisions on certain specified grounds.

The permit includes a finding, however, that AEC is satisfied it has enough information to provide reasonable assurance that the proposed facility can be constructed and operated safely at the proposed location.

OPERATING LICENSE

As construction proceeds on the reactor, it is inspected periodically by representatives of the Commission's Division of Compliance to assure that the requirements of the construction permit are met. Amendments to the application and reports may be submitted from time to time for review by the Division of Reactor Licensing.

When final design is completed, and plans for operation are ready, the applicant submits the final safety analysis report in support of an application for an operating license. The information includes plans for operation, procedures for coping with emergency situations, and pertinent details on the final design of the reactor itself—such as containment design, design of the nuclear core, and waste handling systems. Once again the Division of Reactor Licensing makes a detailed review of the information on the reactor and presents an evaluation of it to the Advisory Committee on Reactor Safeguards. The ACRS again makes an independent evaluation and reports its opinion to the Commission. This is made public.

Applicants for operating licenses are required to submit an Environmental Report discussing the same environmental considerations, to the extent that they differ significantly from those discussed in the Report submitted at the construction permit stage. The same procedure is then followed as during the construction stage review.

A public hearing is not required by law on every application for an operating license. Under the new practice of early noticing the 30-day notice to the public, that the Commission is considering issuance of an operating license, will be issued while the technical reviews by the AEC staff and the ACRS are in the later stages. The regulatory staff's evaluation of the safety aspects is prepared and made available to the public after technical reviews have been completed. Normally the Commission will not direct that a hearing be held at this stage unless there is a difficult safety problem of unusual importance, or substantial public interest which would warrant that course. In the event no hearing is scheduled initially, the published notice states that in the absence of a timely petition to intervene and a request for a hearing, the license will be issued.

If a public hearing is held, the decision of the licensing board is subject to Commission or appeal board review.

Each license for operation of a nuclear reactor contains specific license conditions called technical specifications which set forth the particular safety characteristics of the facility and the conditions of its operation which are to be met in order to assure protection of the health and safety of the public.

Persons who operate the controls of a power reactor are required to be individually licensed by the Commission. The AEC conducts examinations of individuals which include an operating test and a written examination on knowledge of specific details of the facility and the procedures used in its operation.

CONTINUING REVIEW

AEC inspection and review of power reactors does not stop when the operating license is issued. The reactors are inspected periodically by representatives of the Commission's Division of Compliance to make certain operations are being conducted in accordance with terms of the license.

Thus, reactors are subjected to detailed review by technical experts before construction is permitted, before operation is permitted and during the entire period of their operation. In the event an unsafe condition is discovered after operation begins, the Commission has authority to order the licensee to shut down the reactor and take any safety measures which may be necessary. It should be emphasized, however, that the outstanding safety record of the atomic energy industry has been achieved because persons who deal with atomic energy respect the potential hazards and exercise great care in the handling and use of atomic materials.

Since April 1955, 85 applications have been filed requesting construction of 110 central station nuclear power plants.

Construction Permit or Site Approval Applications Withdrawn, Denied or Suspended

1. Ravenswood—Consolidated Edison Co.

Application Filed—12/10/62
Withdrawn—1/17/64

(Opposition from citizens of New York City due to high population density. Alleged availability of alternative cheaper sources of power from Canada and other areas. Note AEC regulatory staff and ACRS wer asking a series of penetrating questions on siting of the plant.)

2. Bolsa Island—Department of Water & Power of the City of Los Angeles—Southern California Edison Co.—San Diego Gas & Electric Co.

Applications Filed—9/5/67
Withdrawn—11/4 & 12/30/68

(The dual nuclear power and desalting plant project was postponed due to economic and organizational problems.)

3. Florida West Coast Nuclear Power Group, Inc.

Application Filed—12/10/59
Withdrawn—6/26/61

(The 50 MWe gas-cooled heavy water reactor project was terminated in mid-1961 because of technical and economic uncertainties.)

4. Easton Station—Niagara Mohawk Power Corp.

Application Filed—8/1/67
Withdrawn—8/22/68

(Application had difficulties obtaining site approval from other governmental bodies dealing with matters not related to radiation safety.)

5. Bodega Bay—Pacific Gas & Electric Co.

Application Filed—12/31/62
Withdrawn—11/4/64

(Application withdrawn due to opposition of the AEC regulatory staff based on a need for a design against positive ground displacement, because of the proximity to the San Andreas Fault.)

6. Malibu—Los Angeles Department of Water & Power

Application Filed—11/26/63

(The Atomic Energy Commission's decision, issued 3/27/67, upheld an Atomic Safety and Licensing Board's determination that the probability of permanent ground displacement at the proposed site was sufficiently high to require that the design criteria for the plant be modified and supplemented to include provision for ground displacement from earthquake activity before a construction permit could be issued. Although the application was not formally withdrawn, the applicant's contract with reactor supplier was terminated.)

7. Burlington—Public Service Electric & Gas Co.

(The AEC regulatory staff and the Commission's Advisory Committee on Reactor Safeguards (ACRS) told the company informally that they found no way in which Burlington could be approved. The applicant amended its application changing the site to Salem County, New Jersey.)

8. Bell Station—New York State Electric and Gas Corp.

(The applicant announced indefinite postponement of its plans to build a nuclear plant at Cayuga Lake, New York, in order to provide more time for additional research of cooling systems for thermal discharge from the plant and for consideration of the economic effect of such systems. Although this application has not been formally withdrawn, it is considered to be inactive by the AEC.)

9. Seabrook—Public Service of New Hampshire

(In November 1969 the applicant announced deferrment of plans for the projected Seabrook Nuclear Station as a result of a decision by one of the participants not to contribute to the funding. Although this application has not been formally withdrawn, it is considered to be inactive by the AEC.)

Examples of Results of Informal Site Reviews by AEC

10. Jamestown Site, New York

(Proposed for the Small Size Pressurized Water Reactor Project.) First site (35 acres of city-owned land located in the northwest corner of the city approximately 1.75 miles from the center) was disapproved by the ACRS (letters 3/14/60 and 6/30/60) due to smallness of site, proximity of City of Jamestown with its high population density, unfavorable meteorlogy, and consequent adverse effects on liquid waste disposal.

Two additional sites (located east of Jamestown) were found suitable by the Committee (letter 11/7/60), but project was abandoned.

11. Point Loam Site, California

(Proposed for the Experimental Low-Temperature Process-Heat Reactor Project) The ACRS (letter 3/14/60) considered the site unsuitable due to unfavorable meteorology and high population density.

12. Cayucos, Oxnard, Sycamore Canyon and Tehachapi Sites, California (City of Los Angeles)

The ACRS (letter 7/22/66) found the Cayucos site acceptable provided additional geological studies confirmed expectations and proper attention was given to seismic design.

The Oxnard and Tehachapi sites had specific problems requiring considerable effort and additional safeguards. Insufficient geological information was available concerning the Sycamore Canyon site.

Mr. TIERNAN. Thank you. I have no further questions.

Mr. DINGELL. Mr. DuPont.

Mr. DUPONT. Thank you, Mr. Chairman.

Mr. Ramey, under the 1954 act, did the Atomic Energy Commission have authority to issue permits for dumping of anything other than radioactive material?

Mr. RAMEY. Not in the sense that you are talking about, no, sir.

Mr. DUPONT. How can the Atomic Energy Commission get involved in the question that Mr. Lennon was asking about, the nerve gas?

Mr. RAMEY. Well, as I indicated, I did not believe that the Commission made any recommendations as to disposal of something in the jurisdiction of the Department of Defense.

Where the Commission got involved was in the question as to whether it might be possible to disintegrate these nerve gases by means of an underground atomic explosion. In any such an arrangement, the Commission would be essentially providing a service, if you want to call it that, as a fellow Government agency on the disintegration of this material.

As I indicated, this had never been done on an experimental basis, and it was something that needed a great amount of experiment and study in our judgment before we made a decision on it.

Mr. DUPONT. But you have no authority to dump anything, or to issue permits for the dumping of anything other than radioactive material?

Mr. PRICE. Radioactive material is the only material that we have regulatory authority over to control the dumping by others.

Mr. DUPONT. No, that is not quite the question.

Does the Atomic Energy Commission have the permission, if I came to you with a sack, and said I want a permit to dump this in the ocean, and it does not contain radioactive material, do you have statutory authority to give me a permit?

Mr. PRICE. No, sir.

Mr. DUPONT. Do you have exclusive authority over the dumping permits of radioactive material?

That is, could a State enact a radioactive dumping law that could in any way impinge on your jurisdiction?

Mr. PRICE. No; we have exclusive authority under section 274 of the Atomic Energy Act.

The Act permits some limited delegation of the States to regulate radioactive material, but it expressly excludes ocean disposal.

Mr. DUPONT. And, finally, would you object to an amendment to eliminate section 7(b) of the administration's bill?

Mr. RAMEY. This is one of these points that I would like to consult my fellow Commissioners on.

Mr. DUPONT. Well, I understand that.

Maybe the question is not quite a fair one.

I am sure the Atomic Energy Commission will have a position, but do you see, from a personal point of view, any particular problem, do you feel you would be in any kind of a bind if you did not have this authority and if you had to go to the Environmental Protection Agency for a permit?

Mr. RAMEY. You mean with respect to the Atomic Energy Commission's own proprietary activities in disposing of waste?

Mr. DUPONT. Yes.

Mr. RAMEY. Again, this is something that I personally cannot answer.

I would have to consult the Commissioners on that.

Mr. DUPONT. I have no further questions.

Mr. DINGELL. Mr. Kyros.

Mr. KYROS. Thank you, Mr. Chairman.

I would like to ask you about nuclear plants situated on the coastline, where a discharge of heated water goes into the ocean. That causes some problems, does it not, such as thermal pollution?

Mr. RAMEY. That has raised some questions in certain cases.

Mr. KYROS. Now, within this act, under the definition of dumping, is the discharge of this heated water included? I am referring to section 3, subsection F.

Mr. RAMEY. I would like to have Mr. Hennessey comment on that.

Mr. HENNESSEY. Our understanding is that it is not covered as dumping under this bill.

Mr. KYROS. Yes. Is the dumping of refuse into navigable waters, under the 1899 Rivers and Harbors Act, is that covered here?

Mr. RAMEY. That is the position that has been taken by the Environmental Protection Agency, and the Justice Department, and being contested in the courts now.

Mr. KYROS. Under the exemption of section 7(b), in which your agency becomes exempted, is nothing contemplated as to the discharge of such thermal pollution? Is nothing contained in there which refers to that?

Mr. RAMEY. This is already being regulated, of course, by the Federal Water Quality Act of 1970, and by Executive order under the 1899 Refuse Act.

Mr. KYROS. But the Atomic Energy Commission has no jurisdiction over that part of the discharge from a nuclear plant. Is that correct?

Mr. RAMEY. We come in in connection with our licensing authority.

We do serve as the enforcement agency for these other Federal and State requirements.

Mr. KYROS. For example, a power company putting in an atomic plant along the coast at Wiscasset, Maine when they come to you to get a license, is this one of the issues you have to consider? That is, whether they will thermally pollute the bay?

Mr. RAMEY. We require they will provide a certificate from the appropriate state water pollution agency that they have met the State water quality standard that has been approved by the Environmental Protection Agency.

Mr. KYROS. Now, do you automatically accept that, if certificate is so provided? Or do you examine the matter initially yourself?

Mr. RAMEY. We accept that as being adequate.

Mr. KYROS. Because, you know, one of the problems we hear about is the fact that numerous plants are planning to set themselves up along the coastlines, because of the available cooling sea water. And I just wanted to know, apart from the radioactive waste you have already discussed, what would happen with the problem of thermal pollution, if it is as great as we believe it to be?

Mr. RAMEY. This would come under the States and the Environmental Protection Agency, under their water pollution standards.

Mr. KYROS. This would not be within the jurisdiction of your agency in other words?

Mr. RAMEY. Only as I say, where the Commission, under the NEPA and the Muskie act, conditions its license on meeting the State and Federal requirements.

Mr. KYROS. Thank you very much.

Mr. DINGELL. Mr. Everett.

Mr. EVERETT. One question, Mr. Chairman.

Mr. Ramey, will you supply for the record the Atomic Energy Commission's regulations mentioned on page 2 of your statements?

Mr. RAMEY. Yes, I will be glad to.

(The information follows:)

The attached copies of AEC regulations—10 CFR Parts 2, 20, 30, 40 and 70—were referred to by Commissioner Ramey as those which related to the receipt, use and disposal of source, special nuclear and byproduct material. It should be noted that there are no specific references in any of these regulations to the *ocean* dumping of radioactive waste. (The regulations were placed in the files of the committee.)

Mr. EVERETT. One final question. I was wondering, with respect to 7(b), if you give us any indication as to the number of permits for ocean dumping of material we might be talking about in the future?

Mr. RAMEY. We will be glad to do this. I would say there will be very few.

Mr. EVERETT. But you will supply that for the record?

Mr. RAMEY. Certainly.

(The information follows:)

All routine dumping of radioactive wastes into the ocean was, for all practical purposes, discontinued in 1962, when two commercial land burial facilities commenced operations. The few remaining licenses, referred to previously, are being phased out. We do not have plans for issuing licenses for ocean disposal of radioactive material in the foreseeable future and we have no intention of dumping any such material from our own operations. Thus, the number of permits for ocean disposal of radioactive material will be zero.

We believe, however, it does not follow that a complete prohibition of ocean disposal is indicated. Until more is known about the environmental effects of other types of waste disposal, it is not in the national interest to make a decision at this time which would foreclose a particular disposal, in the future, of radioactive waste under proper conditions and controls in some part of the ocean. We have no way of estimating at this time the frequency which such proposals would be made and, if made, favorably considered.

Mr. EVERETT. That is all, Mr. Chairman.

Mr. DINGELL. Mr. Commissioner, could you tell us, in matters like ocean dumping, what has been the practice of the Atomic Energy Commission?

Have you given public notice, and had hearings, or have you simply issued permits to dump?

Mr. RAMEY. Mr. Price, do you want to comment on this?

Mr. PRICE. Mr. Chairman, we have not issued any licenses since 1960, when we stopped that part of the program.

I think the rules still provide that in order to issue a license, for waste disposal, commercial waste disposal, we have to publish a notice, and offer a public hearing.

I do not remember what cases ended up in a hearing, if any.

It was 10 years ago. I would have to check the record.

Mr. DINGELL. Would you check that, and inform us if you please, first, what were the requirements with regard to public notice and hearing, and second, whether in those days, a public hearing was held on any of the permits which were ultimately issued.

I remember I was a member of this committee, and we had some very heated discussions with the Atomic Energy Commission on some dumping off the coast of California. It may be that you remember those discussions, and there was great displeasure expressed by the oceanographic subcommittee at that time over the practice of dumping, and I think that may have contributed at that time to the halting of dumping off the California coast, and I remember, the California Salvage were the people doing it at that time, am I correct about that?

Mr. PRICE. I think it was probably another company, Mr. Chairman, but I would have to check.

Mr. DINGELL. Would you get us the information on those?

Mr. PRICE. I would be happy to.

(The information follows:)

RULES OF PRACTICE AUTHORIZING OCEAN DUMPING

The Atomic Energy Commission's "Rules of Practice," 10 CFR Part 2, became effective on March 6, 1956, and provided for notice to others of the filing of the application as required by Atomic Energy Commission regulations and such additional notice as it deems appropriate. Although not formally required at the time, notices of receipt of applications for licenses authorizing sea disposal of radioactive waste were filed in the *Federal Register*. Notices of proposed issuances of such licenses were also published in the *Federal Register*. The notices offered the opportunity for public hearings.

The Commission's "Rules of Practice" have been amended so that the regulation now provides that an applicant for a license authorizing commercial disposal of waste radioactive material shall serve a copy of the application on the chief executive of the municipality in which the facility is to be located or the activity is to be conducted or, if the facility is not to be located or the activity conducted within a municipality, on the chief executive of the county. The Governor or other appropriate official of the State is sent a copy of the application by the AEC and a notice of receipt of the application is published in the *Federal Register*.

A hearing on an application for commercial disposal of radioactive waste at sea is not mandatory. A notice of proposed action is required to be published in the *Federal Register* which provides the opportunity for any person whose interest may be affected by the proceeding to file a petition for leave to intervene within 15 days from the date of publication in the *Federal Register*. At the time the notice of proposed action is published in the *Federal Register*, State and local officials are notified of the proposed action and a public announcement concerning the proposed action is issued by the AEC.

If no requests for leave to intervene are received, a notice of issuance of the license is published in the *Federal Register* and State and local officials are notified of the license issuance.

There have been two hearings relating to applications for licenses authorizing sea disposal of radioactive wastes.

1. A hearing was held on November 19, 1958, on the application filed by the Walker Trucking Company, which requested authority to establish a waste storage facility in Portland, Connecticut, and to dispose of radioactive waste at

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sea. Subsequent to the hearing, the license was granted on March 18, 1959. Walker Trucking Company never disposed of any radioactive waste at sea. On April 9, 1964, Walker Trucking Company withdrew its request for authority to dispose of radioactive waste at sea; a license amendment issued November 27, 1964, deleted sea disposal.

2. A hearing was held on January 22 and 23, 1959, in Houston, Texas, on an application filed by Industrial Waste Disposal Corporation, Houston, Texas, which requested authorization to dispose of radioactive waste in the Gulf of Mexico. The Initial Decision by the Hearing Examiner on May 29, 1959, granted the license. After review by the Commission, the matter was remanded to the Hearing Examiner to take testimony concerning the integrity of low-level waste containers after their disposal in the Gulf of Mexico. On April 20, 1962, the Commission denied the application for disposal of radioactive waste in the Gulf of Mexico because of objections by the Government of Mexico.

The following licensees have disposed of radioactive waste off the coast of California:

1. Chevron Research Company, Richmond, California.
2. Coastwise Marine Disposal Corp., Long Beach, California.
3. Isotopes Specialties Company, Burbank, California.
4. U.S. Naval Radiation Development Laboratory, San Francisco.
5. Nuclear Engineering Company, Walnut Creek, California.
6. Ocean Transport Company, Richmond, California.

Mr. DINGELL. Gentlemen, the committee wishes to thank you for your statement, and for your being here on short notice.

We are very grateful to you. You have been very helpful. We have had a very vigorous and enlightened discussion.

We will take our next witness this afternoon at 1:45, and the staff will notify the members of the committee as to the hour.

The committee stands in recess.

(Whereupon, the subcommittee recessed at 12:30 o'clock p.m.)

AFTERNOON SESSION

Mr. DINGELL. The subcommittee will come to order.

This is a continuation of the hearings begun yesterday on the subject of dumping of waste materials of different kinds in the ocean.

Our first witnesses this afternoon are witnesses on behalf of the Interior Department, Mr. Harrison Loesch, Assistant Secretary for Public Lands Management.

Mr. Loesch, we are happy to welcome you to the committee. The Chair notes that you have with you an old friend of the present occupant of the Chair, Mr. Linduska. If you will identify yourself and Mr. Linduska for the purposes of the record, we will be most happy to listen to any statement you choose to give.

STATEMENT OF HON. HARRISON LOESCH, ASSISTANT SECRETARY FOR PUBLIC LANDS, OF THE DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY DR. JOSEPH P. LINDUSKA, SPECIAL DIRECTOR, BUREAU OF SPORT FISHERIES AND WILDLIFE, DEPARTMENT OF THE INTERIOR

Mr. LOESCH. Thank you very much, Mr. Chairman. I appreciate very much being before the committee.

I am Harrison Loesch, and I have with me Dr. Joseph P. Linduska, Associate Director, Bureau of Sport Fisheries and Wildlife.

I am sure, Mr. Chairman, that Dr. Linduska will be able to give me the expertise here which I personally lack.

Mr. DINGELL. I have always found you a capable witness.

Mr. LOESCH. Thank you, sir.

Mr. Chairman, my statement, as you may have noticed, is a rather general one, and unless the Chair prefers otherwise, I would just as soon have it placed in the record, and highlight it very briefly.

Mr. DINGELL. Without objection, that is ordered and while we are discussing matters of that sort, Mr. Loesch, I will observe that the Interior Department has submitted to this committee a series of reports on legislation before us. I will tell you that you are the first, and the only department which has done so, and I must confess it is with a measure of pleasure that I compliment you and regretfully observe that other agencies have not carried out their duties in the same fashion.

Mr. LOESCH. I must say, Mr. Chairman, that that is a compliment I am not really used to receiving. Before certain other committees of this House, I am quite often criticized because the reports didn't get there until I did. I appreciate it.

Well, Mr. Chairman, my report, of course, adverts to the dangers and damages of dumping in the ocean, which I think this committee is especially very well acquainted with already. I think we need not go into the general nature of the damage and pollution which the legislation before this committee is designed to correct.

We especially are commenting on H.R. 4247 and H.R. 4723, now pending before the full committee, which is the result of cooperation between a number of the Federal agencies, including our own.

And those bill vest, of course, in the Administrator of the EPA the authority to control the ocean dumping through permits and enforcement of prohibitions against unauthorized transport or dumping of waste materials.

In determining whether or not to approve the permit applications provided for by the legislation, the Administrator would have to consider the impact of dumping on the marine environment and human welfare, and other possible locations and methods of disposal, including land based alternatives.

To my mind, it is quite similar to the situation under the National Environmental Policy Act, which requires us in performing any or in studying any proposal to consider all possible alternatives which might have a less adverse effect or no effect at all upon the environment.

I haven't any doubt, though I am not acquainted with what has gone on before in this hearing before this committee, that the Environmental Protection Agency has presented the specific of this matter, and I think we should note that the proposal by that agency incorporates several provisions of the other bills, of which I believe, if I am not mistaken, there are about 20, altogether.

Mr. DINGELL. At least.

Mr. LOESCH. The comprehensive framework provided by these two bills, we wish to support. We believe that the consultation provided for in the act between the Administrator and the Department of the Interior and others, would establish the proper criteria, and would afford our Department an opportunity to contribute the knowledge and expertise of the marine environment that we have, and to seek the protection of wildlife, minerals, recreation resources, for which we have the primary responsibility.

In this connection, we agree with the Council on Environmental Quality that regulatory authority should be vested in an agency whose chief role is the enforcement of environmental standards.

Amendment of the Fish and Wildlife Coordination Act, as several bills, propose, would tend to disperse the regulatory authority and to discourage effective coordination with air and water quality programs already administered by EPA, and, of course, since the loss by the Interior Department of the Bureau of Commercial Fisheries and FWQA, an amendment of the Fish and Wildlife Coordination Act would not at this time appear to be very productive, especially in view of the possibility of further reorganization of the executive branch of the Government.

That concludes a summary of my formal statement, Mr. Chairman, and I am prepared to answer questions if I can.

Mr. DINGELL. The Chair thanks you for a very helpful statement, Mr. Loesch.

Mr. DINGELL. The Chair notes also that we have the reports from your agency, which the Chair without objection directs the staff to insert into the record at a place appropriate, together with such other reports as may be received from the agencies of the executive branch.

There is also a letter from the Attorney General relative to this matter, which the Chair without objection directs the staff to insert in the record at the appropriate point.

Mr. Pelly?

Mr. PELLY. Mr. Secretary, you support this bill without equivocation, and I am going to quit while I am ahead.

I don't want to invite any questions which might in any way cause you to weaken as far as your support is concerned. I think you made a fine statement, and we are very happy to have it.

Mr. LOESCH. I hope, Mr. Pelly, that any questions you might ask would not have that effect.

Mr. PELLY. Thank you.

Mr. DINGELL. Thank you very much, Mr. Pelly.

Mr. Loesch, the Chair wishes you and your able associate there, Dr. Linduska, to direct your attention very carefully to the Fish and Wildlife Coordination Act, and to the agreement that was executed by and between your agency and the Department of the Army relative to dredging, filling and dumping.

Would it be too much to ask that you submit to us a copy of that agreement which I am satisfied is in the files of your agency for purposes of inclusion in the record at this particular point?

Mr. LOESCH. I am sure we can do so.

(Document referred to follows:)

MEMORANDUM OF UNDERSTANDING BETWEEN THE SECRETARY OF THE INTERIOR AND THE SECRETARY OF THE ARMY

In recognition of the responsibilities of the Secretary of the Army under sections 10 and 13 of the Act of March 3, 1899 (33 U.S.C. 403 and 407), relating to the control of dredging, filling, and excavation in the navigable waters of the United States, and the control of refuse in such waters, and the interrelationship of those responsiblities with the responsibilities of the Secretary of the Interior under the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 *et seq.*) the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661–666c), and the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742a

et seq.) relating to the control and prevention of water pollution in such waters and the conservation of the Nation's natural resources and related environment, including fish and wildlife and recreational values therein; in recognition of our joint responsibilities under Executive Order No. 11288 to improve water quality through the prevention, control, and abatement of water pollution from Federal and federally licensed activities; and in recognition of other provisions of law and policy, we, the two Secretaries, adopt the following policies and procedures:

POLICIES

1. It is the policy of the two Secretaries that there shall be full coordination and cooperation between their respective Departments on the above responsibilities at all organizational levels, and it is their view that maximum efforts in the discharge of those responsibilities, including the resolution of differing views, must be undertaken at the earliest practicable time and at the field organizational unit most directly concerned. Accordingly, District Engineers of the U.S. Army Corps of Engineers shall coordinate with the Regional Directors of the Secretary of the Interior on fish and wildlife, recreation, and pollution problems associated with dredging, filling, and excavation operations to be conducted under permits issued under the 1899 Act in the navigable waters of the United States, and they shall avail themselves of the technical advice and assistance which such Directors may provide.

2. The Secretary of the Army will seek the advice and counsel of the Secretary of the Interior on difficult cases. If the Secretary of the Interior advises that proposed operations will unreasonably impair natural resource or the related environment, including the fish and wildlife and recreational values thereof, or will reduce the quality of such waters in violation of applicable water quality standards, the Secretary of the Army in acting on the request for a permit will carefully evaluate the advantages and benefits of the operations in relation to the resultant loss or damage, including all data presented by the Secretary of the Interior, and will either deny the permit or include such conditions in the permit as he determines to be in the public interest, including provisions that will assure compliance with water quality standards established in accordance with law.

PROCEDURES FOR CARRYING OUT THESE POLICIES

1. Upon receipt of an application for a permit for dredging, filling, excavation, or other related work in navigable waters of the United States, the District Engineers shall send notices to all interested parties, including the appropriate Regional Directors of the Federal Water Pollution Control Administration, the United States Fish and Wildlife Service, and the National Park Service of the Department of the Interior, and the appropriate State conservation, resources, and water pollution agencies.

2. Such Regional Directors of the Secretary of the Interior shall immediately make such studies and investigations as they deem necessary or desirable, consult with the appropriate States agencies, and advise the District Engineers whether the work proposed by the permit applicant, including the deposit of any material in or near the navigable waters of the United States, will reduce the quality of such waters in violation of applicable water quality standards or unreasonably impair natural resources or the related environment.

3. The District Engineer will hold public hearings on permit applications whenever response to a public notice indicates that hearings are desirable to afford all interested parties full opportunity to be heard on objections raised.

4. The District Engineer, in deciding whether a permit should be issued, shall weigh all relevant factors in reaching his decision. In any case where Directors of the Secretary of the Interior advise the District Engineers that proposed work will impair the water quality in violation of applicable water quality standards or unreasonably impair the natural resources or the related environment, he shall, within the limits of his responsibility, encourage the applicant to take steps that will resolve the objections to the work. Failing in this respect, the District Engineer shall forward the case for the consideration of the Chief of Engineers and the appropriate Regional Director of the Secretary of the Interior shall submit his views and recommendations to his agency's Washington Headquarters.

5. The Chief of Engineers shall refer to the Under Secretary of the Interior all those cases referred to him containing unresolved substantive differences of

views and he shall include his analysis thereof, for the purpose of obtaining the Department of Interior's comments prior to final determination of the issues.

6. In those cases where the Chief of Engineers and the Under Secretary are unable to resolve the remaining issues, the cases will be referred to the Secretary of the Army for decision in consultation with the Secretary of the Interior.

7. If in the course of operations within this understanding, either Secretary finds its terms in need of modification, he may notify the other of the nature of the desired changes. In that event the Secretaries shall within 90 days negotiate such amendment as is considered desirable or may agree upon termination of this understanding at the end of the period.

(S) Stewart L. Udall,
Secretary of the Interior.

JULY 13, 1967.

(S) Stanley Resor,
Secretary of the Army.

JULY 13, 1967.

Mr. DINGELL. The Chair regards that as very important, because the Chair is very interested in observing with some care, one, whether the Fish and Wildlife Coordination Act is in any way amended, altered, or repealed by the legislation before us, and two, whether or not the memorandum of agreement would in any way be affected, altered, superseded, or changed by the legislation that is before us.

Are you able to give us your interpretation of whether or not the legislation before us, specifically the administration's bill, or identical measures, would in any fashion alter or amend or change, first of all, the Fish and Wildlife Coordination Act?

Mr. LOESCH. The legislative counsel of the Department advises me, Mr. Chairman, that it will not.

Mr. DINGELL. In no fashion whatsoever?

Mr. LOESCH. In no way. Am I correct?

Dr. LINDUSKA. That is correct.

Mr. DINGELL. Now can you give us your understanding of the impact of this legislation on the agreement between the Fish and Wildlife and the Interior Department on the one side, and the Department of the Army Corps of Engineers on the other regarding dumping, dredging, and filling?

Or is it your impression that that legislation as construed by the *Boca Ciega* case, carried forward, unimpeded, unimpaired, and unaffected under the legislation before us, under the new kind of permit which would be issued by EPA for similar ocean dumpings?

Mr. LOESCH. Yes, it is my impression, Mr. Chairman, that the old agreement, the agreement we have, would remain in full force and effect without alteration.

Dr. Linduska, do you have a comment?

Dr. LINDUSKA. We have had no reason to believe it would be changed in any way, up to this point, Mr. Chairman.

Mr. DINGELL. Very well. The Chair is going to direct the staff to see to it that the Supreme Court case, it finally deciding the *Boca Ciega* case, be inserted in the record at this point, so as to make very clear precisely the case, the agreement, and the statute to which you and I have been allowed in our colloquy at this time, for purposes of establishing a firm and a hard and very clear legislative record.

(The document follows:)

IN THE

United States Court of Appeals

FOR THE FIFTH CIRCUIT

No. 27555

ALFRED G. ZABEL and DAVID H. RUSSELL,
Plaintiffs-Appellees,

versus

R. P. TABB, COLONEL, CORPS OF ENGINEERS,
DISTRICT ENGINEER, DEPARTMENT OF THE ARMY,
JACKSONVILLE, FLORIDA, DISTRICT;
STANLEY R. RESOR, SECRETARY OF THE ARMY;
AND UNITED STATES OF AMERICA,
Defendants-Appellants.

Appeal from the United States District Court for the Middle District of Florida

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(July 16, 1970)

Before BROWN, Chief Judge, TUTTLE and MORGAN, Circuit Judges.

BROWN, Chief Judge: It is the destiny of the Fifth Circuit to be in the middle of great, oftentimes explosive issues of spectacular public importance. So it is here as we enter in depth the contemporary interest

in the preservation of our environment. By an injunction requiring the issuance of a permit to fill in eleven acres of tidelands in the beautiful Boca Ciega Bay in the St. Petersburg-Tampa, Florida area for use as a commercial mobile trailer park, the District Judge held that the Secretary of the Army and his functionary, the Chief of Engineers, had no power to consider anything except interference with navigation. There being no such obstruction to navigation, they were ordered to issue a permit even though the permittees acknowledge that "there was evidence before the Corps of Engineers sufficient to justify an administrative agency finding that [the] fill would do damage to the ecology or marine life on the bottom." We hold that nothing in the statutory structure compels the Secretary to close his eyes to all that others see or think they see. The establishment was entitled, if not required, to consider ecological factors and, being persuaded by them, to deny that which might have been granted routinely five, ten, or fifteen years ago before man's explosive increase made all, including Congress, aware of civilization's potential destruction from breathing its own polluted air and drinking its own infected water and the immeasurable loss from a silent-spring-like disturbance of nature's economy. We reverse.

I

Genesis: The Beginning

In setting the stage we draw freely on the Government's brief. This suit was instituted by Landholders,

Zabel and Russell, on May 10, 1967, to compel the Secretary of the Army to issue a permit to dredge and fill in the navigable waters of Boca Ciega Bay, in Pinellas County near St. Petersburg, Florida. On August 15, 1967, the United States and its officers, Defendants-Appellants, filed a motion to dismiss the suit for lack of jurisdiction which was denied. The United States and other defendants then answered the complaint alleging lack of jurisdiction and that the Court lacks power to compel a discretionary act by the Secretary of the Army. The United States and other defendants moved for summary judgment. Landholders, Zabel and Russell, also moved for summary judgment. After a hearing, the District Court, on February 17, 1969, granted summary judgment for Landholders and directed the Secretary of the Army to issue the permit. It granted a stay of execution of the judgment until this appeal could be heard and decided. We invert the summary judgments, reversing Appellees and rendering judgment for the United States.

Landholders own land riparian to Boca Ciega Bay and adjacent land underlying the Bay. It is navigable water of the United States, being an arm of Tampa Bay which opens into the Gulf of Mexico. The Zabel and Russell property is located about one mile from the Intracoastal Waterway.

Landholders desire to dredge and fill on their property in the Bay for a trailer park, with a bridge or culvert to their adjoining upland. To this purpose they first applied to the state and local authorities for permission to perform the work and obtained the consent

or approval of all such agencies having jurisdiction to prohibit the work, namely Pinellas County Water and Navigation Control Authority (which originally rejected permission, but ultimately issued a permit pursuant to state Court order),[1] Trustees of the Internal Improvement Fund of the State of Florida, Central and South Florida Flood Control District, and Board of Pilot Commissioners for the Port of St. Petersburg.

Landholders then applied to the Corps of Engineers for a federal permit to perform the dredging and filling. The Pinellas County Water and Navigation Control Authority (which originally rejected permission, but ultimately issued a permit pursuant to state Court order) continued to oppose the work as did the Board of County Commissioners of Pinellas County, who also comprise the Pinellas County Water and Navigation Control Authority, the County Health Board of Pinellas County, the Florida Board of Conservation, and about 700 in-

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[1]The Authority's denial of a permit was affirmed by the Florida District Court of Appeal in Zabel v. Pinellas County Water & Navigation Control Authority, Fla. Ct. App., 1963 154 So.2d 181. The Supreme Court of Florida reversed that decision because Zabel had been required by the Authority to show that there would be no adverse effect on the public interest, rather than the burden of adverse effect being placed on the Authority. It held that on this record there was insufficient showing of adverse effect, so that denial of a permit would be a taking of property without compensation. It said (p. 381). "In view of the foregoing, the decision appealed from is quashed and the cause remanded for disposition consistent herewith." Zabel v. Pinellas County Water & Nav. Con. Auth., Fla., 1965, 171 So.2d 376. Against the Authority's contention that this ruling intended further proceedings on the application, to accord it a chance to establish adverse effect, the District Court of Appeal directed issuance of a permit. Pinellas County Water & Nav. Con. Auth. v. Zabel, Fla. Ct. App., 1965, 179 So.2d 370.

dividuals who filed protests. The United States Fish and Wildlife Service, Department of the Interior, also opposed the dredging and filling because it "would have a distinctly harmful effect on the fish and wildlife resources of Boca Ciega Bay."

A public hearing was held in St. Petersburg in November, 1966, and on December 30, 1966, the District Engineer at Jacksonville, Florida, Colonel Tabb, recommended to his superiors that the application be denied. He said that "The proposed work would have no material adverse effect on navigation"[2] but that:

> "Careful consideration has been given to the general public interest in this case. The virtually unanimous opposition to the proposed work as expressed in the protests which were received and as exhaustively presented at the public hearing have convinced me that approval of the application would not be in the public interest. The continued opposition of the U.S. Fish & Wildlife Service despite efforts on the part of the applicants to reduce the extent of damage leads me to the conclusion that approval of the work would not be consistent with the intent of Congress as expressed in the Fish & Wildlife Coordination Act, as amended, 12 August 1958. Further, the opposition of the State of Florida and of county authorities as

[2]There was evidence both that it would aid navigation and that it would obstruct navigation. There was similar evidence on pollution.

described in paragraph 5 above gives additional support to my conclusion that the work should not be authorized."

The Division Engineer, South Atlantic Division, Atlanta, Georgia, concurred in that recommendation stating: "In view of the wide spread opposition to the proposed work, it is apparent that approval of the application would not be in the public interest." The Chief of Engineers concurred for the same reasons. Finally, the Secretary of the Army denied the application on February 28, 1967, because issuance of the requested permit:

1. Would result in a distinctly harmful effect on the fish and wildlife resources in Boca Ciega Bay,

2. Would be inconsistent with the purposes of the Fish and Wildlife Coordination Act of 1958, as amended (16 U.S.C. 662),

3. Is opposed by the Florida Board of Conservation on behalf of the State of Florida, and by the County Health Board of Pinellas County and the Board of County Commissioners of Pinellas County, and

4. Would be contrary to the public interest.

Landholders then instituted this suit to review the Secretary's determination and for an order compelling him to issue a permit. They urged that the proposed

work would not hinder navigation and that the Secretary had no authority to refuse the permit on other grounds. They acknowledged that "there was evidence before the Corps of Engineers sufficient to justify an administrative agency finding that our fill would do damage to the ecology or marine life on the bottom." The Government urged lack of jurisdiction and supported the denial of the permit on authority of §10 of the Rivers and Harbors Act of March 3, 1899, 30 Stat. 1121, 1151, 33 U.S.C.A. § 403, giving the Secretary discretion to issue permits and on the Fish and Wildlife Coordination Act of March 10, 1934, 48 Stat. 401, as amended, 16 U.S.C.A. §§ 661 and 662 (a), requiring the Secretary to consult with the Fish and Wildlife Service and state conservation agencies before issuing a permit to dredge and fill.

The District Court held that it had jurisdiction, that the Fish and Wildlife Coordination Act was not authority for denying the permit, and that:

> "The taking, control or limitation in the use of private property interests by an exercise of the police power of the government or the public interest or general welfare should be authorized by legislation which clearly outlines procedure which comports to all constitutional standards. This is not the case here.
>
> As this opinion is being prepared the Congress is in session. Advocates of conservation are both able and effective. The way is open to obtain a remedy for future situations like this

one if one is needed and can be legally granted by the Congress."

The Court granted summary judgment for Landholders and directed the Secretary of the Army to issue the permit. This appeal followed.

The question presented to us is whether the Secretary of the Army can refuse to authorize a dredge and fill project in navigable waters for factually substantial ecological reasons even though the project would not interfere with navigation, flood control, or the production of power. To answer this question in the affirmative, we must answer two intermediate questions affirmatively. (1) Does Congress for ecological reasons have the power to prohibit a project on private riparian submerged land in navigable waters? (2) If it does, has Congress committed the power to prohibit to the Secretary of the Army?

II

Constitutional Power

The starting point here is the Commerce Clause[3] and its expansive reach. The test for determining whether Congress has the power to protect wildlife in navigable waters and thereby to regulate the use of private property for this reason is whether there

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[3] "The Congress shall have power to regulate Commerce with foreign nations, and among the several states, and with the Indian Tribes." U.S. Const. Art. I, § 8, Cl. 3.

is a basis for the Congressional judgment that the activity regulated has a substantial effect on interstate commerce. *Wickard v. Filburn,* 1942, 317 U.S. 111, 125, 63 S.Ct. 82, ——, 87 L.Ed. 122, 135. That this activity meets this test is hardly questioned.[4] In this time of awakening to the reality that we cannot continue to despoil our environment and yet exist,[5] the nation knows, if Courts do not, that the destruction of fish and wildlife in our estuarine waters does have a substantial, and in some areas a devastating, effect on interstate commerce. Landholders do not contend otherwise. Nor is it challenged that dredge and fill projects

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[4]Landholders cite Weber v. State Harbor Comm'rs, 1873, 85 U.S. (18 Wall.) 65, 21 L.Ed. 798 and United States v. River Rouge Improvement Co., 1926, 269 U.S. 411, 46 S.Ct. 144, 70 L.Ed. 339 as limiting the power of the Federal Government over navigable waters to control for navigational purposes. Not surprisingly, the narrow view these cases take of the commerce clause is pre-United States v. Darby, 1941, 312 U.S. 100, 61 S.Ct. 451, 85 L.Ed. 609.

[5]Complete documentation of the concern over environmental problems would surely be voluminous, but it is indirectly evidenced by the amount of very recent legal activity. See National Environmental Policy Act of 1969. Pub. Law 91-190 (Jan. 1, 1970), *infra* note 24; *Our Waters and Wetlands: How the Corps of Engineers Can Help Prevent Their Destruction and Pollution,* H. Rep. 91-917, 91st Cong., 2d Sess, March 18, 1970, *infra* text at note 26; Executive Order 11507, Feb. 4, 1970, 38 L.W. 2436; United States v. Ray, 5 Cir., 1970, —— F.2d —— [No. 27888, Jan. 22, 1970]; E.B. Elliott Advertising Co. v. Hill, 5 Cir., 1970, —— F.2d —— [No. 27589, April 3, 1970]; Citizens Committee for the Hudson Valley v. Volpe, S.D.N.Y., 1969, 302 F. Supp. 1083, aff'd, 2 Cir., 1970, —— F.2d —— [No. 428-33, April 16, 1970]; National Advertising Co. v. Monterey, Calif., 1970, —— Calif. Rptr. —— [38 L.W. 2433, Jan. 30, 1970; MacGibbon v. Duxbury Board of Appeals, Mass., 1970, —— N.E.2d —— [38 L.W. 2429, Jan. 29, 1970]; California v. SS Bournemouth, C.D. Cal., 1969, 307 F. Supp. 922; Creation of ABA Special Committee on Environmental Quality, 15 Am. Bar News No. 3, March 1970.

are activities which may tend to destroy the ecological balance and thereby affect commerce substantially. Because of these potential effects Congress has the power to regulate such projects.

III

Relinquishment of the Power

Landholders do not challenge the existence of power. They argue that Congress in the historic compromise over the oil rich tidelands controversy abandoned its power over other natural resources by the relinquishment to the states in the Submerged Lands Act.[6] By it they urge the Government stripped itself of the power to regulate tidelands property except for purposes relating to (i) navigation, (ii) flood control, and (iii) hydroelectric power. This rests on the expressed Congressional reservation of control for these three purposes over the submerged lands, title to and power over which Congress relinquished to the states.[7]

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[6] 43 U.S.C.A. § 1301, et seq. See Continental Oil Co. v. London Steamship Owners' Mut. Ins. Ass'n., 5 Cir., 1969, 417 F.2d 1030, ——— A.M.C. ———, *cert. denied,* 1970, ——— U.S. ———, ——— S.Ct. ———, 25 L.Ed.2d 92, ——— A.M.C. ———; Atlantis Development Corp. v. United States, 5 Cir., 1967, 379 F.2d 818.

[7] The relinquishing provision states, 43 U.S.C.A. § 1311 (a) and (b):

> "(a) It is determined and declared to be in the public interest that (1) title to and ownership of the lands beneath navigable waters within the boundaries of the respective States, and the natural resources within such lands and waters, and (2) the right and power to manage, administer, lease, develop, and use the said lands and natural resources all in accordance with applicable State law be, and they are, subject to the provisions hereof, recognized, confirmed,

The argument assumes that when Congress relinquished title to the land and the right and power to manage and use the land, it relinquished its power under the commerce clause except in particulars (i), (ii), and (iii). It also assumes that reservation of these three enumerated aspects of the commerce power implied that Congress gave up its plenary power over the myriad other aspects of commerce. See, e.g., *Heart of Atlanta Motel, Inc. v. United States,* 1964, 379 U.S.

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established, and vested in and assigned to the respective States or the persons who were on June 5, 1950, entitled thereto under the law of the respective States in which the land is located, and the respective grantees, lessees, or successors in interest thereof;

(b) (1) The United States releases and relinquishes unto said States and persons aforesaid, except as otherwise reserved herein, all right, title, and interest of the United States, if any it has, in and to all said lands, improvements, and natural resources * * *."

The reservation provision referred to states, 43 U.S.C.A. § 1311 (d):

"(d) Nothing in this chapter shall affect the use, development, improvement, or control by or under the constitutional authority of the United States of said lands and waters for the purposes of navigation or flood control of the production of power, or be construed as the release or relinquishment of any rights of the United States arising under the constitutional authority of Congress to regulate or improve navigation, or to provide for flood control, or the production of power * * *."

The term "natural resources" is broadly defined to include both the animate and inanimate:

"The term 'natural resources' includes, without limiting the generality thereof, oil, gas, and all other minerals, and fish, shrimp, oysters, clams, crabs, lobsters, sponges, kelp, and other marine animal and plant life but does not include water power, or the use of water for the production of power;"

43 U.S.C.A. § 1301 (e)

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241, 58 S.Ct. 348, 13 L.Ed.2d. 258; *Katzenbach v. McClung,* 1964, 379 U.S. 294, 85 S.Ct. 377, 13 L.Ed.2d 290.

A nice argument can be contrived that the net effect of these provisions was to vest in the adjacent states [1] title in these tidelands and their natural resources and [2] [a] the exclusive power to use, exploit and manage these lands [b] only subject to the reserved power of the Federal government regarding (i) navigation, (ii) flood control, and (iii) production of power. Certainly, this brief synopsis of (1) and (2) (a) is the literal import of §1311 (a) (1) (2). Likewise, the reservation summarized as (2) (b) is literally specified in § 1311 (d). On this approach, the Federal Government turned over to adjacent states the full management and use of the tidelands reserving only those limited powers over commerce comprehended within the three particulars.

But this argument ignores both language found elsewhere and the legislative purpose of the Act. The controversy, often pressed with emotional overtones, was over oil and gas and whether the states were to reap the economic benefits of development royalties and to regulate the exploration and development or whether these benefits and these controls were to be exercised by the Federal Government as an adjunct of then newly declared "paramount rights", *United States v. California,* 1947, 332 U.S. 804, 805, 68 S.Ct. 20, ___, 92 L.Ed. 382, 383. The Act and this relinquishment reflect the legislative compromise found in the combination of the Submerged Lands Act and the Outer

Continental Shelf Act.[8] The adjacent states were to be the "owner" of the resources and reap exclusively the economic benefits of resources in the tidelands and have full control over management and exploitation. The Federal government, on the other hand, was given exclusive ownership and control *vis-a-vis* the states in the Outer Continental Shelf.

Although it was easy to make this division, the nature of the physical area of the controversy presented immediate operational problems growing out of the water. The Federal government's traditional concern with navigation, especially on the high seas, its later but then quite extensive concern in flood control, hydroelectric power production, and the frequent combination of both under grandiose projects of a Corps of Engineers, raised specific problems calling for accommodation of the (i) sweeping Federal divestiture and (ii) the continued fulfillment of the Federal government's role in these activities. Thus, for example, the states' exclusive right to grant exploration privileges, determine the location and spacing of development wells or drilling platforms posed prospects of maritime hazards. Without imposing its own notions of how development ought to be conducted, restricted, expanded, or controlled, the Federal government had to have, and reserved expressly this power even to prohibit a drilling rig platform at a particular location These specific reservations eliminated these frequent and extensive activities as a source of further state versus national controversy.

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[8] 43 U.S.C.A. § 1331, et. seq.

Whatever remaining doubt there might be on this reading was expressly eliminated by language in § 1314 (a) which specifically retains in the Federal government "all of its * * * rights in and powers of regulation and control of said lands and * * * waters for the constitutional purposes of commerce * * *" 43 U.S.C.A. § 1314 (a).[9] This section, which encompasses and pervades the entire Act, makes it clear that Congress intended to and did retain all its constitutional powers over commerce and did not relinquish certain portions of the power by specifically reserving others.[10]

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9 "The United States retains all its navigational servitude and rights in and powers of regulation and control of said lands and navigable waters for the constitutional purposes of commerce, navigation, national defense, and international affairs, all of which shall be paramount to, but shall not be deemed to include, proprietary rights of ownership, or the rights of management, administration, leasing, use, and development of the lands and natural resources which are specifically recognized, confirmed, established, and vested in and assigned to the respective States and others by section 1311 of this title."

43 U.S.C.A. § 1314 (a).

10 It is argued that the retention in § 1314(a) is limited to the three aspects enumerated in § 1311(d) by the words "[the commerce power] shall be paramount to, but shall not be deemed to include [relinquished rights]." But we have already shown that the enumeration of these three, which are explicitly stated because they are particularly relevant to the regulation of land lying under navigable waters, does not imply that Congressional power over other types of commerce was among the rights relinquished. Because Congress did not give up any of its power over all of interstate commerce in § 1311 (see note 7, *supra*), they are not "[relinquished rights]" and the limitation portion of § 1314(a) is inapplicable.

To hold otherwise would render the reservation of constitutional commerce power in § 1314(a) a useless reiteration of

All of this is additionally borne out by the legislative history[11] and *United States v. Rands*, 1967, 389 U.S. 121, 127, 88 S.Ct. 265, ——, 19 L.Ed.2d 329, 335:

> "Finally, respondents urge that the Government's position subverts the policy of the Submerged Lands Act, which confirmed and vested in the States title to the lands beneath navigable waters within their boundaries and to natural resources within such lands and waters, together with the right and power to manage, develop, and use such lands and natural resources. However, reliance on that Act is misplaced, for it expressly recognized that the United States retained all its navigational servitude and rights in and powers of regulation and control of said lands and navigable waters for the constitutional purposes of commerce, navigation, national defense, and international affairs, all of which shall be paramount to, but shall not be deemed to include,

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the impliedly retained powers in § 1311(d). But to hold that it is an explicit reservation of all commerce powers gives the section meaning. The section may be unneeded and overly cautious in that it reserves a constitutional power that has never been relinquished, but it should not be read in such a way as to render it otherwise useless.

> "This title does not affect any of the Federal constitutional powers of regulation and control over these areas within State boundaries. Such powers, as those over navigation, commerce, national defense, international affairs, flood control, and power production where the United States owns or acquires the water power."

H. R. Rep. No. 215, 83d Cong., 1st Sess. (March 27, 1953), 1953 U.S.C.C. & A.N. 1385, 1389.

> proprietary rights of ownership .... Nothing in the Act was to be construed as the release or relinquishment of any rights of the United States arising under the constitutional authority of Congress to regulate or improve navigation, or to provide for flood control, or the production of power. The Act left congressional power over commerce and the dominant navigational servitude of the United States precisely where it found them."

Congress clearly has the power under the Commerce Clause to regulate the use of Landholders' submerged riparian property for conservation purposes and has not given up this power in the Submerged Lands Act.

IV

Prohibiting Obstructions to Navigation

The action of the Chief of Engineers and the Secretary of the Army under attack rests immediately on the Rivers and Harbors Act, 33 U.S.C.A. § 403, which declares that "the creation of any obstruction * * * to the navigable capacity of any of the waters of the United States is prohibited."[12] The Act covers both

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12 "The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established

building of structures and the excavating and filling in navigable waters. It is structured as a flat prohibition *unless* — the unless being the issuance of approval by the Secretary after recommendation of the Chief of Engineers.[13] The Act itself does not put any restrictions on denial of a permit or the reasons why the Secretary may refuse to grant a permit to one seeking to build structures on or dredge and fill his own property. Although the Act has always been read as tempering the outright prohibition by the rule of reason against arbitrary action, the Act does flatly forbid the obstruction. The administrator may grant permission on conditions and conversely deny permission when the situation does not allow for those conditions.

But the statute does not prescribe either generally or specifically what those conditions may be. The ques-

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harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to beginning the same."

33 U.S.C.A. § 403.

[13]This Court recently held that under this same section together with the Outer Continental Shelf Lands Act, 43 U.S.C.A. § 1333(f), a permit must be obtained before a project can be begun on the Outer Continental Shelf. United States v. Ray, *supra*, note 5, which followed the remand and trial on the merits in Atlantis Development Corp. v. United States, 5 Cir., 1967, 379 F.2d 818.

tion for us is whether under the Act the Secretary may include conservation considerations as conditions to be met to make the proposed project acceptable. Until now there has been no absolute answer to this question. In fact, in most cases under the Rivers and Harbors Act the Courts have been faced only with navigation problems.[14] See, e.g., *Sanitary Dist. v.*

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[14]Landholders cite authority holding that the Secretary is empowered to deny a permit only for navigational reasons, United States Attorney General's opinion of February 13, 1925, 30 U.S. Atty. Gen. Ops. 410 at 412, 415, 416; Miami Beach Jockey Club, Inc. v. Dern, D.C. Cir., 1936, 86 F.2d 135, 136 (on petition for rehearing). These determinations, by no means inexorable under the wording of the statute, see Greathouse v. Dern, *infra*, pre-date the changes wrought by the Fish and Wildlife Coordination Act, *infra*.

And they are out of step with the sweeping declaration of power over commerce in United States v. Appalachian Electric Power Co., 1940, 311 U.S. 377, 423-27, 61 S.Ct. 291, ——, 85 L.Ed. 243, 261-63:

> "The state and respondent, alike, however, hold the waters and the lands under them subject to the power of Congress to control the waters for the purpose of commerce. The power flows from the grant to regulate, i.e., to 'prescribe the rule by which commerce is to be governed.' This includes the protection of navigable waters in capacity as well as use. This power of Congress to regulate commerce is so unfettered that its judgment as to whether a structure is or is not a hindrance is conclusive. Its determination is legislative in character. The Federal Government has domination over the water power inherent in the flowing stream. It is liable to no one for its use or non-use. The flow of a navigable stream is in no sense private property; 'that the running water in a great navigable stream is capable of private ownership is inconceivable.' Exclusion of riparian owners from its benefits without compensation is entirely within the Government's discretion."
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> "In our view, it cannot properly be said that the constitutional power of the United States over its

United States, 1925, 266 U.S. 405, 45 S.Ct. 176, 69 L.Ed. 352; *Wisconsin v. Illinois,* 1929, 278 U.S. 367, 49 S.Ct. 163, 73 L.Ed. 426; *United States v. Republic Steel Corp.,* 1960, 362 U.S. 482, 80 S.Ct. 884, 4 L.Ed.2d 903.

One very big exception is *United States ex rel. Greathouse v. Dern,* 1933, 289 U.S. 352, 53 S.Ct. 614, 77 L.Ed. 1250. There petitioners sought a writ of mandamus to compel the Secretary of War and the Chief of Engineers to issue a permit to build a wharf in navigable waters. The Secretary, specifically finding that it would not interfere with navigation, denied the permit. The Supreme Court held that mandamus would not issue because the allowance of mandamus "is controlled by equitable principles * * * and it may be refused for reasons comparable to those which would lead a Court of equity, in the exercise of a sound discretion, to withhold its protection of an undoubted legal

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waters is limited to control for navigation. By navigation respondent means no more than operation of boats and improvement of the waterway itself. In truth the authority of the United States is the regulation of commerce on its waters. Navigability, in the sense just stated, is but a part of this whole. Flood protection, watershed development, recovery of the cost of improvements through utilization of power are likewise parts of commerce control. * * * That authority is as broad as the needs of commerce. * * * The point is that navigable waters are subject to national planning and control in the broad regulation of commerce granted the Federal Government. The license conditions to which objection is made have an obvious relationship to the exercise of the commerce power. Even if there were no such relationship the plenary power of Congress over navigable waters would empower it to deny the privilege of constructing an obstruction in those waters."

right." The reason was that the United States had plans to condemn petitioners' land for use as a means of access to a proposed parkway. Allowing a wharf to be built would increase the expense to the government since it would increase the market value of the land and would require the government to pay for tearing down the wharf. The importance of *Greathouse* is that it recognized that the Corps of Engineers does not have to wear navigational blinders when it considers a permit request. That there must be a reason does not mean that the reason has to be navigability.

Another case holds that the Corps has a duty to consider factors other than navigational. *Citizens Committee for the Hudson Valley v. Volpe,* S.D.N.Y., 1969, 302 F.Supp. 1083, aff'd., 2 Cir., 1970 ____ F.2d ____ [No. 428-33, April 16, 1970]. There the District Court held that the Corps must consider a fill project in the context of the entire expressway project of which it was a part rather than just considering the fill and its effect on navigation. The reasoning was that the approval of the Secretary of Transportation was necessary before a proposed causeway could be constructed. The causeway, along with the fill, was an integral part of the expressway project. However, if the Corps and Secretary of the Army approved the fill and the State completed it, the Secretary of Transportation, considering the enormous expense of the fill, would have no choice, other than approving the causeway. The Army thus had exceeded its authority in approving the fill on only navigational considerations since

approval of the fill was effectually approval of the causeway.[15]

But such circuity is not necessary. Governmental agencies in executing a particular statutory responsibility ordinarily are required to take heed of, sometimes effectuate and other times not thwart other valid statutory governmental policies. And here the government-wide policy of environmental conservation is spectacularly revealed in at least two statutes, The Fish and Wildlife Coordination Act[16] and the National Environmental Policy Act of 1969.[17]

The Fish and Wildlife Coordination Act[18] clearly re-

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[15]The Court essentially held that the Corps, where approval of Transportation is also required, cannot be oblivious to the effect of fill projects on the beauty and conservation of natural resources. This inference arises from the fact that the Secretary of Transportation is statutorily required to consider conservation before granting a permit. But if the fill on which the causeway was to be built were completed at the time the permit for the causeway was requested, there would be no conservation factors for Transportation to consider. The Court held that the Corps could not blind itself to this fact and thereby cut off considerations of conservation by granting a fill permit without Transportation's approval of the causeway.

[16] 16 U.S.C.A. §§661-666.

[17]Public Law 91-190, 42 U.S.C.A. §§4331-47.

[18]The Fish and Wildlife Coordination Act states:

> "Except as hereafter stated in subsection (h) of this section [not applicable], whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license, such department or agency first shall consult with the

quires the dredging and filling agency (under a governmental permit), whether public or private, to consult with the Fish and Wildlife Service,[19] with a view of conservation of wildlife resources. If there be any question as to whether the statute directs the licensing agency (the Corps) to so consult it can quickly be dispelled. Common sense and reason dictate that it would be incongruous for Congress, in light of the fact that it intends conservation to be considered in private dredge and fill operations (as evidenced by the clear wording of the statute), not to direct the only federal agency concerned with licensing such projects both to consult and to take such factors into account.

The second proof that the Secretary is directed and authorized by the Fish and Wildlife Coordination Act to consider conservation is found in the legislative history. The Senate Report on the Fish and Wildlife Coordination Act states:

> "Finally, the nursery and feeding grounds of valuable crustaceans, such as shrimp, as well

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United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State wherein the impoundment, diversion, or other control facility is to be constructed, with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development."

16 U.S.C.A. § 662(a).

[19]Presumably Landholders must first obtain the Corps of Engineers permit before becoming a "private agency under Federal permit or license."

as the young of valuable marine fishes, may be affected by dredging, filling, and diking operations often carried out to improve navigation and provide new industrial or residential land.

* * * *

Existing law has questionable application to projects of the Corps of Engineers for the dredging of bays and estuaries for navigation and filling purposes. More seriously, existing law has no application whatsoever to the dredging and filling of bays and estuaries by private interests or other non-Federal entities in navigable waters under permit from the Corps of Engineers. This is a particularly serious deficiency from the standpoint of commercial fishing interests. The dredging of these bays and estuaries along the coastlines to aid navigation and also to provide land fills for real estate and similar developments, both by Federal agencies or other agencies under permit from the Corps of Engineers, has increased tremendously in the last 5 years. Obviously, dredging activity of this sort has a profound disturbing effect on aquatic life, including shrimp and other species of tremendous significance to the commercial fishing industry. The bays, estuaries, and related marsh areas are highly important as spawning and nursery

grounds for many commercial species of fish and shellfish."[20]

S. Rep. No. 1981, 85th Cong. 2d Sess. (July 28, 1958). 1958 U.S.C.C. & A.N. 3446, 3448, 3450. This Report clearly shows that Congress intended the Chief of Engineers and Secretary of the Army to consult with the Fish and Wildlife Service before issuing a permit for a private dredge and fill operation.

This interpretation was judicially accepted in *Udall v. FPC:*

> "Section 2(a), 16 USC § 662(a), provides that an agency evaluating a license under which 'the waters of any stream or other body of water are proposed ... to be impounded first shall consult with the United States Fish and Wildlife Service, Department of the Interior ... with a view to the conservation of wild-

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[20]The Senate Report also shows how the exercise of the commerce power in the conservation arena ties in with its exercise in other areas:

> "The amendments proposed by this bill would remedy these deficiencies and have several other important advantages. The amendments, would provide that wildlife conservation shall receive equal consideration with other features in the planning of Federal water resource development programs. This would have the effect of putting fish and wildlife on the basis of equality with flood control, irrigation, navigation, and hydroelectric power in our water resource programs, which is highly desirable and proper, and represents an objective long sought by conservationists of the Nation."

1958 U.S.C.C. & A.N. at 3450.

life resources by preventing loss of and damage to such resources .... Certainly the wildlife conservation aspect of the project must be explored and evaluated."

1967, 387 U.S. 428, 443-44, 87 S.Ct. 1712, _____, 18 L.Ed.2d 869, 879.

The meaning and application of the Act are also reflected by the actions of the Executive that show the statute authorizes and directs the Secretary to consult with the Fish and Wildlife Service in deciding whether to grant a dredge and fill permit.

In a Memorandum of Understanding[21] between the

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21 "POLICIES

1. It is the policy of the two Secretaries that there shall be full coordination and cooperation between their respective Departments on the above responsibilities at all organizational levels, and it is their view that maximum efforts in the discharge of those responsibilities, including the resolution of differing views, must be undertaken at the earliest practicable time and at the field organizational unit most directly concerned. Accordingly, District Engineers of the U.S. Army Corps of Engineers shall coordinate with the Regional Directors of the Secretary of the Interior on fish and wildlife, recreation, and pollution problems associated with dredging, filling, and excavation operations to be conducted under permits issued under the 1899 Act in the navigable waters of the United States, and they shall avail themselves of the technical advice and assistance which such Directors may provide.

2. The Secretary of the Army will seek the advice and counsel of the Secretary of the Interior on difficult cases. If the Secretary of the Interior advises that proposed operations will unreasonably impair natural

Secretary of the Army and the Secretary of the Interior, it is provided that, upon receipt of an application for a permit to dredge or fill in navigable waters, the District Engineer of the Corps of Engineers concerned is required to send notices to all interested parties, including the appropriate Regional Directors of the Federal Water Pollution Control Administration, the Fish and Wildlife Service, the National Park Service and the appropriate state conservation, resources, and water pollution agencies. The District Engineer is given the initial responsibility of evaluating all relevant factors in reaching a decision as to whether the particular permit involved should be granted or denied. The Memorandum also provides that in case of conflicting views the ultimate decision shall be made by the Secretary of the Army after consultation with the Secretary of the Interior.

This Executive action has almost a virtual legislative imprimatur from the November 1967 Report of the House Committee on Merchant Marine and Fish-

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resources or the related environment, including the fish and wildlife and recreational values thereof, or will reduce the quality of such waters in violation of applicable water quality standards, the Secretary of the Army in acting on the request for a permit will carefully evaluate the advantages and benefits of the operations in relation to the resultant loss or damage, including all data presented by the Secretary of the Interior, and will either deny the permit or include such conditions in the permit as he determines to be in the public interest, including provisions that will assure compliance with water quality standards established in accordance with law. * * * ."

eries, in reporting favorably on a bill[22] to protect estuarine areas which was later enacted into law.[23] As a result of the effective operation of the Interdepartmental Memorandum of Understanding, the Interior Department and the Committee concluded that it was not necessary to provide for dual permits from Interior and Army.

The intent of the three branches has been unequivocally expressed: The Secretary must weigh the effect a dredge and fill project will have on conservation before he issues a permit lifting the Congressional ban.

22H. Rept. 989, 90th Cong., 1st sess., to accompany H.R. 25, pp. 4-5. See also S. Rept. No. 1419, July 17, 1968, 90th Cong., 2d sess., Senate Committee on Commerce, reporting on S. 695 and H.R. 25, pp. 13-14. H.R. 25 with revisions became the Act of August 3, 1968, 82 Stat. 625 (Pub. L. 90-454).

23 "As a result of the hearings and the discussions which ensued from the circularized draft proposal — particularly with respect to the permit provision for dredging, filling, and excavation — a memorandum of understanding was entered into between the Secretary of the Interior and the Secretary of the Army. This agreement set forth the policies and procedures to be followed regarding the control of dredging, filling, and excavation in the navigable waters of the United States, which would include many of our Nation's estuarine areas.

On August 2, the Department of the Interior filed a supplemental report on the bill. In its report to the committee, the Department stated that we believe that this memorandum of understanding provides an effective administrative solution to the problem of preventing unreasonable impairment of the natural resources of the Nation's waterways and related environment, and preventing the pollution of the waters. In our opinion, the agreement makes the legislative approach set forth in H.R. 25 . . . for control for dredging, et cetera, unnecessary . . . (Omissions by the Committee.)"

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The parallel of momentum as the three branches shape a national policy gets added impetus from the National Environmental Policy Act of 1969, Public Law 91-190, 42 U.S.C.A. §§4331-47. This Act essentially states that every federal agency shall consider ecological factors when dealing with activities which may have an impact on man's environment.[24]

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[24]Its newness, relevance and significance warrants reproduction in full.

"This Act may be cited as the 'National Environmental Policy Act of 1969'.

PURPOSE

Sec. 2 The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

Sec. 101 (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding techological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other

requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may —

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

Sec. 102. The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall —

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision-

making which may have an impact on man's environment;

(B) identify and develop methods and procedures, in consolidation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation and order major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on —

(i) the environmental impact of the proposed action,

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) alternatives to the proposed action,

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

(D) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts

concerning alternative use of available resources;

(E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(F) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality established by title II of this Act.

Sec. 103. All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act.

Sec. 104. Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

Sec. 105. The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies."

Public Law 91-190, Title I, 83 Stat. 852.
42 U.S.C.A. §§4331-47.

Although this Congressional command was not in existence at the time the permit in question was denied, the correctness of that decision must be determined by the applicable standards of today. The national policy is set forth in plain terms in § 101 and the disclaimer of § 104(3) neither affects it nor the duty of all departments to consider, consult, collaborate and conclude. For we hold that while it is still the action of the Secretary of the Army on the recommendation of the Chief of Engineers, the Army must consult with, consider and receive, and then evaluate the recommendations of all of these other agencies articulately on all these environmental factors. In rejecting a permit on non-navigational grounds, the Secretary of the Army does not abdicate his sole ultimate responsibility and authority. Rather in weighing the application, the Secretary of the Army is acting under a Congressional mandate to collaborate and consider all of these factors.[25]

To judge the ebb and flow of the national tide, he can look to the Report of the House Committee on

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[25]For like reasons the following disclaimer in the Fish and Wildlife Act of 1956, 70 Stat. 119, 16 U.S.C.A. §§741-754, specifically 70 Stat. 1124, 16 U.S.C.A. §742i is not decisive:

> "The rights of States. - Nothing in this Act (subsection 742a and note - 742d, 742e - 742j of this title; 15 subsection 713c - 3 and note) shall be construed (1) to interfere in any manner with the rights of any State under the Submerged Lands Act (Public Law 31, Eighty-third Congress) (43 subsection 1301 and notes - 1303, 1311-1315) or otherwise provided by law, or to supersede any regulatory authority over fisheries exercised by the States either individually or under interstate compacts;"

Government Operations. Although this perhaps lacks traditional standing of legislative history, it certainly has relevance somewhat comparable to an Executive Commission Report. On March 17, 1970, it approved and adopted a Report,[26] based on a study made by its Conservation and Natural Resources Subcommittee, entitled *Our Waters and Wetlands: How the Corps of Engineers Can Help Prevent Their Destruction and Pollution.* (H. Rep. No. 91-917, 91st Cong. 2d Sess. (1970)) The first section stifles any doubt as to how this part of Congress construes the Corps' duty under the Rivers and Harbors Act. The section traces the historical interpretation of the Corps' power under the Rivers and Harbors Act. It commends the Corps for recognizing ecological considerations under the Act to protect against unnecessary fills and cites the instant case.[27] But following the temper of the times, the re-

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[26]The heading of the Report reads:

> "The Corps of Engineers, which is charged by Congress with the duty to protect the nation's navigable waters, should, when considering whether to approve applications for landfills, dredging and other work in navigable waters, increase its consideration of the effects which the proposed work will have, not only on navigation, but also on conservation of natural resources, fish and wildlife, air and water quality, esthetics, scenic view, historic sites, ecology, and other public interest aspects of the waterway."

[27] "In 1968, the Corps revised its regulations to state that the Corps, in considering an application for a permit to fill, dredge, discharge or deposit materials, or conduct other activities affecting navigable waters, will evaluate "all relevant factors, including the effect of the proposed work on navigation, fish and wildlife, conservation, pollution, esthetics, ecology, and the general public interest." 33 CFR 209.120(d) (1).[4] The Corps applied this policy when it recently rejected the

port by bold face black type cautions against any easy overconfidence and charges the Corps with ever-increasing vigilance.[28]

When the House Report and the National Environmental Policy Act of 1969 are considered together with the Fish and Wildlife Coordination Act and its inter-

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efforts of land developers to fill in a major part of Boca Ciega Bay, near St. Petersburg, Fla. See *Zabel v. Tabb*, 296 F. Supp. 764 (D.C. M.D. Fla., Tampa Div., Feb. 17, 1969), now on appeal to the U.S. Court of Appeals, Fifth Circuit, No. 27555.

The committee commends the Corps for recognizing its broader responsibilities to protect against unnecessary fills and other alteration of water bodies. * * *"

H. Rep. No. 91-917, p. 5.

28 "The Corps of Engineers should instruct its district engineers and other personnel involved in considering applications for fills, dredging, or other work in estuaries, rivers, and other bodies of navigable water to increase their emphasis on how the work will affect all aspects of the public interest, including not only navigation but also conservation of natural resources, fish and wildlife, air and water quality, esthetics, scenic view, historic sites, ecology, and other public interest aspects of the waterway."

H. Rep. No. 91-917.

As the Committee views it, not only should the Corps consider conservation, but it should consider conservation to be endangered by every dredge and fill project and place the burden of proving otherwise on the applicant. See, e.g., the conclusion of the first section of the Report and its bold face type recommendation:

"The Corps of Engineers should permit no further landfills or other work in the Nation's estuaries, rivers and other waterways except in those cases where the applicant affirmatively proves that the proposed work is in accord with the public interest, including the need to avoid the piecemeal destruction of these water areas."

H. Rep. No. 91-917, p. 6.

pretations, there is no doubt that the Secretary can refuse on conservation grounds to grant a permit under the Rivers and Harbors Act.

V

Due Process

Landholders next contend that the denial of a permit without a hearing before the Fish and Wildlife Service is a deprivation of property without due process of law. Administrative law requires that before an agency can regulate a party, it must allow that party to be heard. Here, Landholders were given such a hearing before the Corps of Engineers, the body empowered to grant or deny a permit. They were not entitled to a hearing before the Fish and Wildlife Service because it is not "the one who decides." *Morgan v. United States*, 1935, 289 U.S. 468, 481, 56 S.Ct. 906, 912, 80 L.Ed. 1288, 1295. They were allowed to rebut the findings and conclusions of the Fish and Wildlife Service before the deciding body and thus were not denied due process for lack of a hearing.

VI

Taking Without Compensation

Landholders' last contention is that their private submerged property was taken for public use without just compensation. They proceed this way: (i) the denial of a permit constitutes a taking since this is the only use to which the property could be put; (ii) the public

use is as a breeding ground for wildlife; and (iii) for that use just compensation is due.

Our discussion of this contention begins and ends with the idea that there is no taking. The waters and underlying land are subject to the paramount servitude in the Federal government which the Submerged Lands Act expressly reserved as an incident of power incident to the Commerce Clause. (See Part II *supra*).

VII

Conclusion

Landholders' contentions fail on all grounds. The case is reversed and since there are no questions remaining to be resolved by the District Court, judgment is rendered for the Government and the associated agent-defendants.

REVERSED and RENDERED.

Adm. Office, U.S. Courts—Scofields' Quality Printers, Inc., N. O., La.

Mr. DINGELL. Now, Mr. Loesch, in fairness to you, I would like to have you refer to the bill, and I am going to have to ask counsel here to help me. The administration bill, does not provide that the Environmental Protection Agency must consult with the Interior Department.

It occurs to me that in many of the statutes which we have had before this body, it has been a clear requirement of the statute, for example, as in the Fish and Wildlife Coordination Act, that the agency issuing the permit must consult with your agency.

Mr. LOESCH. Mr. Chairman, if I am not mistaken also, the bill provides for the consultation, as adverted to in my formal statement, with the Department of the Interior, in creating or developing the standards on which the permit applications will be measured, but does not provide for consultation as to the issuance or refusal of individual permits.

Mr. DINGELL. That is the precise point.

Now we have situations where they must consult, in establishing or revising criteria.

Mr. LOESCH. Exactly.

Mr. DINGELL. But we have a situation where they may issue permits, without consultation with the Interior Department. Now, I am wondering, what are your views on that particular point? Would you have any objection to having them consult with your agency on matters of this sort?

Mr. LOESCH. No, I don't think we would have any objection, Mr. Chairman.

I bring to your attention the fact that if we are fully consulted, as we certainly expect to be, in the development of the necessary criteria, that it would then seem a little supererogatory, perhaps, to require consultation by EPA on every single permit, and could, I sense, slow down the process, perhaps.

But we wouldn't have any objection, and, of course, we would have the expertise to judge a permit application.

Mr. DINGELL. Right.

Now the Fish and Wildlife Coordination Act says that:

> Whenever the waters of any stream or body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under federal permit or license, such department or agency first shall consult with the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising the administration over the wildlife resources of the particular State wherein the impoundment, diversion or other control facility is to be constructed, with a view to the consideration of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development.

Now that is the requirement of the Fish and Wildlife Coordination Act. There is no such requirement here.

Mr. LOESCH. No; but the Coordination Act is still going to be in full force and effect, so that any agency who is presently required under that act to consult with us will have to consult with us as well under the new act.

Mr. DINGELL. Well, of course, here we have the peculiar situation where the language of a later statute says they "may", and the earlier statute, the Coordination Act says they "shall".

Now in aiding this committee in arriving at a judgment as to what is the legislative history, I personally feel that the Fish and Wildlife Coordination Act is still in effect. But I am apprehensive here because we see possibly a situation where we might be amending or repealing or altering Fish and Wildlife Coordination Act, and I seek your counsel and guidance on this particular point.

Mr. LOESCH. Well, of course out of my own head, Mr. Chairman, I am probably not competent to say. But I did take the precaution before coming before you, to discuss this matter with our legislative counsel, and legislative counsel advises me that it is his opinion that this act in no way impinges on the other act, the Coordination Act, and that in effect what this act will do is to require a permit from EPA for any dumping at all, even if it were dumping that wouldn't have been within our purview under the Coordination Act.

And they still will have to get the permits for us, under the Coordination Act. Isn't that correct?

Mr. LINDUSKA. Yes.

Mr. DINGELL. This is a matter to which the committee is going to have to address its very careful attention, and we will have to clarify this matter with some care, either in the report or, I suspect, in the fundamental legislation, by indiciating that the section shall not be construed as amending, altering, and so forth, the requirements of the Fish and Wildlife Coordination Act.

The Chair is going to recognize our able counsel, Mr. Everett.

Mr. Everett?

Mr. LOESCH. May I comment, Mr. Chairman.

Mr. DINGELL. Certainly.

Mr. LOESCH. That certainly for my part, and Dr. Linduska concurs, I think we would have no possible objection to the addition of such a section.

Mr. DINGELL. I think that is wise counsel, and I suspect that most of the Government agencies who are terribly attuned to the public interest would view it the same way you do.

Mr. Everett?

Dr. LINDUSKA. Mr. Chairman, if I may make an observation.

Mr. DINGELL. Certainly.

Dr. LINDUSKA. I think there is one difference between the problem of ocean dumping as compared with our work with the Corps of Engineers on dredge-fill permits. There is no question that the Coordination Act is a tight document, and we have substantial powers under that act to veto projects in the field, and they are subject to appeal at departmental level, if they can't be resolved in the field.

But I would remind you that this type of activity represents an individual case in each instance, each one is different. There is a need to judge and rule on the basis of individual applications. But I think with the establishment of criteria, in connection with ocean dumping, we will have satisfied that need in large measure and from there on, the passing on individual permits will be almost of a perfunctory nature, there will be guidelines to follow.

I think there is a substantial difference in the type of problem that we are dealing with here.

Mr. DINGELL. Dr. Linduska, my old Daddy said, "Son, trust everyone but cut the cards." And in dealing with these permit issues, I have always adhered to that practice, and been much better served for it.

Mr. Everett?

Mr. EVERETT. Mr. Loesch, it is not clear in my mind, and I don't think it has been made clear at the hearings, as to how this system is going to work with respect to the Corps of Engineers' present authority in regard to the changes that will take place.

I wish you would have your counsel study these acts, with respect to the protection of fish and wildlife resources, to see that this protection is not diminished.

I understand that the Corps will continue to issue permits, in the inland areas, that is, up to a certain point, where the Environmental Protection Agency takes over, and then the Corps authority extends seaward to the high seas; the Environmental Protection Agency will issue permits for ocean dumping, or dumping of any sort in those offshore areas.

Also, I wish your counsel would take a look at the last two pages of the bill, section 11 (A), (B), (C), (D), and (E), pages 13 and 14 of the bill, and give us an opinion as to what the effects of these provisions on present law would be.

For instance, section 20 of the 1899 act is being repealed. Section 4 of the 1905 act is being superseded. Section 13 of the 1899 act is being superseded, insofar as it is inconsistent with this act.

We haven't anything on the record that explains the effects of these sections on these public laws with respect to fish and wildlife resources.

I don't know whether you gentlemen have had a chance to reflect on these issues, but it certainly would be helpful to have your comments.

Mr. LOESCH. No, I haven't had a chance to reflect on that, and as a matter of fact, quite honestly, I don't know, for instance what section 11(B) means. I don't know what it is really repealing. And besides, I think it would probably be more—be better if counsel responded on that, so I will try to get a response from our legislative counsel.

Mr. EVERETT. One of the acts, the 1905 act, has to do with the protection of oyster cultivation areas in some of the harbors, particularly New York Harbor, and the way this amendment is written, I am not sure as to what the effect would be with respect to those oyster cultivation areas.

This is something that concerns me.

Under section 8 of the act, the Administrator has the authority to transfer his responsibility with respect to issuing permits to other Federal agencies, of which the Department of Interior might be one.

Do you have an opinion as to whether Interior will be used to implement some of these permits from time to time? Has any indication been given to your Department that you might be given this responsibility?

Mr. LOESCH. We haven't any indication on that, but I would suppose that if a dumping proposal which would directly affect fish and wildlife, and that alone, perhaps, in an area of special expertise

for the Bureau of Sport Fisheries and Wildlife, that it would be referred to our Department, and consequently, that Bureau, for evaluation.

Mr. EVERETT. Well, I have mixed emotions with respect to giving this authority to EPA, and then allow EPA the authority to transfer the responsibility to other agencies. I don't know whether this is good or bad. I would like to have your comments on that idea.

Mr. LOESCH. Well, of course all through the Government, there is a substantial amount of cooperation, and many times, you would prevent by such a delegation the necessity of duplicating a staff, for instance.

And I think perhaps it might be appropriate, in the interests of the taxpayers' dollar, to occasionally delegate responsibility back to an agency with special expertise in a particular field, rather than gearing up to handle the entire matter in the initiating agency.

And it may be that that is what is in mind here.

For instance, I think one illustration within my own shop in this regard, we have a rather substantial fire protection program, in the Bureau of Indian Affairs, but we delegate that entirely to the Bureau of Land Management and the Forest Service, under their Interbureau Fire-Fighting Agency, on a reimbursement basis. They do the work, and research, and fight the fires, and we pay them back for it.

Mr. EVERETT. Well, one section of the bill exempts the AEC from the provisions of this act, and there is some consideration of eliminating that provision, or to modifying it considerably so when it comes to a disposal of high radioactive waste, the Environmental Protection Agency would have the authority under the legislation to transfer this responsibility back to the AEC, which in effect would allow the AEC to dispose of its own waste.

And this is the part under the authority that gives me concern.

Mr. LOESCH. Yes, I see why you have that concern, all right, and I may say I heard some of the testimony this morning. But frankly, on that, I am just not knowledgeable enough on that aspect of the matter to make any cogent comment.

Certainly I think we should all be concerned with the disposition of atomic wastes. What is the best way to have that concern paid attention to and proper steps taken, I don't know.

Mr. EVERETT. Mr. Chairman, that's all the questions I have, thank you.

Mr. DINGELL. Mr. Loesch, it isn't often we have the privilege of your being here; can you answer me a question on another matter?

I am very much distressed about the slowness in which Interior is reconstituting the vacancies that exist down there. Can you tell us when a director for the Fish and Wildlife Service is going to be appointed, and when the other vacancies down there are going to be filled?

I must tell you, I am very much distressed about this. I have not had a chance to complain lately to the Secretary of Interior, but now that I have got you here, I might as well let you know of my distress in this matter, and hope that those positions will be filled at an early time. I am sure you are aware of the fact you have a major morale problem inside that agency, by reason of the failure to fill these positions.

In fact, we have, by reason of a number of events of recent dates, a whole sequence of morale problems that are plaguing your agency. I am not sure you want to comment as when——

Mr. LOESCH. I can comment on it to this extent, Mr. Chairman.

I can't say when we will have a new director. I can say that we look forward with great confidence to having a new Assistant Secretary very shortly.

Mr. DINGELL. I hoped that would be so, but I certainly hope that the Director's position will be filled. You have got major morale problems down there, that if you don't do something, the whole agency, I am afraid, insofar as fish and wildlife, is liable to just fall apart on you.

I hope something will be done at a very near time.

Mr. LOESCH. I hope so, too. Frankly, I don't know anything about that. I can say, Mr. Chairman, that while I fully recognize your concern, I think that you will find that the Bureau of Sport Fisheries and Wildlife is much tougher than you think. I don't think it is going to fall apart just because it hasn't a director for a period.

Mr. DINGELL. It isn't just the absence of a director. I have great respect for the agency, as you know, and these are friendly questions, but Mr. Secretary, I express to you an honest and friendly concern.

Mr. LOESCH. Yes, I understand.

Mr. DINGELL. And I hope that this message will be carried back by you to the Interior Department.

Mr. LOESCH. I will carry that message.

Mr. DINGELL. And of the apprehensions I had and concern I feel as to the failures of that agency to reconstitute itself more rapidly.

Now I have great respect for Secretary Morton. I think he is a distinguished Secretary of the Interior, who was a fine and valuable Member of this Congress, and I have great affection and respect for him as a person, but time is fleeting, and it is a long time since the openings occurred, I think that the filling of them is long overdue, and it is my hope something will happen down there at an early time to correct this. Frankly, it has taken too long, Mr. Secretary.

Mr. LOESCH. I have been, just by way of an aside, Mr. Chairman, attempting to fill the post of Associate Director of the Bureau of Outdoor Recreation since last July.

Mr. DINGELL. I guess that sort of answers my question.

Mr. Secretary, we are grateful you could be with us. We thank you for your presence. It is always a pleasure to have you here, and we thank our old friend, Dr. Linduska, for his kindness in being here.

(The following letter was received in reference to the foregoing:)

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., May 19, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: We return herewith the transcript of testimony presented by Assistant Secretary Loesch to your Subcommittee on Fisheries and Wildlife Conservation concerning the general subject of ocean dumping.

A question has been raised concerning the effect of H.R. 4247 and H.R. 4723 upon our responsibilities under the Fish and Wildlife Coordination Act. While it is our opinion, as stated to the Subcommittee by Assistant Secretary Loesch, that

the enactment of this legislation will not impair the exercise of those responsibilities, we intend to provide a more detailed statement on this subject at a later date.

Sincerely yours,

FRANK A. BRACKEN,
Legislative Counsel.

STATEMENT OF HARRISON LOESCH, ASSISTANT SECRETARY OF THE INTERIOR

I think the Chairman of both Subcommittees and the members for this opportunity to discuss briefly the subject of ocean dumping and the need for its regulation. As others have already testified, the threat to oceans and our coastal waters is a real one that grows worse with their continued utilization for waste disposal. The value of these waters for commerce, recreation, transportation and as the habitat for a vast variety of marine life was recognized early in the life of our country. Centers of population grew along the coasts, and came to regard the coastal waters not only as a source of bounty and as a trade link to the world, but as a convenient medium for the disposal of urban waste. Suddenly, it seems, we have come to realize that the oceans, too, have limits and that urban society is to be held accountable for its misuse of a great natural resource. We talk in terms of "dead seas," while counting numbers of fish killed and beaches despoiled. We are awed by accounts of debris afloat on the high seas, thousands of miles from shore.

The number of bills under consideration today bespeaks a conviction that the time has come for regulation of ocean dumping. Most of the sponsors recognize, I am sure, that their bills are but a first step. The problem is world-wide, and will require a solution of comparable scope. I am equally sure that most would prefer an absolute prohibition to regulation, however strict. We, too, look forward to the day when it will not be necessary to use our lakes, coastal waters and oceans for the disposal of any waste material. Until technology provides the alternatives, however, we must seek to assure ourselves that such disposal as is allowed will be accomplished with a minimum risk of injury to the marine environment.

In announcing a program for the control of pollution in our Great Lakes, President Nixon last year asked the Council on Environmental Quality to study the threat posed by ocean dumping, and to propose a national policy to meet that threat. The Council assembled a panel of experts to conduct such a study, and made its recommendations in the report, "Ocean Dumping—A National Policy," adopted by the President and released on October 7, 1970. The Department's concern for the environmental effects of uncontrolled dumping led to studies of waste disposal in the New York Bight and participation in the Council's review of ocean dumping generally. We participated, too, in the preparation and review of legislation to implement the Council's recommendations.

That legislation is now pending before the full Committee as H.R. 4247 and H.R. 4723. It is the result of close cooperation among those several Federal agencies, and others, with responsibility for and interest in the protection, conservation and management of our Nation's natural resources. As you are aware, the bill would vest in the Administrator of the Environmental Protection Agency authority to control ocean dumping through issuance of permits and enforcement of a prohibition against the unauthorized transport or dumping of waste material. In determining whether or not to approve a permit application, the Administrator would be required to consider (1) the impact of dumping on the marine environment and human welfare and (2) other possible locations and methods of disposal, including land-based alternatives. The Administrator would be authorized to designate recommended sites for the dumping of specified materials, and would be permitted to prohibit absolutely the disposal of any material that could threaten human health or the marine environment.

Additional species of this, the proposed "Marine Protection Act of 1971", have no doubt been presented by the Environmental Protection Agency. It should be noted, I think, that its proposal combines several provisions of other bills also pending before the Committee. The result, we believe is a comprehensive framework for regulating the transportation and dumping of wastes in the oceans, coastal waters, and the Great Lakes. The Department of the Interior and others would be consulted by the Administrator in establishing criteria against which to measure permit applications. We believe that such consultation will afford an

opportunity to contribute our knowledge of the marine environment, and to seek protection of the wildlife, mineral, and recreation resources for which we have primary responsibility. In this connection, we agree with the Council on Environmental Quality that regulatory authority should be vested in an agency whose chief role is enforcement of environmental standards. Amendment of the Fish and Wildlife Coordination Act, as several bills propose, would tend to disperse regulatory authority and to discourage effective coordination with air and water quality programs already administered by EPA.

We urge prompt enactment of H.R. 4247 or H.R. 4723, as the President asked in his environmental message of February 8, "to assure that our oceans do not suffer the fate of so many of our inland waters, and to provide the authority needed to protect our coastal waters, beaches, and estuaries." Dr. Linduska and I would be pleased to answer your questions.

Mr. DINGELL. The Chair is going to recess this hearing very briefly to allow the members of the subcommittee an opportunity to go over and answer their names.

We will be back within 10 or 15 minutes, so the subcommittee will stand in recess for that period of time.

(Recess taken.)

Mr. DINGELL. The subcommittee will come to order for continuation of the hearings conducted on the subject of ocean dumping and bills relating to that matter.

I would like to insert in the record a statement the subcommittee received from the Maryland Port Authority.

(The statement follows:)

STATEMENT OF MARYLAND PORT AUTHORITY

The Marylond Port Authority is an agency of the State of Maryland charged with the responsibility for promoting the waterborne commerce of the State. This is centered primarily in the port of Baltimore which is the third ranking port in the country.

We are fully in accord with the intent of the Bill to prevent or limit dumping into ocean, coastal or Great Lakes waters of hazardous, noxious, or environmentally detrimental substances.

However, we think that it would be a mistake to include dredging spoil in the same category as "solid waste, garbage, sewage sludge, munitions, chemical, biological and radiological warfare agents, radioactive materials", etc. Also, we do not think that waters for which the States have been authorized to establish water quality standards by the Water Quality Act of 1965 should be included with ocean and coastal waters. And finally, we believe it would be desirable to leave the permit authority for disposal of dredging spoil within the U.S. Army Corps of Engineers.

Consequently, we urge that the Bill be amended to exclude from its coverage the deposit of dredging spoil in waters to which State or Federal-State water quality standards apply.

The reasons for our position are that we believe that:

1. Dredging spoil disposal is already adequately regulated by the States and the Army Corps of Engineers.

2. Transferring the Federal permit authority for dredging spoil disposal from the Corps of Engineers to the Environmental Protection Agency will increase the time involved in processing applications for such permits, and thereby impede navigation channel projects.

With respect to the adequacy of the preesnt regulatory setup:

1. At the State level, deposit of dredging spoil requires compliance with the water quality standards which have been established by the State, or where a State has not established such standards, compliance with standards established by the Environmental Protection Agency.

2. At the Federal level, dumping of dredging spoil requires a permit from the Corps of Engineers which, under current Federal statutes and regulations, requires:

(a) Certification that State water quality standards are complied with.

(b) Compliance with the Corps of Engineers "Section 403" criteria regarding environmental and ecological effects as required by:

The Fish and Wildlife Coordination Acts (16 USC 661 and 16 USC 742–A)

The National Environmental Policy Act (P.L. 91–90)

The Water Quality Improvement Act. (P.L. 91–224)

The reason we fear delay in the processing of applications for permits as a result of shifting the permit authority from the Corps of Engineers to the Environmental Protection Agency is that the Corps of Engineers is equipped for the job with personnel experienced in this field and 40 district offices, whereas the Environmental Protection Agency does not have a comparable staff and, as we understand it, envisions only 10 field offices. We believe there is a significant advantage in the more decentralized organization of the Corps of Engineers which brings the application and permit process much closer to the applicant.

Since we are recommending changes in the Bill involving dredging spoil and the Corps of Engineers, we would like to offer some comments on these two subjects.

First, as to dredging spoil. This is not necessarily the ogre that it is frequently considered to be, in spite of the unpleasant connotation of the word "spoil". There is "good" spoil and "bad" spoil. Typical of the former is natural uncontaminated bay or river bottom. Moving in from one location on the bottom to another nearby location on the bottom can hardly be considered as polluting the body of water involved. "Bad" spoil is typified by bottom material which has been subjected to industrial or municipal wastes and become contaminated as a consequence. Such "bad" spoil can be a pollutant and should be disposed of so that it does not degrade water quality. To this end, Maryland is constructing at its own expense a $13 million disposal area to receive and confine such "bad" spoil.

In Maryland we are confronted with the problem of simultaneously advancing our most important economic asset, the port of Baltimore, with its port-oriented heavy industry, and also preserving the environmental and ecological quality of our highly cherished Chesapeake Bay. This has caused us to give a great deal of attention to reconciling the requirements of the two assets, with particular attention to the handling of dredging spoil, and as a consequence we have learned some interesting things:

1. Since 1924 a deep, natural trough in the bottom of the Bay, known as "The Dumping Ground" has received most of the dredging spoil from Baltimore harbor and channels. However, this same "Dumping Ground" is the most popular sport fishing location on the Bay, particularly for striped bass; and on any summer weekend, hundreds of sport fishing boats can be seen there.

2. Last year's oyster harvest from the Chesapeake Bay was the largest on record. The "Dumping Ground" lies near the center of the relatively small area of the Bay which was the most productive.

3. A $268,000 study of an actual case of overboard disposal of dredging spoil conducted by the Natural Resources Institute of the University of Maryland in 1966 concluded that there were no observable detrimental effects from such spoil disposal. (See Exhibit A)

4. In the opinion of knowledgeable people concerned with natural resources conservation, it is recognized that not all dredging spoil is harmful, and that uncontaminated spoil need not be kept out of the Bay. (See Exhibit B)

With respect to the Corps of Engineers. We would like to call attention to the changes in their permit criteria resulting from the passage of the National Environmental Policy Act of 1969 (P.L. 91–190, January 1, 1970), and the Water Quality Improvement Act of 1970 (P.L. 91–224, April 3, 1970), and promulgated by the Secretary of the Army. These are succinctly expressed in Press Release 70–8 of May 15, 1970, by the Baltimore District, Corps of Engineers, concerning evaluation of permit applications, to the effect that,

> ' "The decision . . . will be based . . . on an evaluation of the proposed work on the public interest." "Public interest" is described as including factors such as: "navigation, fish and wildlife, water quality, economics, conservation, aesthetics, recreation, water supply, flood damage prevention, ecosystems and, in general, the needs and welfare of the people." This change clarifies the standard against which permit applications are to be judged and re-emphasizes that the Corps is no longer concerned only with the impact which a proposed project may have on navigation.'

We respectfully request that the Committees give due consideration to the above points in their deliberations on H.R. 4723.

Sincerely,

HENRY T. DOUGLAS,
Chief of Planning,
Maryland Port Authority.

Mr. DINGELL. The Chair notes that we have our good friend and colleague, Mr. Howard W. Robison.

STATEMENT OF HON. HOWARD W. ROBISON, CONGRESSMAN FROM THE STATE OF NEW YORK

Mr. ROBISON. Mr. Chairman, I was privileged to address members of the Merchant Marine and Fisheries Committee last September on the subject of the dumping of military weapons and refuse, and I thank you for allowing me to present this statement today on the same subject.

When I last appeared before you, I was able to invoke recent instances of the disposal of military equipment in the ocean which were not only shortsighted in terms of environmental effect, but also terrifyingly dangerous, as in the cases involving nerve and mustard gases.

Since that time, intense public reaction to these events has abated, and it would be easy to evade the same sense of urgency. Certainly, we must count ourselves fortunate that we are not again meeting in the aftermath of a potential disaster.

My testimony may lack a bit of the dramatic quality it held last September, yet, Mr. Chairman, I hope it has not lost its note of urgency. Neither this committee nor the House of Representatives, for that matter, can afford a leisurely approach to this problem, at the expense of our citizens and our oceanic resources.

We are all aware of the recent efforts by the Secretary of Defense to halt the dumping of obsolete weapons into the oceans. There can be no doubt of his sincerity in this matter. He has taken noteworthy steps to protect our ocean environment from the hazards of indiscriminate dumping, and he rightfully deserves the praise of all citizens.

Yet, at the same time, we must remain aware that it is our duty as members of Congress to provide Americans with legislation which will secure them and our oceanic resources from the dangers of indiscriminate dumping.

Many of us spent a great deal of time last year answering correspondence on this question and making statements on the floor and to this committee. Several of us introduced or cosponsored legislation.

Yet that session has passed. The possibility of new—even fatal—incidents remains, and Congress has no significant statement of policy to show for its efforts.

Mr. Chairman, we have all been shaken out of our lethargy by the death-dealing potentials of past incidents. We know why we need this legislation. The dangers are evident. The magnitude of the problem is evident.

Indeed, many of us have seen the oceans shrink before our eyes. Those seemingly infinite bodies which could once swallow all of the refuse from our society like a small pill are now disgorging this trash

on our beaches and strangling ocean life. These oceans and bays, together with our country's lakes and navigable rivers, are increasingly rejecting animal and human life. We cannot swim, or fish, or sail, or even stand the smell in larger and larger stretches of water.

A reasonable policy for disposal of obsolete military equipment, one regulated by the Environmental Protection Agency, can greatly ease the mind of our citizens. We must not forget that the conditions we now seek to correct are not solely a problem created by the military. Both Congress and the Executive, in their haste to provide new and growing quantities of weapons have also helped to provide a legacy of obsolete equipment which no longer defends but only contaminates when disposed of improperly. We share with the military the responsibility for ending these practices, and we owe it to our citizens to do so as soon as possible.

To these ends, Mr. Chairman, I have introduced a proposal, H.R. 6884, which is now before you. By introducing this legislation, I do not mean to question the advisability or soundness of our weapons acquisition policies. Our defense requirements are not the point of argument.

However, in striving to provide for the security of our Nation, we should not tread insensitively on that which we are attempting to defend. If, in the course of maintaining weapons systems and rendering obsolete arsenals harmless, we contaminate our oceans and render our rivers and lakes lifeless, our defense must be considered our most aggressive enemy.

My proposal attempts to insure that in any plan to acquire military hardware, proper consideration is given to the disposal process. By requiring a disposal scheme for all present and future military weapons, we can insure that the legacy of our Nation's defense is not pollution.

Mr. Chairman, I thank you again for allowing me the opportunity to present my statement to you. I hope that your committee will accept the spirit of my remarks as it considers my proposal and those of my colleagues.

Mr. DINGELL. Our next witness is Dr. Bostwick H. Ketchum, associate director of Woods Hole Oceanographic Institution.

Dr. Ketchum, we are greatly privileged to have you with us, and we thank you for your presence, and your very helpful testimony. We look forward to hearing your words.

STATEMENT OF DR. BOSTWICK H. KETCHUM, ASSOCIATE DIRECTOR OF THE WOODS HOLE OCEANOGRAPHIC INSTITUTION, WOODS HOLE, MASS.

Dr. KETCHUM. Thank you, Mr. Chairman. It is indeed a pleasure for me to have this opportunity to speak to you about this important problem.

My name is Bostwick Ketchum, and I am Senior Scientist and Associate Director of the Woods Hole Oceanographic Institution.

This committee knows our institution well, since I and many of my colleagues have testified previously before this committee.

Mr. DINGELL. It is always in a very helpful fashion, may I say, Doctor. We are certainly privileged to have you with us.

Dr. KETCHUM. Thank you.

I would like to emphasize, in speaking on the three bills that I have had the opportunity to read, some of the scientific problems which must be considered, in evaluating any proposed disposal of waste material at sea.

I am speaking mainly concerning H.R. 4723, which was introduced by Mr. Garmatz, and appears to be more comprehensive than either of the other two bills I have studied, which are, H.R. 2581 and H.R. 3662.

The former bill proposes a separate act, to be cited as the Marine Protection Act of 1971, whereas the latter two propose amendment of the Fish and Wildlife Coordination Act. I am not qualified to express a preference concerning the two proposed mechanisms.

It is a pleasure to endorse heartly the objective of the three bills, each of which would require regulation of the disposal of any waste material at sea. The Administrator of the Environmental Protection Agency would be given the authority to issue permits of the disposal of waste materials at sea or for the transportation of waste which is to be dumped at sea beyond the area of U.S. jurisdiction.

The administrator is instructed to take into consideration the likely impact of the proposed dumping, not only on human health, welfare and amenities, but also on the marine environment and ecological systems.

The Administrator could deny a permit in cases where ecological or environmental damage would be produced. Protection of the marine environment is certainly essential but unfortunately in only a few cases do we have the information which will be needed to make a wise judgment concerning the possible impact of dumping operations.

In my testimony, I would like to emphasize the scientific problems which have to be approached in order to evaluate and decide wisely how how we should operate.

I would like to emphasize that in my opinion, sea disposal of waste materials should be considered an interim or temporary solution to our waste disposal problems.

Mankind has been changing his environment for hundreds of years, but it is only during recent generations that we have been faced with one pollution disaster after another.

In large part, this is due to the rapid growth of the human population, which reached a billion people in 1830, increased to 2 billion people in the next century, and to 3 billion people in the next 30 years.

Each individual in this expanding population is demanding more and more material things. Our average daily per capita production of solid wastes today is now about 5 pounds, and this is expected to increase to about 7½ pounds per capita per day in the next decade.

The problems are greatly magnified by the concentration of people in metropolitan areas where tremendous tonnages of waste materials are continuously produced.

The technology which has satisfied the increasing demands for material things must produce a solution to the question of what to do with them once they are discarded.

More than half of the U.S. population lives close to the seacoast and it appears inevitable that pressures will increase for the use of

the estuaries and coastal waters for the disposal of various kinds of waste materials of our population and our expanding technology.

These waters are of tremendous importance to mankind. There are multiple demands for the use of these waters, and some uses are compatible with others and some exclude others.

Transportation and fishing are classical nonexclusive uses of estuarine and coastal waters.

The need for animal protein which is provided by our marine fisheries steadily increases, as our population expands.

Most fisheries products are harvested from these coastal waters and estuaries and the success of the fisheries depends upon these waters for breeding grounds.

The survival of these fisheries must be assured. Our increasing affluence makes it inevitable that we must also protect the quality of these waters for recreational and esthetic purposes.

Waste disposal is one use of these waters which carries the ever-present threat of degrading the quality and of prohibiting other uses.

Probably any disposal operation at sea would have some impact upon the marine ecological system.

The effects may range from negligible to disastrous. I believe that the disposal of toxic industrial wastes, of chemical and biological warfare materials and of high-level radioactive wastes at sea should be prohibited.

As this committee knows from previous hearings the disposal of sewage sludge and dredging spoils in the New York Bight has had disastrous effects on the bottom populations there.

Dr. Pearce testified before this committee last July that the affected area appears to be expanding with continued dumping. In cases like these, the evidence is already clear that disposal of waste materials at sea can be seriously detrimental.

I urge the committee to consider including specific instructions to the Administrator when the damaging effects of disposal operations are already well known. Some operations should be prohibited; others should be phased out as rapidly as alternative methods of disposal can be developed.

Instructions to the Administrator are included in subsection (4) of H.R. 3662 which was introduced by Mr. Rogers but is not in the administration bill.

Very few disposal operations have been adequately studied. I know of only one case where continuing scientific studies have failed to produce evidence of a detrimental effect of a waste disposal operation at sea.

And this is the National Lead Co. discharge of acid-iron wastes in which I was personally involved in some of the early studies.

We have looked at this operation over the last 20 years and the most recent studies by members of the staff of the Woods Hole Oceanographic Institution, were made last summer, when an effort was made to discover why the so-called "acid-grounds" are now good areas for blue fishing. We were unable to find an explanation for the good fishing, but neither were our scientists able to find any evidence of ecological damage from this operation, even though it has been carried on now for a period of over 20 years.

Some disposal operations may even be beneficial. Ground fish tend to concentrate near natural reefs and artificial reefs have been created in several coastal areas by dumping old car bodies and rubble. The fishing over these artificial reefs is said to be better than that over flat, level bottoms, presumably because the fish congregate on these reefs for protection from their natural enemies.

Municipal solid wastes present a constantly increasing problem. Areas suitable for sanitary landfill are becoming evermore scarce near our major cities. It has been proposed to compress and bale these wastes for disposal at sea.

There are obvious problems to be solved, such as insuring that the density of the bale is greater than that of sea water so that it will sink and that floatable materials will not be released from the bale. These are comparatively easy.

However, there have been no tests of the long-term effects of such a disposal on the marine environment and ecological systems. With our present knowledge on the marine environment and ecological systems, it is impossible to predict with any degree of certainty what the effect of such a disposal operation would be.

Would such disposal act as an artificial reef and improve the environment or would it have detrimental effects. Will materials gradually leach out of the bales and have a delayed effect on the ecology of the area? How fast will the organic materials decompose?

Recent experiments have shown that this process is very slow in the deep sea, and disposal of waste material there may merely preserve it for posterity.

These examples illustrate the fact that the impact of waste disposal at sea can vary widely from severe damage to potential benefits. For many of the waste materials which are being dumped at sea today there have been no scientific studies or monitoring of the environmental effects.

It appears obvious that a great deal of basic ecological research in the marine environment is needed before the Administrator of the Environmental Protection Agency can make wise decisions concerning the acceptability of many proposed waste disposal operations.

It is apparent to those of us who have studied these problems that the ocean has a considerable capacity to assimilate waste materials and to recover from abuse.

Once this capacity is exceeded, however, the quality of the environment may deteriorate rapidly. Some of the effects may be subtle and may develop over a long period of time so that monitoring of the effects of each disposal operation will be essential to observe the impact of the operation and to give advance warning when the capacity of the marine system to recover is being reached.

Several research needs were given in the report to the President prepared by the Council on Environmental Quality entitled "Ocean Dumping—a National Policy," October 1970.

I would be pleased if authorization could be included in this bill for funds to support the needed marine ecological research. Equally important would be funds for research on alternative methods, including recycling and reuse of the materials.

The studies could be carried out by the Environmental Protection Agency, or by grants and contracts to organizations capable of undertaking the research.

I like one provision in H.R. 2581, which was introduced by Mr. Harrington. This provision would force the producer or the dumper of the waste material to bear some of the research costs by requiring that he "must present sufficient evidence to sustain a burden of proof that such materials in the location in which they are to be deposited will not endanger the natural environment and ecology of these waters."

It seems appropriate to me that this information might properly be required by the Administrator of EPA as a part of any application for a permit for waste disposal at sea. Even if this were required of each applicant, the Administrator would need, within his organization, the capability to interpret and evaluate whatever predictions were made.

For several reasons, however, as I mentioned before, I believe that sea disposal of waste materials should be looked upon as an interim and temporary solution.

In part this is because chronic detrimental effects may develop slowly and may not be anticipated. In part this is because our uses of the seabed may expand and change greatly during the next generation.

Most importantly, however, the resources of this planet are limited and mankind cannot continue indefinitely to discard large quantities of our nonrenewable resources.

We must adopt a policy of recycling and reuse of as much of our waste materials as is humanly possible. Only in this way can we be sure that coming generations will have the natural resources that they need and will have an environment of quality so that the amenities of life can be enjoyed.

I thank you very much for the opportunity to appear before you and to make this statement, Mr. Chairman.

Mr. DINGELL. Doctor, it is the committee's privilege that you can be with us. I wish to commend you for a helpful statement. The Chair notes you have appended to your statement biographical information which indicates a most distinguished career.

Dr. KETCHUM. Thank you sir.

Mr. DINGELL. The Chair would like, if you have no objection, by unanimous consent, to insert that at this point in the record.

Dr. KETCHUM. You are welcome to use it, sir.

(Biographical information follows:)

BIOGRAPHICAL INFORMATION, BOSTWICK H. KETCHUM

Dr. Bostwick H. Ketchum is Senior Scientist and Associate Director of the Woods Hole Oceanographic Institution. He was born in Cleveland, Ohio, and received his undergraduate education at St. Stephen's College, Columbia University (A.B. 1934) and did his graduate studies at Harvard University (Ph.D. 1938). He has been awarded honorary Doctorate of Science degrees by Bard College (1964) and by Clarkson College of Technology (1970).

After working for a year as a Research Assistant at Harvard University (1938–39) and teaching at Long Island University (1939–40), he returned to the Woods Hole Oceanographic Institution where he hed held graduate student fellowships during the summers of 1935 to 1937. At the Woods Hole Oceano-

graphic Institution, he has held positions as Associate Marine Biologist (1940–45), Marine Microbiologist (1945–53), Senior Biologist (1953–54), Senior Oceanographer (1954–63), Senior Scientist (1963–). He has been Associate Director since 1962. He has been Lecturer in Biological Oceanography at Harvard University (1960–68) and is at present Associate Member of the Department of Biology. During 1968–69, he was on leave of absence and served as Head of the Section on Ecology and Systematic Biology of the National Science Foundation, Washington, D.C.

He is a Fellow of the American Association for the Advancement of Science and of the New York Academy of Sciences and a member of Phi Beta Kappa, Sigma Xi, Ecological Society of America (Vice President, 1961–62; President, 1965–66), American Society of Limnology and Oceanography (Secretary-Treasurer, 1952–58; Vice President, 1958–59; President, 1959–60), American Institute of Biological Sciences, American Geophysical Union, Marine Technology Society, and of the Corporation of the Marine Biological Laboratory. He is a Trustee of the Bermuda Biological Station, of the Falmouth Hospital, and of the Inter-American Institute of Ecology. He was co-editor of the book "Marine Fouling and Its Prevention" (1952), associate editor of the journal "Limnology and Oceanography" (1966–69) and is co-editor of "Coastal Marine Science" (1971–).

Dr. Ketchum's research interests have included the production of organic material by the marine planktonic algae, the cycling of nutrients in the sea, and the circulation of coastal and estuarine waters. He has long been interested in pollution of the sea and the effects of pollution on marine organisms. He has published over 50 scientific papers on these subjects.

Mr. DINGELL. The Chair recognizes Mr. Griffin.

Mr. GRIFFIN. No questions.

Mr. DINGELL. Mr. LaGarza?

Mr. LAGARZA. This does not relate specifically to the marine aspect of it, Doctor, but a man of your experience I can readily see might shed some light on this for me because it is related in part to this.

I had occasion to visit in Africa last fall. In the center part of the old French Equatorial Africa where there are no disposal problems and no residual pesticide or insecticide problems, the rivers are all polluted nonetheless.

You can't drink the waters, swim in the river. Do you have any explanation environmentalwise or ecologywise why this happens?

Dr. KETCHUM. I am not acquainted with Africa at all, having set foot in it only once at Dakar.

It is true, however, that natural rivers will vary from clear sparkling mountain streams to the rather sluggish rivers that carry tremendous loads of terrestrial sediments and of organic materials which has fallen from the trees and bushes that line the stream and these, as they rot and decay, can be pollutants just as can the things that we are introducing in our human waste.

They are not in the same category as things like DDT and other exotic chemicals that the normal bacteria flora of the world has never been exposed to before and evolution has never produced organisms capable of decompasing some of these materials.

Mr. LAGARZA. Thank you, Doctor.

For this reason I was most happy and I heartily agree with your statement that there should be some funds dedicated to research in order that we might continue the research and probably get to the point where we might know what exactly it is that causes some of the problems and in order to control what we know now we must continue our research.

I most heartily concur with your statement.

Thank you, Mr. Chairman.

Dr. KETCHUM. I thank you. I think it is very important to understand the system that we are working with.

Mr. DINGELL. Thank you, Mr. LaGarza.

Mr. Pelly?

Mr. PELLY. Dr. Ketchum, your testimony is always of great interest to this committee. You have a regular representative down here from Woods Hole, my colleague on my left. He looks after your interest even more than I do.

Dr. KETCHUM. To our pleasure, sir.

Mr. PELLY. There are some questions I would like to ask. One has to do with reference to your statement that additional funding was needed for research. I certainly agree with that.

In the Roger's bill you referred to, H.R. 3662, there is an authorization for $1 million. I don't think the administration has any provision for additional funding as I recall.

Dr. KETCHUM. That is correct.

Mr. PELLY. I take it what you are referring to is that the committee would do well to add a provision such as in the Roger's bill if they amend the administration's bill, the chairman's bill, and bring it out. That is correct?

Dr. KETCHUM. I would be pleased to see that done if it can be done.

Mr. PELLY. On page 8 of your statement you indicated marine studies could be done by EPA. How about the National Science Foundation or NOAA? Wouldn't they be agencies that would provide for additional research work?

Dr. KETCHUM. They certainly would, sir.

I mentioned EPA specifically because it is the Administrator of EPA that the bill provides will have the authority to issue permits.

In order to understand the system he must have within his organization a group of knowledgable people on the subject. I meant the next phase "grants and contracts to organizations capable of undertaking the research" to be comprehensive and to include both private institutions, universities, other government agencies. I did not spell it out in detail but used the word "organization" as being all inclusive.

Mr. PELLY. I do not think that I know of any environmentalist or ecologist that is presently of a high level on the NOAA roster. So I think in asking that question I probably touched on a rather weak spot in the present organization, although they may have added some. I did know of many biologists or good people that they have but not marine scientists.

Dr. KETCHUM. They do have what was the Bureau of Commercial Fisheries, now the National Marine Fisheries Service I believe they are calling it, with several good people in that organization.

Mr. PELLY. I may underrate them because they have never had adequate funding to do the kind of job they should have done.

Dr. KETCHUM. That is true.

Mr. PELLY. Which material should be flatly prohibited and which should be phased out? You might not only answer that question off the top of your head but if you would supply it for the record I think it would be helpful.

Dr. KETCHUM. I listed specifically toxic industrial wastes, biological and chemical warfare materials, and high level radioactive wastes.

Mr. PELLY. In other words, the three that are spelled out in the bill that you referred to as the Roger's bill?

Dr. KETCHUM. Yes. These are the ones that I consider the most hazardous and generally in not tremendous quantities. Some of the nontoxic wastes are in large weights at this time but the toxic wastes are in comparably small quantities.

The things that I noticed that I thought needed phasing out are problems such as the sluge disposal of the city of New York. It is simple to say, let us stop this immediately but this will cover Manhattan Island to a depth of 6 inches in a year and something must be done about it.

So that here I believe that alternative methods must be vigorously pursued and as soon as these are developed, phase out this type of activity which is damaging.

Mr. PELLY. I think the administration has indicated that they do not understand exactly what the proper definition of toxic waste is. Do you have a clear understanding of what it is? Would you be willing to submit it for the record? If they have any doubt I think maybe you could clear it up.

Dr. KETCHUM. The problem is this, there are all grades of toxicities from a few parts per million to much higher concentrations. So that you have a very wide spectrum. In terms of being toxic in the environment, it depends on the concentration that it reaches in the environment. I can see that there are difficulties.

However, there are wastes that I think all scientists agree are toxic, the mercury compounds that are being disposed of in various industrial operations and have had already an impact on the environment, the chromium which results from chrome plating operations, a highly toxic chemical. Silver in the fresh water environment more than the marine because it preciptates a silver chloride in the marine environment, is a toxic chemical and should be removed from the waste before it is introduced into the environment or even into a waste disposal system.

Mr. PELLY. I would assume that if we were to abandon the toxic materials there might be some lesser strength of toxity or whatever the word is which might be permitted, is that correct?

Dr. KETCHUM. That is correct.

Mr. PELLY. On page five of your testimony you indicated that sewage should not be covered in this legislation. What specific reasons do you have for eliminating sewage?

Dr. KETCHUM. I think because it opens a pandora's box, that it extends into every city and town in this Nation. Here I am talking about the sewer effluents.

Mr. PELLY. In other words, that is the effluent that comes from a sewage treatment plant?

Dr. KETCHUM. I would be glad to make a few observations.

Of course in brief testimony one tries to use examples which seem the most pertinent to the question at hand.

In terms of domestic waste, if they do not include toxic industrial wastes they do inevitably include vertilizing elements which can be beneficial if they are not added to natural waters in excess.

Just as one fertilizes his garden to make it grow, one can fertilize the sea with these materials and make it more fertile.

If you add too much fertilizer to your garden you kill everything. This is indeed what we are doing in many of our estuaries, we are just overloading the system so that it is incapable of recovering from the amount that we are putting in.

I think on ecological grounds for example it is possible to compute that the Hudson River estuary is capable of taking care of the sewage from 1.2 million people on an annual basis and at the lowest flow of the Hudson River it is capable of taking care of 400,000 people and we are expecting it to recover from sewage of 12 million people.

The system cannot handle it.

Likewise another example of beneficial uses would be the possibility that a waste heat from power plants, whether they be nuclear reactors or fossil fuel plants, can be utilized. As you well know there are many places along the coast of Maine where the swimming could be improved. It is quite possible that the growth of many of the natural fauna there could be improved and extended throughout the year by lagooning and preserving some of this heated seawater.

It is even possible that you could introduce exotic species into warmed water who could survive that would not be able to survive otherwise.

One can find the possibilities of use of our waste materials. It is this use or recycling of these materials that I think is the only long-term solution to our problems of pollution, whether it be marine, terrestrial, air or any other part of our environment.

Mr. DINGELL. Would the gentleman yield for a question?

Mr. KEITH. Certainly.

Mr. DINGELL. Doctor, you and Mr. Keith are getting into a point that I hoped to be able to discuss with you at a little time later: this problem of nutrients. One of the reasons that great fisheries resources exist in certain parts of the world is that you have these upwellings of nutrient-rich waters. There has been discussion of the creation of synthetic upwellings to pump the cold bottom waters up.

Dr. KETCHUM. Yes. These are problems but these may be introduced well up stream in a river and reach the sea after along transport down the river stream and to try to control these throughout the country adequately in this bill did not seem to me reasonable.

Mr. PELLY. In my own city of Seattle we had a very deep and long lake, Lake Washington, where all the little individual towns and cities sewage treatment plants emptied their effluent into the lake and it became completely polluted.

Then they joined together under one great disposal program and all emptied into the deep waters of the Puget Sound where the tide carried it out and we have no such problem any more.

Dr. KETCHUM. That is correct. I know Dr. Edmondson very well and I think he has done a fine service not only to Seattle but to science and the whole problem of pollution abatement.

Mr. PELLY. That was done before Federal Government aid was received. The people did it on their own and they are the greatest salesmen for any antipollution program you have ever seen because they have seen it with their own eyes.

The water had turned green and suddenly it was restored crystal clear now and there are fish in the lake. It is a great example of what can be done.

Thank you.

Dr. KETCHUM. Very good.

Mr. DINGELL. Thank you, Mr. Pelly.

Doctor, I will recognize our good friend and distinguished member of this body—as Mr. Pelly says we constantly hear about Woods Hole—our good friend from Massachusetts, Mr. Keith.

Dr. KETCHUM. It is a pleasure to see Mr. Keith to.

Mr. KEITH. I can hardly resist smiling at this most recent exchange, because what Puget Sound did, Falmouth didn't do. I suspect that the Doctor would not want to hang Falmouth linen on this line at this time.

Dr. KETCHUM. I don't think it will serve any useful purpose, Mr. Keith.

Mr. KEITH. I was particularly interested in that you are the first one I believe who has talked about some of the positive things that you can do. I asked former Secretary Train yesterday, if his testimony could not be a little bit more positive. It seemed to me to be quite negative. He was constantly talking about the restrictions that we must apply.

He blushed a bit. But what I had in mind is what you mentioned here, the positive utilization of techniques that would make the sea a better place in which to practice aquaculture. Perhaps we could use the sea as a receptacle for old automobiles to create reefs that would provide breeding grounds for fish.

I wonder if you can think of any other techniques that might improve the problem.

Do you have any observations to make in that respect?

It occurs to me that sewage, at an appropriate point in treatment, could conceivably provide the phosphates and nitrates to provide a flow of nutrients in the ocean that would be advantageous for fish.

Am I correct in this impression?

Dr. KETCHUM. I think you are entirely correct. We have one member of our staff, a very distinguished member, Dr. John Ryther, whom I know Mr. Keith knows, who is now on a laboratory scale studying just exactly this possibility of growing phytoplankton on secondary treated sewage, feeding this phytoplankton to oysters, growing the oysters on the plant produced in the seawater and ultimately he will add scavengers in the system so that in essence one can conceive of having the tertiary treatment not only remove these materials but produce the product that would be beneficial to mankind.

Mr. DINGELL. You have answered precisely my point.

It is possible also to utilize this just by releasing the effluent in a certain fashion in certain places and times in the ocean to perhaps create an increase in the plankton growth and the fish life in a given area through this particular device?

Dr. KETCHUM. There are many parts of the ocean which are limited by a lack of nutrients. The problem here is in maintaining the right balance of these elements—they are not balanced just the way you would like them in sewage—and of keeping them at the proper concentration so that you don't get these excessive growths of eutrophication.

Mr. DINGELL. Thank you, Doctor. I thank the gentleman.

Mr. KEITH. I think you have lent a balanced philosophy to this discussion that is badly needed. I think Japan has done a great deal

with aquaculture even as they have with agriculture in the use of human waste.

I hope that it will keep us from overreacting.

Thank you, Mr. Chairman.

Mr. DINGELL. Thank you, Mr. Keith.

Mr. Kyros?

Mr. KYROS. I thank the gentleman.

I was interested in what you said about Maine, of course. Did you mean, for example, that if discharge from one of these nuclear plants was going into Sheepscot Bay near Wiscasset, you could dam that discharge somehow, and utilize it?

Dr. KETCHUM. Yes. As I remember that part of the coast there are long lagoons which you could utilize either for growing lobsters or other forms in the water where they now grow only about 4 months of the year because of the cold water. You might indeed get other things to grow there which are no longer able to grow because of the cold winter.

Mr. KEITH. Will the gentleman yield?

I think you hinted at that before when you said we could warm the waters of Maine so that some of us could swim there.

Dr. KETCHUM. That is one of the advantages.

Mr. KYROS. Doctor, the other day I had occasion to climb Mt. Katahdin on snowshoes. At about the 4,000 foot level I met someone by the name of Charles Hollister. He said he was an oceanographer testing for mercury and nitrates in the snow.

Dr. KETCHUM. Is he? I didn't know what he was doing up there.

Mr. KYROS. We were standing on a sterile pond up there where, I must admit, it was kind of incongruous to see him. He said he was going to make a trip to the Himalayas next year.

Dr. KETCHUM. He is also a famous mountain climber. He has climbed some of the mountains in the Antarctic.

Mr. KYROS. I went last summer to New Meadows, where they are growing oysters. Do you think that could become a profitable business up there?

Dr. KETCHUM. It certainly is in Japan. At present state of our demands for food it is profitable when and only when a high quality product is produced. So that in Japan the profitable aquaculture consist of oysters, shrimp, other delicacies. There are a few parts in the Far East where mullet is grown in aquaculture, and they may consider it a delicacy, I am not sure that I would. Most of the aquaculture that is profitable today is high quality, high priced material.

Mr. KYROS. Thank you very much, Doctor.

Thank you, Mr. Chairman.

Mr. DINGELL. Doctor, the committee is grateful to you.

The Chair is going to recognize a good friend and counsel, Mr. Everett.

Mr. EVERETT. Thank you, Mr. Chairman.

Dr. Ketchum, on two occasions you referred to the expression that the ocean should be an interim or temporary solution to our waste disposal problem.

I was wondering if you had formulated in your mind the time when there should be a complete ban on ocean dumping of these waste materials?

Dr. KETCHUM. I am afraid that I can't give you a time limit on this. There are engineering problems that have to be solved for the reuse of some of these materials. There is the natural lethargy of spending money to get rid of something that you don't really want.

I would find it very difficult to say how quickly this could be done. I think if Congress pushes the country a little it will get done more quickly than if we relax and say maybe it will happen some day.

Mr. EVERETT. Mr. Pelly discussed with you a few moments ago the funding of the legislation and a specific authorization for funding.

The Rogers bill I think indicated a $1 million a year authorization for the purpose of this act for each year in the future.

Do you think $1 million is sufficient to do the job that would be required to implement this legislation? Or should it be larger?

Dr. KETCHUM. I think it will have to be larger in the long run. There are just so many problems in the marine environment that are not now being adequately studied that I think this would be merely a start on the problem.

Mr. DINGELL. Mr. Everett, would you yield at this point?

Doctor, Mr. Everett is touching on a question which has bothered me rather considerably. That is, I assume that a good research program authorized by law has to have certain parameters and directions so as to achieve the desired legislative goal. The requirement in the Rogers bill of which Mr. Pelly and Mr. Keith and I are cosponsors does not include specific boundaries and parameters.

I have been groping for what boundaries and parameters the research program should have.

Would you be able to give us some assistance in laying out and in outlining what should be the boundaries and the directions and the goals of a research program of that sort together with the amount which should be expended to achieve that kind of goal?

Dr. KETCHUM. To do that just quickly here would be a difficult thing because I am sure that if I attempted to do it I would leave out many of the things which would be important.

Mr. DINGELL. Doctor, you mentioned this.

Your guidance on an off-the-cuff basis at this time would be highly desirable and helpful. But your thought and assistance when you have had more opportunity to reflect and come up with a more complete judgment, perhaps after consulting with some of your colleagues up at Woods Hole would be also eminently useful.

In fact, that is really what I am asking for.

Dr. KETCHUM. Very well. May I say that I have prepared a proposal to the National Science Foundation—it is still in a preliminary form—which outlines a very small part of the coastal ecosystem study with orientation toward the understanding of man's impact upon this environment.

I would be glad to send the part of that proposal which describes the proposed research program if this would be helpful.

Mr. DINGELL. It would be immensely helpful. Could you fashion it in legislative terms for guidance which will be necessary for this research program?

Dr. KETCHUM. I will try to do so. I think I might need some assistance in this regard.

Mr. DINGELL. Your reputation satisfies me that you have the competence to do that.

Dr. KETCHUM. To give a concept of the magnitude of the job, as I say this proposal that I have prepared would only do a small part of the overall job. I would include 17 scientists and would have an annual budget, for just one operation and just one small part of the problem, a cost of $500,000 a year.

I think you need for the Nation as a whole a minimum of 10 or 20 of these programs. The sea grants program that this committee is cognizant of has now a budget of something like $15 million a year and much of the work that they are supporting would feed information into this type of evaluation of the coastal zone.

Mr. DINGELL. Thank you, Doctor.

(The information follows:)

WOODS HOLE OCEANOGRAPHIC INSTITUTION,
Woods Hole, Mass., April 16, 1971.

MEMORANDUM

To: The Honorable John D. Dingell.
From: Dr. Bostwick H. Ketchum.
Subject: Ocean Dumping Hearings, April 6, 1971, P. 318, Line 22.

The following information is submitted for the record by Bostwick H. Ketchum. It was requested by Mr. Dingell at the Hearings on Ocean Dumping. It describes a research program proposed for a Center for Environmental Quality at the Woods Hole Oceanographic Institution.

I would like to preface this supplementary material by stating that the research proposed by the Council of Environmental Quality which is quoted below constitutes an excellent brief summary of what needs to be done. The research areas given are directly pertinent to ocean dumping. I hope that this summary will be helpful to the Committee in its efforts to cast an appropriate research program in legislative terms.

The balance of the attached statement is more broadly applicable to all forms of pollution of the coastal zone. The entire program needs to be done, but parts of it, such as disposal of waste heat and sewage, may not be appropriate for legislation concerned with ocean dumping.

BOSTWICK H. KETCHUM.

PROPOSED RESEARCH PROGRAM

In its report entitled "Ocean Dumping, A National Policy," the Council on Environmental Quality listed a number of research needs which are quoted below:

"*Research needs*

In the long term, additional information is required in the implementation of this policy. Serious information deficiencies exist, and research is required in the following major areas:

Broad-based ecological research is needed to understand the pathways of waste materials in marine ecosystems. Such studies should be directed to a better understanding of the food chain from microscopic plants and animals to high predators; how pollutants concentrate in the food chain; the origin and ultimate fate of pollutants in the oceans; and the effects of concentration on the marine environment and eventually man.

Marine research preserves should be established to protect representative marine ecosystems for research and to serve as ecological reference points—baselines by which man-induced changes may be evaluated.

Oceanographic studies of basic physical and chemical procesess should be directed toward gaining a thorough understanding of the marine environment, with special emphasis on estuaries and coastal areas.

Toxic materials should be identified and their lethal, sub-lethal and chronic long-term effects on marine life investigated. Information is needed on the

persistence of toxic substances; how pollutants are degraded chemically and biologically; the effects of radioactivity on the marine environment and man; and the capacity of waters to assimilate waste materials.

More information is needed about public health risks from ocean pollution. Studies should determine what pathogens are transported in marine ecosystems and how. Better methods of measuring public health dangers are also needed.

Research is needed on the recycling of wastes and the development of alternatives to ocean dumping. Technical problems must be solved, but there is also a great need to study the social, institutional, and economic aspects of waste management.

Effective national and international monitoring systems need to be developed. Research is necessary to develop improved methods and technology so that alterations in the marine environment may be detected. But there is also a need for data coordination so that data gathering and analysis efforts are not duplicated."

These research needs emphasize the fact that a coordinated, interdisciplinary approach to the problems of the pollution of our inshore waters is essential. The unique capabilities of the Woods Hole Oceanographic Institution in marine studies can be well employed in addressing some of these critical problems.

The continuing research program of the proposed Woods Hole Oceanographic Center for Environmental Quality should focus upon major problems which are of general applicability to marine pollution problems, rather than on evaluation of local and specific problems of waste disposal in the sea. Studies of local problems would be undertaken when the results of the investigations might be expected to have general applicability. It is hoped, however, that the study of specific cases may be undertaken by other marine stations along the coastline which possess special capabilities for local work with the cooperation of or consultation with will be made with many of these marine stations to discuss with them our general program and to determine whether they would be interested in studying the pertinent details of their particular local environment. For these specific case studies it is anticipated that funds will be available from sources other than NSF. The following discussion defines the type of research program which the Center should undertake actively in a continuing way. Research proposals for several of the subject areas would be prepared for inclusion in a formal proposal.

a. Coastal circulation, mixing and effects on the biota

Fundamental to any evaluation of waste disposal in the coastal waters is an understanding of the circulation and mixing of these waters. It is proposed that the Center for Environmental Quality undertake a general analysis of the circulation and mixing of the coastal waters extending from Cape Cod to Cape Hatteras. About 20% of the population of the United States live along watersheds emptying into this coastal zone, and examples of many pollution problems of general interest can be found in this area.

In addition to describing the circulation and mixing of this specified area of coastal waters, one of the prime objectives of the program would be to develop standards which could be applied in similar investigations elsewhere. It is obviously important that observations be arranged, both in space and time, so that important fluctuations in environmental conditions will not be missed or overlooked. This spacing may be different for different parts of the program and may, indeed, be different for different geographical regions. Criteria for the determination of the proper spacing of observations is a necessary step in the development of adequate environmental monitoring programs both for the description of existing baselines and for the prediction of future effects of modifications.

The principal investigator and several other members of the staff have already conducted a number of investigations in this general area and some specific questions which still require a definitive answer for a better understanding can already be identified. For a complete understanding of the system, the study must include the entire continental shelf from the beach to the slope water offshore since only in this way can the exchanges between the coastal zone and the deep sea be evaluated.

There are several critical areas where direct current measurements are needed in order to reach definitive conclusions about the rates of circulation and exchange. We still do not know the mechanisms for the exchanges between slope water and coastal water, but it seems probable that tidal action in the numerous

submarine canyons along this stretch of the continental shelf may play an important role in the mixing processes. Direct current measurements in the canyons are needed to evaluate this hypothesis.

While the observations necessary for an evaluation of the physical oceanography are being made, water samples will also be collected for chemical analyses. Various heavy metals, pesticides and their residues, petroleum products and detergents analyzed in samples throughout this part of the continental shelf should provide a present-day baseline for evaluation of further changes (see Section c. below).

Biological samples for both plankton and benthos would also be necessary to define the present distribution of the organisms in this marine ecosystem. In some cases, particularly for oil and pesticide residues which accumulate in the lipid pool, an analysis of the organism may be more informative than an analysis of the water. It is known that the biological characteristics of this stretch of the continental shelf are quite variable and it is important to know existing conditions so that future changes can be evaluated. The biological sampling plan of operations would be to select pairs of "standard" stations at various locations along the coast. One station of each pair would be selected as a potential indicator of pollution effects, while the other station would be selected for similar environmental characteristics (type of bottom, water flow, etc.) in an area more remote from pollution. Periodic sampling of these pairs of stations will establish the present-day baselines and detect biotic changes as a result of additional environmental modifications.

In this field program, cooperation of other marine laboratories to evaluate local conditions would be particularly valuable. Each of the major estuaries discharging into this stretch of the Atlantic coastline will require intensive study and evaluation. All of them are definitely polluted at present. Studies of the local distribution and the seaward extension of selected pollutants will give us an indication of how far the effects extend from shore and the pollutants may also act as tracers and help to evaluate the rate of exchanges between the coastal water and the deep sea.

b. Domestic pollution

There are many questions concerning the advisability of adding domestic pollution directly into the sea, and the rate at which this can be done without deleterious effects. Our ongoing program concerning the use of domestic pollution as a possible fertilizer for sea water has already been mentioned. This program may answer some questions, such as the rate of addition of domestic pollution that can be tolerated by the ocean without over fertilization and eutrophication, the advantages of secondary treatment prior to discharge of the domestic pollution, the potential advantages of tertiary treatment in which the fertilizing elements, such as phosphorus and nitrogen, are removed from the pollution, and the survival of various viruses in the sea water with the possible danger of transmittal of disease by discharging sewage at sea. We have some approximations to some of these questions, and it is easy to see, for example, that the estuary of the Hudson River is over fertilized by the pollution discharged by the Metropolitan New York area. It seems clear that secondary treatment alone will not cure the problems of the pollution of the Hudson River estuary but it is uncertain how much more could be achieved by more refined treatment methods.

The sewage slude resulting from secondary treatment plants presents another kind of problem. For forty years, sewage sludge has been dumped at sea off New York and it has had seriously damaging effects on the bottom populations in the dumping area. There is evidence for the accumulation of petrochemicals and of heavy metals in the sludge deposits. The presence of these toxic materials may have inhibited the bacterial breakdown of the organic materials in the sludge. The rate of addition of organic sludges to the coastal zone should not exceed the rate at which these materials can decay so that the marine environment can recover from the addition. Unfortunately, we do not know the rate of decay nor whether this is inhibited by toxic components of the sludge. Precise answers are not yet available as to an acceptable rate of disposal of this type of material.

There are several proposals for the disposal of sewage in the deep water off the edge of the continental shelf, either by a direct pipeline or by barging material out to sea. At first glance this seems to have the advantage that the best fishing areas can be avoided. The deep sea, however, is a very constant environ-

ment and the biota living there have not been exposed to the stresses which are characteristic of the coastal zone environment. It is possible that disposal in the deep sea may have much more drastic effects on this biota than has been observed with the hardier forms living under continual stress. As mentioned above, evidence is accumulating that the rate of decomposition of organic materials under the low temperature and high pressure conditions of the deep sea is much slower than it is at normal pressure even at the same low temperature. Disposal in the deep sea may, therefore, be merely a mechanism for preserving our waste materials for posterity. We certainly need to know a great deal more about the sensitivity of the biota of the deep sea to this type of pollution before millions of dollars are spent on pipelines or barges to contaminate the area.

c. Toxic materials

Toxic materials are becoming common in the coastal zone environment but very few studies have been made concerning the resistance of marine organisms and populations to these toxins. A continuing study is needed to evaluate the toxic effects of heavy metals and of the wide variety of organic compounds. Long-term effects, especially on breeding and behavior of organisms may be particularly important but are almost unknown. These problems are intensified because we are producing new organic compounds at the rate of several hundreds per year and many of these are reaching the environment with unknown consequences.

There is adequate evidence that unsuitable levels of mercury contamination are present in all of our aquatic environments. Lakes, rivers, streams and estuaries have been extensively closed to the harvesting of fish and shellfish because the mercury levels in the flesh exceeds the amounts recommended by the Food and Drug Administration. The Minimata disease in Japan demonstrated clearly that the organic compounds of mercury are particularly hazardous.

Extensive studies have also been made of the distribution of lead in the oceans. As a result of the burning of tetraethyl lead in gasoline, the lead content of the surface water of the world ocean has been increased substantially in recent decades. Less adequate information is available about the many other toxic heavy metals which are produced and discharged in large amounts by our industrial technology.

The organic compounds are particularly troublecome. The effects of DDT on the breeding failure of oceanic bird populations is amply documented. There is also evidence that DDT can effect the rate of photosynthesis of several species of marine phytoplankton. The distribution of DDT and its derivatives in the marine ecosystem is, however, very poorly known so that one cannot even estimate the proportion of the total DDT produced which has reached the ocean reservoir. Even if we knew how much is there, we do not have any evidence concerning its persistence in the marine environment. Even less is known about the distribution of the highly toxic polychlorinated biphenyls, but we now know how to identify and measure these and the evidence so far available indicates that they may be as broadly distributed in the environment as DDT and its derivatives.

d. Petrochemicals

Although oil contains several toxic materials, and could have been discussed with the other toxic organic materials, it deserves a special mention because of the magnitude of sea transport of oil. In an energy-based civilization, transportation of oil by tankers is certain to increase in coming years. Larger and larger tankers are being designed and built and an accident to one of the huge super tankers would have much broader effects than the accidental releases of the past. Although there are laws and international compacts concerning the discharge of oil at sea, they are more frequently ignored than obeyed.

There are many aspects of oil spills which require more intensive investigation. There is considerable need for more intensive studies of containment and recovery of the oil following an accident, an aspect of the problem which might well be considered by our Department of Ocean Engineering in cooperation with some of the engineering groups at M.I.T. From an ecological point of view the use of detergents to disperse the oil merely makes it more available to the marine biota, and some of the detergents which have been used are more toxic than the oil itself. Also efforts at sinking the oil to the bottom merely moves the problem to another location where the toxic effects may have just as drastic and serious results. Intensive studies on all of these problems are needed.

Modern methods of chemical analysis make it possible to "fingerprint" the source of a specific oil spill and thus make it easier to assess the blame for an accidental spill. Chemical studies to improve the fingerprinting potential and biological studies to assess the ecological effects of oil in the marine environment are greatly needed.

e. Solid wastes

One of the very serious problems confronting our civilization is the disposal of solid waste materials. At the same time that our major cities are running out of waste land suitable for land fill operations, our population is using and discarding materials at an accelerating pace. Many proposals are pending for the disposal of this solid waste material at sea, both in the coastal zone and off the edge of the continental shelf. We have very little information about the possible effects of this type of waste disposal on the marine environment.

One of the many problems is the varied character of the waste material to be thrown away. Organic compounds, such as garbage, sewage sludge and paper, will certainly have very different rates of decomposition in the marine environment. Other solid waste materials, such as the non-returnable bottles, and various plastics, may have an indefinite life in sea water. Parts of old cars and other metallic objects may rust away and disappear in time but the rubber tires may be expected to persist almost indefinitely. Mixed household wastes can be compacted and bailed and tossed in the ocean where they are "out-of-sight, out-of-mind."

It seems clear that the only long-term solution to the solid waste problem is the recycling of as much of the material as can be made technologically possible. The Council on Envorenmental Quality in its publication on ocean dumping emphasized the need for recycling and also suggested as an interim alternative to ocean disposal the use of the approximately 2 million acres of unreclaimed surface mine lands which are available in the middle Atlantic States. They again re-emphasize the fact that if the United States population is to continue along its present pathway of development, the recycling of solid waste materials is the only ultimate solution to the problem.

As an interim solution, some types of solid wastes may be dumped at sea without apparent damage to the environment. There are several studies of the potential of developing improved fishing reefs by the dumping of building rubble or old cars on the continental shelf. There is evidence that the fishing over these artificial reefs is better than over a smooth bottom, but it is not yet clear whether the improved fishing represents an accumulation of existing organisms or an actual improvement in the productivity of new organisms.

Numerous questions concerning the impact of dumping of solid material on the ocean floor cannot be adequately answered with our present knowledge and understanding. It seems worthwhile to initiate some studies which might provide the answers which are required.

f. Heated effluents

The effluent cooling water of power plants may be 25° F warmer than the ambient temperature of the area. Because of the large demand for cooling water, particularly in the nuclear plants which are less efficient than the fossil fuel plants, the power industry is increasingly planning to site plants on coastal waters, where large volumes of cooling water are available. This raises a host of problems, ranging from the detrimental effects of the heated effluents to the possibility of beneficial uses of low grade waste heat.

As the water passes through the cooling system of the power plant, there may be direct effects on the biota, the effects of entrainment. The direct effects may not only be the result of the increased temperature of the water but may also include the effect of excessive turbulence on the organisms, the effect of pressure drops within the circulating system and the effects of chlorination when this is used to keep the cooling tubes from becoming fouled by marine organisms. If the amount of water used is a small proportion of the amount of water available because of the circulation, the entrainment effects themselves may also be a small proportion of the effect on biota. Thus, it is important to have a good understanding of the circulation in the neighborhood of the site which may be used for the dilution of the heated effluents.

The general environmental effects will also be very different depending on the location of the plant. In northern waters, the problems are quite different than they would be in sub-tropical regions where the summer temperatures

are near the upper limit which can be tolerated by the biota. In either case, knowledge of the vertical temperature distribution in the sea would be valuable in deciding where to place the intake and the outfall. If the intake could be placed in cold deeper water, it is possible that the effluent would not have a greatly different temperature than the nearby surface waters. By discharging the effluent at some depth rather than at the surface, it might be possible to provide a great deal of mixing as the warmer, less dense water rises to the surface.

In the colder parts of the ocean, it is comparatively easy to conceive of various ways in which the heated effluent could be utilized. Throughout much of the year in the Gulf of Maine, for example, the surface waters are too cold for the optimum growth rate of lobsters, clams and other marine products. It is possible that lagooning the heated effluents could provide a more favorable environment of the growth of these organisms. It is also possible that transplanting organisms which would not be able to survive the rigors of New England winters might produce useful products in such heated lagoons. A cost benefit analysis of such processes might indicate the economic feasibility of the procedure if the detrimental effects of such discharges of the effluent to the environment were taken into account and properly assessed.

Another possible use of heated effluents would be to place them at some depth in the ocean where they would mix with the nutrient rich deep water, rise to the surface and produce an artificial upwelling. As mentioned previously, productivity of the marine ecosystem is frequently limited by nutrient deficiencies. The artificial upwelling would both mix the heated effluent with colder deep water and bring up nutrients from the deeper waters. In each case a careful assessment of the magnitude of the possible effects would have to be made.

Another possible use of heated effluents is to speed up the biological processes in a sewage treatment plant by providing an environment of optimum temperature. Again, the winter effects may be quite different from the effects in the summer so that a careful evaluation would be neded. It is also possible that some industries which spend a great deal of fossil fuel energy in heating materials could make use of this low grade heat if the total system were designed as a unit rather than having each part designed separately.

Various other possible uses of heated effluents in the marine environment could be postulated. The present difficulty is that we are looking at only one aspect of these problems and reasonable solutions cannot be achieved without looking at the problem as a system in which the benefits of the use of the heated effluent are carefully weighed against the possible detrimental effects of its release to the environment.

g. Task Forces for Environmental Crises

The personnel of the Center should also be capable of a quick response to an environmental crisis such as an oil spill or a fish kill. It is very important that these phenomena be looked at quickly if the optimum evaluation is to be achieved. It is not proposed, of course, that this activity be undertaken for distant events but phenomena which occur close to home can frequently give clues as to the general environmental effects of man's activities. The Smithsonian Institution Center for Short-Lived Phenomena provides a good source of information. It would be possible to have the Woods Hole Oceanographic Center notified by phone when an event of interest occurs within reasonable distance of Woods Hole.

a. Monitoring

It is not proposed that the Center undertake any extensive system of monitoring except insofar as the activity would provide suitable baselines for evaluation of future changes in the environment or the biota. Samples could be taken, for example, in specific areas such as the dumping grounds off New York City during the studies of circulation and mixing. If progressive changes are identified during any part of the research program, it is apparent that monitoring for specific rates of change could be of value in the further development of the program.

The techniques of monitoring coastal environments have been given inadequate attention. The Center should accept the responsibility for evaluating and developing such techniques so that monitoring programs would give useful information. Such a study would consider not only what types of measurements should be made, but also evaluate the importance of the frequency and spatial distribution of

the observations. The various main sources of pollution—i.e. rivers, atmosphere and direct discharges at sea—will certainly influence the design of proper monitoring systems for pollution of the coastal zone.

Mr. DINGELL. Mr. Everett?

Mr. EVERETT. Doctor, with respect to identifying areas where the dumping could take place safely, do you have an opinion as to how long it would take EPA to make a study to identify these areas?

Dr. KETCHUM. This is a question of identifying areas where dumping could be safely carried on?

Mr. EVERETT. Yes, sir.

Dr. KETCHUM. With the qualification that this will be different areas for different types of material I think that the characteristics of the Atlantic shelf waters at any rate are already pretty well known.

The geological characteristics of the bottom have been studied over a period of 10 years in a joint program between Woods Hole and the U.S. Geological Survey and they have a vast fund of information on this type of thing.

In the specific case one would probably have to have a minimum of a few months predumping study and then a periodic reevaluation of the site after the dumping had occurred to detect any progressive changes in the course of time.

Mr. DINGELL. Are you referring to essentially a monitoring program?

Dr. KETCHUM. Yes.

Mr. DINGELL. Monitoring and assessment.

Dr. KETCHUM. And assessment of the effects.

Mr. EVERETT. That brings me to another question.

With respect to the monitoring, I also wanted to question you on this. There is no provision in the bill that provides for monitoring. What department or agency do you think should carry out the monitoring if such a provision were put in the bill? Should it be the Coast Guard, NOAA, or should it be EPA?

Dr. KETCHUM. I debated including a statement on monitoring and enforcement and decided that this was not my area of competence. I found myself vacillating between the Coast Guard and NOAA and EPA as to which would be the appropriate agency.

I really could not reach a firm conclusion.

Mr. EVERETT. Those are all the questions I have, Mr. Chairman.

Mr. DINGEH. Dr. Ketchum, you stated at page 4, at the bottom of your statement:

I urge the committee to consider including specific instructions to the Administrator when damaging effects of disposal operations are already known. Some operations should be prohibited, others should be phased out as rapidly as alternative methods of disposal can be developed.

Would you like to give this committee your assistance with regard to those two sentences?

First of all what specific instructions do you believe should be directed toward the administration of EPA. I think that would be of use. I am not asking you to give us your answer now. Perhaps you want to give it to us after more deliberate thought.

Then secondly, you have indicated some operations should be prohibited, others should be phased out as soon as alternative methods of disposal can be developed.

Do you want to address yourself to that question, sir?

Dr. KETCHUM. Yes, sir. I believe we discussed this indirectly before in that I have specifically identified toxic industrial waste, chemical and biological warfare material and high level radioactive waste disposal at sea should be prohibited.

I was asked to define toxic industrial waste and I believe that I sidestepped the question and failed to give a definition which would have any legal continuity, any legal reality at all.

In terms of the phased-out operations I was thinking of the operations which are already known to be damaging such as the disposal of sewage sludge and dredging spoils off New York Harbor and it is happening in other parts of our coastal zone where we know that these are damaging.

We need to have alternate methods of disposing of this material because it is being produced on a continuous basis. These I think should be phased out as rapidly as the alternatives could be developed.

Mr. DINGELL. Earlier you mentioned specific instructions to the Administrator when damaging effects of disposal operations are already well known.

What specific instructions would you have in mind? Again I indicated to you the possibility of your giving some comments on these points after you have had an opportunity to reflect on them.

Dr. KETCHUM. I think I would almost be willing to quote directly from the report of the Council on Environmental Quality which had some rather specific statement that this type of material should be prohibited, other types should be phased out in the course of time.

Mr. DINGELL. Are there any further questions of Dr. Ketchum?

Doctor, the committee is grateful to you. We thank you. You have been most kind and most helpful to the committee. We appreciate your assistance.

Dr. KETCHUM. Thank you for the opportunity of appearing before you, sir.

Mr. DINGELL. Our next witness is Mr. Edward Langlois, of Portland, Maine. Mr. Langlois.

Mr. Langlois, I notice you have an associate with you. If you will identify yourself and your associate for the purpose of the record by name and address, we will be happy to recognize you for your statement.

STATEMENT OF EDWARD LANGLOIS, CHAIRMAN, COMMITTEE ON ENVIRONMENTAL AFFAIRS, THE AMERICAN ASSOCIATION OF PORT AUTHORITIES; ACCOMPANIED BY PAUL AMUNDSEN, WASHINGTON, D.C., EXECUTIVE DIRECTOR OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES

Mr. LANGLOIS. Mr. Chairman, and gentlemen, may I introduce Mr. Paul Amundsen, Washington, D.C., Executive Director of the American Association of Port Authorities.

Mr. DINGELL. You may proceed.

Mr. LANGLOIS. Mr. Chairman, and gentlemen.

My name is Edward Langlois and I am appearing before this committee in my capacity as chairman of the Committee on Environmental

Affairs of the American Association of Port Authorities. I am regularly employed as general manager of the Maine Port Authority whose principal office is at Portland, Maine.

The AAPA is a corporate body whose membership includes all of the public port agencies, boards, commissions or authorities responsible for the planning, development, operation and maintenance of the seaports and seaport facilities along the coasts, bays, rivers and Great Lakes of the United States and its insular possessions. Our U.S. voting members are variously formed as State, city or district bodies responsible to the public for the development of commerce and navigation.

In 1970 the Nation's seaports handled 559 million tons of foreign trade (as versus 417 million in 1969) plus heavy volumes of coastal and insular trade and defense shipments. To help do so efficiently and economically, over 3 billion in non-Federal funds have been invested by local port interests in terminal and cargo handling facilities since the end of World War II.

AAPA interest in H.R. 4723 is based largely on the fact that seaport facilities are totally dependent on Federal and private channel and pierside dredging, which, in turn, would be affected by the new spoils disposal permitting requirement contained in the subject legislation. The port industry unquestionably supports the goal of improving, to appropriate standards, the quality of the water of the Nation's harbors, and would approve of strict regulation of dumping of materials such as garbage, sewage, munitions, chemical and various other deleterious commodities and agents into the waters, navigable or otherwise, of the country. We do wish to question, however, the inclusion of dredged spoil in this category and oppose the transfer of dredged spoil disposal permitting from the Corps of Engineers, U.S. Army, wherein it was reaffirmed as recently as Friday, December 25, 1970, with the President's Executive Order 11574.

The handling and disposition of dredged spoil is an engineering matter and should continue to reside with the Engineers, for the better protection of the Nation's environmental well being. There are two basic considerations: (1) where the material is to be placed and (2) how it is to be handled to placement.

Location of disposal is primarily a planning problem and increasingly a long range planning problem, for the community. Large land areas such as are needed for the receipt of spoil, particularly along harbor waterfronts, are both exceedingly scarce and costly in many of the Nation's older, highly urbanized and heavily populated areas. Some available areas are wetlands which are prohibited for disposal. Some areas are earmarked for recreational or residential use which lend themselves to spoil disposal under carefully managed fill conditions.

In port areas faced with problems such as these, progress toward locating, obtaining and condemning or helping to finance the construction of land containment areas must be measured against very patient long-range standards. Such problems cannot be "ordered" to be solved according to the regulations of a policing-oriented body focused on regulating the outfall of new material and effluents into the waters.

The handling of spoil material from the dredging site to the containment or disposal area, like planning, is an engineering function.

Local conditions and the distance the material is to be transported must be weighed on the basis of economics. This is a thoroughly integrated decision having a strong bearing on the overall cost of the project. We believe this function should remain with the U.S. Army Corps of Engineers as it has historically. The environmental safeguards are built into the corps procedure, including a requirement for local approval, and we see no useful purpose in retaining "dredged spoil" under the definition of "material" in this proposed legislation.

Procedures are adequately and effectively regulated now from the standpoint of the environment and of marine transportation. We further respectfully suggest that this distinguished committee look with great care at the growth of world dependence on merchant shipping, as it views this legislation.

It has been estimated that back in the year 1900, comparing total world population with total tonnage of merchant shipping, there were approximately 200 pounds of shipping for each person. Today that figure has grown to 600 pounds for each individual, reflecting a threefold dependence, and this continues to grow. World population, meanwhile, is growing also. The world fleet could reach a billion gross tons of shipping by the year 2000.

Reflecting the demands of world shipping on our Nation's harbors, total local public investment in marine terminals had reached $861 million by 1941 and adding the previously cited investments post-World War II, amounts to almost $4 billion today.

This nationwide harbor development has been done in partnership with a Federal investment in ports, mainly in the form of deepwater channels, the U.S. Army Corps of Engineers being responsible for the Nation's navigable waterways.

So that we may visualize this partnership, the Federal investment in channels since 1824 totals almost 1.5 billion including maintenance. Comparing this to the historic local public investment in marine terminals means that competing local port authorities have invested more than $2 for every Federal dollar.

The resulting plant, a product of the forces of competition, is considered to be the finest port system in the world. We estimate that our current seaport waterfronts occupy 1,650 miles in the aggregate, or 2 percent of the national shoreline which, measured point to point on a 100-foot unit basis, totals 93,653 miles. This may have to be increased to as much as about 5 percent over the next three decades, to meet the demands of world interchange of goods. This leaves 55 percent of the shoreline as the national playground or for perpetuation of the ecocycle, or for other healthful uses. We suggest to the committee, and the Congress, that the above ratio offers a certain sense of balance and proportion in the area of dredge spoil disposal as in many other areas requiring balanced considerations.

This entire port structure has been developed, of course, with the movement and redeposit of countless tons of dredged spoil. We ought now to take a look at the material itself.

Mud, clay, rock, and sand are reportedly not major, lasting or widespread "pollutants", even under the most severe definition of that flexible word, when stirred up by dredging activities. Only when man has added a coating of his own ingredients do they become carriers of pollutants. For that type of dredged spoil, at issue is one long-standing

practice of dredging harbors, either for maintenance or improvement, and disposing of the silt by hauling it to designated dumping grounds in deep open waters.

This long-standing practice has been challenged, on the grounds that silt from centers of population tends to be highly polluted and that its transfer to open waters would present a new source of pollution. In most cases the actual risk is debatable, since the handling process may very well tend to minimize the pollutants and transfer from one point to another may not really affect the total situation. Nevertheless, the environmental viewpoint has prevailed and the placement of this kind of spoil into designated containment areas has become widespread practice in the last several years. A growing number of approaches have been carefully worked out as between the Corps of Engineers and local authorities on a planned basis. These approaches involve designated containment areas tied in as before stated with area development planning and soils management techniques.

It seems obvious to us who are directly dealing with the problem that contaminated spoil, where it exists, is a result rather than a cause. The approach, therefore, should be, and is, a careful technological cooperation employing Federal and local expertise on an economic base. Current regulatory safeguards and permitting procedures are more than adequate, and we do not approve of the intrusion of yet another permitting agency in the spoil disposal program.

We would hope that such an agency would be directed to concentrate its efforts upon causative effects, such as sewage outfall and industrial effluents. Development of adequate treatment or recycling, in which the Federal Government should play a positive role, would greatly simplify spoil disposal, eventually, in heavily populated areas. Man's overlay would be eliminated, leaving us to deal only with mud, clay, rock and sand.

Mr. Chairman, if I may, I would like to read a short supplement.

SUPPLEMENTARY AAPA STATEMENT

We would like to compliment Chairman Edward Garmatz of the House Committee on Merchant Marine and Fisheries for his very perceptive plea, as these hearings opened, for balanced consideration of all of the factors. We share the Chairman's concern that bills such as H.R. 4723 as now drafted could seriously impede future port development and therefore adversely affect the entire maritime industry and, indeed, the Nation.

We join wholeheartedly in the Chairman's recognition of the corps' role in environmental protection, and, even further, would suggest that the Nation's environmental interests would be better served in retaining spoil disposal permitting authority with the Corps of Engineers. Our statement presented here points to the complexity of spoil disposal as an engineering and planning function requiring careful coordination at Federal and local levels.

The Congress has recognized that complexity as recently as December 31, 1970 in Public Law 91–611, River and Harbor Act of 1970, which states (sec. 123(i) A):

The Chief of Engineers, under the direction of the Secretary of the Army, is hereby authorized to extend to all navigable waters, connecting channels, tribu-

tary streams, other waters of the United States and waters contiguous to the United States, a comprehensive program of research, study, and experimentation relating to dredged spoil. This program shall be carried out in cooperation with other Federal and State agencies, and shall include but not be limited, to investigations on the characteristics of dredged spoil, and alternative methods of its disposal. To the extent that such study shall include the effects of such dredge spoil on water quality, the facilities and personnel of the Environmental Protection Agency shall be utilized.

We greatly appreciate the chairman's call for balance and wish to express our thanks to the chairman and members of the respective subcommittees for this opportunity to present our views.

Mr. DINGELL. Mr. Langlois, the committee is very grateful to you for a very helpful statement.

The Chair recognizes Mr. Kyros. As I understand, he is your representative, a very able one, and we have a great deal of respect for him.

Mr. KYROS. Thank you, Mr. Chairman.

I would like to welcome Mr. Langlois here. I have known him for many years as general manager for the Portland, Maine, authority, and am well aware of what he is trying to do for our city of Portland. Now, in Portland Harbor we dump, I believe, 16 million gallons of raw municipal sewage every day from the out-falls of the city of Portland, and other out-falls. Is that correct?

Mr. LANGLOIS. Mr. Kyros, we dump a great deal, and I don't have the numbers. We are aware of it, and I know the community is and they are taking steps to redirect it.

Mr. KYROS. Of course, we conduct dredging regularly in Portland Harbor, using it, for the moment, as an example of a typical port?

Mr. LANGLOIS. That is correct.

Mr. KYROS. I note from your statement your feelings with regard to contaminated spoils, dredging spoils; where they should be located after they are dredged and how this matter should be left to the Corps of Engineers.

Mr. LANGLOIS. That is correct.

Mr. KYROS. Also, I understand from your statement that you feel that the real problem lies with the contaminated factor, things like sewage. And that if we just started out with the clay, silt, or soil that is on the ocean bottom, we would not have as much trouble relocating this dredged material.

Mr. LANGLOIS. That is correct.

Mr. KYROS. But don't you feel that someone like the Environmental Protection Agency should have some uniform voice or idea as to what the corps is doing? The act as proposed here so provides, that the corps will seek to obtain permits from the Environmental Protection Agency.

Mr. LANGLOIS. We are concerned, Congressman Kyros, with excessive delays at this time in granting permits from the corps for projects that are basic and important to the development of ports throughout the country. We understand it and we accept it. We are concerned however that another agency participating in the lengthy debates of the granting of the permit would tie us up to such an extent that the cost-benefit ratio that has been established could well be jeopardized and the project could then die. And this is very serious.

Mr. KYROS. What about the fact that the EPA would be concerned with other agencies regarding the quality of pollutants that are

dumped into a harbor, and from that vantage point they would have some rational perspectives in dealing with the corps about contaminated dredging material. In other words, would it not be better to have them all operating and cooperating together than to have the Corps of Engineers operating independently of the EPA?

Mr. LANGLOIS. I say no, and I might say, if I may, the case that involved the dredging of Portland Harbor in the middle 1960's from 35 feet to 48 feet which is the basis of our survival as a major port because, without it, we would have lost perhaps the major shipping.

We felt—and certainly no one took issue in 1963, when the permit was granted to dump off the coast of Portland, no one took issue that we were going to spoil the fishing grounds, we are going to contaminate all the areas which were richly blessed with fish. We are satisfied that no one has raised a hand since 1965 when we finished the job to come forward to say that because we deposited spoils off the Portland lightship that it in any way affected the fishing habitat.

So, we are satisfied that in our own backyard the corps acted prudently in behalf of their responsibilities and our own, and we think they can continue to do so.

Mr. KYROS. But your primary concern, as indicated by your statement, is that it would be a time-consuming process, if the corps had to consult and obtain a permit from the EPA.

Mr. LANGLOIS. Time consuming would be one factor. The second would be that for decades the Army corps has accepted this responsibility and we feel have the expertise. If you transfer that to another department, it could well be that these two factors alone could jeopardize our future dredging projects and the disposal of the spoils.

Mr. KYROS. Up and down the coast of Maine, do you know how many areas we have had shut off from shellfish because of pollution?

Mr. LANGLOIS. Right.

Mr. KYROS. Dredged spoils, inevitably from harbors where municipal sewage has been dumped for many years, carriers the effects of this pollution. Would it not be logical and rational to have this agency, the EPA, the agency that uniformly oversees all forms of pollution, at the same time act to expedite the dredging of harbors that might be silted up, that can't be used? Why can't they live together? I can't quite see that.

Mr. LANGLOIS. Perhaps Mr. Amundsen would like to comment a little further on this.

Mr. AMUNDSEN. I think in order to do that logically you would have to bring EPA into the basic considerations of each and every one of these projects, which normally now take nine years to evolve. So that you would have, I think, a duplication of function. When you get into the economics of the project, you have to transport the material and so on, and choosing a disposal site, each one of these problems is different. It all wraps up closely with the local considerations and the corps has within the last year insisted on a local permit as well as its own. So that the system is pretty well stafeguarded now.

I might say with these additional local restrictions it is taking 6 months to a year to get even a simple dredging maintenance permit where we are already experiencing vessel groundings on this basis. So there is a lot to be taken into consideration on this question, sir.

Mr. KYROS. I certainly sympathize with the last point you made, about the need to expedite the dredging. But the facts presented to this committee indicate that dredge spoils account for 60 percent of the waste of all ocean dumping, and that 34 percent of all the dredged spoils are already contaminated.

So, somewhere we have to work a line between the need to get the dredging done, to get the projects started, and the need to assure everyone that the dredge spoils that are located somewhere else will not pollute. I think that is the problem that this committee is going to face.

Thank you very much.

Thank you, Mr. Chairman.

Mr. DINGELL. Thank you.

Mr. Pelly? Thank you.

Mr. PELLY. Thank you, Mr. Chairman.

Mr. Langlois, I have the port of Seattle in my district. I don't have the problems obviously of those ports that have to dredge, to keep their channels open, so that the large ships with greater draft can continue to utilize the ports and port facilities. However, I have been thinking as you have testified and I wonder if you have done any research as to the changes which have taken place in our merchant marine.

In other words, we are going to have a vastly different type of ship now, one that loads and unloads very quickly with containers and moves out, but further than that the new Lash type of ship in which a whole barge is floated downstream or taken from industrial areas where it does not require deep draft, and then loaded entirely onto a ship, one after the other. This might mean that many areas that have had to be channeled in the past will not have to be channeled under this new type of operation. The barge will go in shallow waters and will be floated right up on board the new type of ship.

Mr. LANGLOIS. You have asked if we have put any time and study on it; and my answer is yes, we certainly have. I am sure you have seen the vessels themselves or at least the plans. These vessels are deep-draft vessels. That is, they are down to 35, close to 40 feet. The primary purpose of these vessels is to reduce in-port time and also to bring cargo that was upriver down to the point of loading. So that even the smaller conventional steamers never went up the river for most of the cargo that the Sea Bees and Lash vessels are going to pick up.

So I strongly feel if we are going to protect our ports for these vessels and these vessels are here and I think they are here to stay, in great numbers—then we must make certain that we have existing channels and that another very important issue is that we have the proper maintenance of these channels. That provides for maintenance dredging. Again, when you do maintenance dredging, you have to have your permit. In some of our port areas vessels are grounded because of silting, and therefore the dredging must be accomplished in order to continue the traffic. With the Lash and the Sea Bee ships, they are drawing more water than the steamers you and I knew about in World War II.

Mr. PELLY. Yes; but there will be fewer ships coming into Portland with the Lash type of vessel, because they are moving faster and

they will, as I see it, dock in the channel, the deep channel, and then the barges will be brought. So it will reduce the number of channels that have to be built because now the ships have to go right into the industrial areas to load and unload, and it is going to simplify the operation. I would think it would mean less in the way of dredging and change the entire port operation.

Mr. LANGLOIS. Without a doubt, there will be changes. I see because of the Lash and the Sea Bee, however, an increase in the movement of cargoes into overseas markets because it opens up new areas for the exporter and importer.

Mr. PELLY. Fewer ships?

Mr. LANGLOIS. Fewer in number of ships, but not fewer in number of sailings. I think the cargo is going to increase enough so that the larger vessel is going to operate even more today than it has in the past. But I do agree with you regarding the fact that perhaps they could go into a channel if that channel is self-protected enough so that this intricate movement can take place.

Mr. PELLY. Isn't it true that many ports today never were intended by the Almighty to be ports? They channel rivers. So that those of us who were blessed with deep water lost our advantage, and the big ships have been going upriver. In the future that operation would seem to me to be one in which the barges come down the river and meet the ship in deeper water, at the mouth. But I am glad you have studied it, and I want to say that I am glad to see you recognize that we are going to have more trade.

Thank God, in my community there is more cargo going over our dock than ever before. It is the only bright spot we have, but I hope it will continue, and under the new *Lash* type ship and the President's new maritime program, I would think that our trade will expand, as you say.

Thank you.

Mr. DINGELL. Thank you, Mr. Pelly.

Mr. Griffin?

Mr. GRIFFIN. No questions.

Mr. DINGELL. Gentlemen, I am curious as to the precise thrust of your statement. I would like your assistance, if you please. You are, I assume, taking the position that you don't want to have two permits to meet in connection with dredging and fill operations; is that correct?

Mr. LANGLOIS. That is correct.

Mr. DINGELL. Are you taking the position that the ocean dumping will be entirely within the purview, as I understand the bill, of the Environmental Protection Administration, the dredging would remain under the Corps of Engineers? Is that your complaint, gentlemen?

Mr. LANGLOIS. We understand from the bill that the permitting to dump the spoils into the ocean would be granted by the EPA.

Mr. DINGELL. That is correct.

Mr. LANGLOIS. We think it should remain with the Army Corps of Engineers.

Mr. DINGELL. I am curious to have you explain to me how you would be differently treated by the Environmental Protection Agency than you have been treated by the Corps of Engineers. You have

had an increasing conspicuous pattern of rules and regulations with regard to ocean dumping and with regard to dumping in the Great Lakes under the administration of the Corps. I have been reading the bills before us as you gentlemen were testifying to try to see how you would be differently treated by EPA on ocean dumping than you have been treated by the Corps under existing Executive order under the various other statutes relevant to ocean dumping. Fish and Wildlife Coordination Act, and other matters.

Now can you address yourselves to that? This poses a difficult question to the committee.

Mr. LANGLOIS. Mr. Chairman, as we stated, we feel that the Corps' experience in granting permits in the past—they have the expertise, they are engineers, they are involved in the planning. As it is an engineering function to dredge, as it is to dump, that here lies the expertise. This is used and is available.

Mr. DINGELL. Let me simplify this. Are you telling us that you want this regarded simply as an engineering problem and not as an environmental problem?

Mr. LANGLOIS. Not at all.

Mr. DINGELL. Is it your position that you want us to ignore, or the agencies granting these permits for dumping to totally ignore the environmental questions involved?

Mr. LANGLOIS. Not in any way. I wanted to add that we understand and attempt to assist the Corps in its role today, which is more prominent now than it has been in the past regarding the environment. The granting of permits in the past, as I mentioned, in Portland Harbor in 1963 was a routine matter. It did not even have a public hearing. We have appeared at public hearings before the Corps and we certainly apprepriate and understand. As we mentioned, we are ecology minded at the ports, we have a program in great scope regarding all phases of pollutants: oil spillage, debris, deterioration, disposal of spoils. So we understand and we appreciate. We are only putting forth our thoughts that we have a responsibility to commerce and industry and we must maintain these channels in order that the bridge between our industry and world industry does not break down.

Mr. DINGELL. Let me make you a very simple and very clear statement. I can understand your apprehension. By this legislation, we are not going to hold up the ocean dumping or other dumpings entirely. We are not, by this legislation before us, going to halt, let us say, dredging and filling in the harbors. It is not our intention to do that. It is the intention I think, and the intention of the administration, to handle it in careful fashion and in an environmentally sound fashion that would consider fish, wildlife, and other things. That, very strongly, is the intention of the Chair.

Now I must tell you that it is my opinion that the administration will not settle for less than something of the order of the bill before us. But I would be interested, as one of the two subcommittee chairmen considering this matter, in having specific amendments and suggestions from you folk as to precisely what you want.

Now I could tell you, just sitting here, that it is my personal judgment that EPA is going to issue the ocean-dumping permits. I will tell you, speaking here as a subcommittee chairman, that I have much doubt that you will be radically differently treated by EPA than you would by the Corps. I must tell you that I have observed the Corps

in recent years and I am well satisfied that they have been behaving both from an engineering standpoint and from the standpoint of preservation and care of the environment. They have been doing some mighty good things.

I have a feeling you will not find yourselves afflicted with radically different situations if EPA does it than you will if the corps does it. I will be glad to have your suggestions, but I also would like to have your suggestions raised in the cold light of reality.

Mr. LANGLOIS. I might comment and tell you that I share your remarks regarding the corps' performance to this country and to our ports and keeping in mind its responsibility as far as ecology is concerned and dredging is concerned. We understand it and we appreciate it, and we work with them very closely.

Mr. DINGELL. I am satisfied that you want them to behave in a responsible fashion so far as environment is concerned, and I know you will not do anything clearly outrageous or anything of that sort. If you will give us your suggestions as to amendments to the administration's bill, we will be happy to consider them very sympathetically.

Mr. LANGLOIS. Thank you.

(The following letter was received in reference to the above:)

THE AMERICAN ASSOCIATION OF PORT AUTHORITIES,
Washington, D.C., April 8, 1971.

Chairman JOHN D. DINGELL,
Subcommittee on Fisheries and Wildlife Conservation, House Committee on Merchant Marine and Fisheries, U.S. House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Thank you for the courtesies afforded in hearing the statement of The American Association of Port Authorities on April 6th. Supplementary to our testimony, the following would apply:

You asked if the ports would not fare just as well under EPA as they now do under the Corps, in the disposition of dredge spoil, in view of the recent stringent environmental activity of the Corps. We would note that the Corps has both a navigational and an environmental approach. We suggest that the alternative to planned permitting under the Corps could often be the navigational emergency, resulting in turn in emergency permitting and chaotic disposal.

In connection with specific amendatory language, we appreciate your offer that we send our suggestions, which are as follows:

(1) Strike the words "dredge spoil" from line 20, page 2.

(2) Exclude the civil functions of the Corps of Engineers from this act, specifically those functions involving the Corps responsibility for the navigable waters. This exclusion should replace the language of Section (d) which begins on page 12, line 3.

We would re-emphasize in this connection that ocean dumping of dredge spoil is not a national problem. Rather it is a series of specific localized problems the complexities of which have been alluded to in our statement and which are more than adequately dealt with by the sections of the Rivers and Harbors Act of 1970 previously cited.

We would like to see this material in its various forms much more definitely characterized, as the result of the Corps study authorized in that Act, before any further national legislation affecting spoil disposition is considered by the Congress.

Respectfully submitted.

EDWARD LANGLOIS,
Chairman, Committee on Environmental Affairs.

SUPPLEMENTARY STATEMENT OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES

We would like to compliment Chairman Edward Garmatz of the House Committee on Merchant Marine and Fisheries for his very perceptive plea, as these hearings opened, for balanced consideration of all of the factors. We share the Chairman's concern that bills such as H.R. 4723 as now drafted could seriously

impede future port development and therefore adversely affect the entire maritime industry and, indeed, the nation.

We join wholeheartedly in the Chairman's recognition of the Corps role in environmental protection, and, even further, would suggest that the nation's environmental interests would be better served in retaining spoil disposal permitting authority with the Corps of Engineers. Our statement presented here points to the complexity of spoil disposal as an engineering and planning function requiring careful coordination at Federal and local levels.

The Congress has recognized that complexity as recently as December 31, 1970 in Public Law 91–611, River and Harbor Act of 1970, which states (Sec. 123(i)):

"The Chief of Engineers, under the direction of the Secretary of the Army, is hereby authorized to extend to all navigable waters, connecting channels, tributary streams, other waters of the United States and waters contiguous to the United States, a comprehensive program of research, study, and experimentation relating to dredged spoil. This program shall be carried out in cooperation with other Federal and State agencies, and shall include, but not be limited to investigations on the characteristics of dredged spoil, and alternative methods of its disposal. To the extent that such study shall include the effects of such dredge spoil on water quality, the facilities and personnel of the Environmental Protection Agency shall be utilized."

We greatly appreciate the Chairman's call for balance and wish to express our thanks to the Chairman and members of the respective Subcommittees for this opportunity to present our views.

Mr. DINGELL. Gentlemen, if there are no further questions, thank you very much for your presence and your very helpful testimony. The Chair notes that we have a vote on the floor. Probably if the members leave to go to vote, we will be back here within a matter of 20 minutes, at which time our next witnesses are Mr. James M. Beggs, Under Secretary of the Department of Transportation, accompanied by an old friend of this committee, Rear Adm. Robert Hammond, Chief, Office of Operations, Coast Guard.

Mr. Secretary, are those conditions unduly onerous?

Mr. BEGGS. No, sir.

Mr. DINGELL. Is that all right?

Mr. BEGGS. Yes, sir; that will be fine.

Mr. DINGELL. We will be back, then, within just a matter of minutes. After that we will hear another old friend of this committee, Mr. James J. Reynolds, assistant secretary of the American Institute of Merchant Shipping.

If there is no further business to come before this committee at this particular time, the subcommittee will stand in recess.

(Recess.)

Mr. DINGELL. The subcommittee will come to order. This is continuation of the hearings on ocean dumping and legislation relating to that matter.

Our next witness is Hon. James M. Beggs, Under Secretary of the Department of Transportation, accompanied by Rear Adm. Robert Hammond, Chief, Office of Operations, Coast Guard.

You are most welcome, gentlemen. You may give whatever statement you wish to give.

STATEMENT OF HON. JAMES M. BEGGS, UNDER SECRETARY, DEPARTMENT OF TRANSPORTATION; ACCOMPANIED BY REAR ADM. ROBERT HAMMOND, CHIEF, OFFICE OF OPERATIONS, COAST GUARD

Mr. BEGGS. Thank you, Mr. Chairman, and members of the committee.

I appreciate the opportunity to testify today on H.R. 4723 and a number of other bills, all directed at the serious problem of the contamination of our oceans. To my right is Rear Adm. Robert E. Hammond, Chief of the Office of Operations of the Coast Guard.

Secretary Volpe has said often that at the Department of Transportation environmental quality is a goal, not a constraint. I am pleased to be here today to explore with the subcommittee how the Department, through the Coast Guard, can play a positive and effective role in regulating ocean dumping.

I graduated from the Naval Academy in 1947. At that time, no one questioned the capacity of the oceans to absorb our waste. We now realize, however, the peril of ocean dumping on a major scale. We now understand that we cannot continue to poison our oceans merely because they seem large enough to dilute the poison.

Administrator Ruckelshaus of the Environmental Protection Administration and Chairman Train of the Council on Environmental Quality will testify during this hearing. Both of those gentlemen will address themselves to the environmental concerns involved. I need not reiterate their statement of the problem or their commitment to solving it. I would like, however, to assure this subcommittee that my Department, through the Coast Guard, stands ready to cooperate immediately with the Environmental Protection Agency to carry out those portions of the program which they choose to delegate to us. I can assure the subcommittee that the Coast Guard can, today, fulfill the responsibilities for enforcement under section 8(c) of the proposed legislation.

In this regard, let me review for you the capabilities of the Coast Guard in this area. I have attached to my statement, as appendix A, a more thorough analysis of what is available in the way of support personnel, materials, and technical expertise.

The Coast Guard is already active in the area of ocean dumping as an adjunct to its marine environmental protection program. On a day-to-day basis, they actively seek information on planned dumping and record the location, identity of materials, and persons involved in all observed ocean dumping activities. This information is routinely furnished to interested agencies such as the Council on Environmental Quality and the Environmental Protection Agency. They also monitor many dumping operations upon request.

Effective regulation of ocean waste disposal requires three elements: a permit issuing authority, an available surveillance and enforcement capability, and effective monitoring activity. Based on the Coast Guard's considerable past experience in the field of maritime law enforcement, we believe that the agency vested with the responsibility for enforcement should have some involvement at each stage of the regulation scheme, particularly the issuance of permits. It is self-evident that effective surveillance and enforcement calls for knowledge of any permits issued and the terms of those permits. H.R. 4723 makes provision for this in section 8(b), and we have already begun to discuss with the Environmental Protection Agency how we can be most useful to them and to the program.

The Coast Guard engages in a variety of mission areas which would support the role of the Environmental Protection Agency in the reg-

ulation of ocean dumping. They have long been established as the Federal maritime law enforcement agency. Their officers and men are trained and experienced in matters of law enforcement just as they are trained and experienced in seamanship. The Coast Guard provides the bulk of the Federal force for enforcement of the Refuse Act and the various other oil pollution laws. They also have a long history of involvement with the marine community in such areas as the handling of dangerous cargo and the issuance of permits for various regulated marine activities. In addition, they have the facilities to carry out these functions, and with little augmentation, can utilize these same facilities to undertake a program of ocean dumping regulation.

Appendix A outlines in detail the Coast Guard units available for ocean dumping regulatory activity. I would only say here that they cover the east, west and gulf coasts of the continental United States, as well as Hawaii, Alaska, the Virgin Islands and Puerto Rico, and, of course, the Great Lakes.

The Coast Guard can aid the Environmental Protection Agency in the issuance of permits, and I have listed in appendix A the locations of the already-established Coast Guard captains of the port and marine inspection offices. I wish to emphasize that these offices are well known to all members of the marine industry and are presently involved in many tasks closely related to ocean waste disposal regulation. Captains of the port are responsible for the inspection of port structures housing hazardous materials and for the supervision of explosives loading. Marine inspectors are responsible for the inspection and certification of merchant vessels. These two types of facilities represent, if the Environmental Protection Agency choose to utilize them, an already available administrative force.

In addition, our experience and the data we have collected, in the regulation of hazardous material transport, would be readily available to assist the Environmental Protection Agency in making the necessary determinations as to whether or not particular substance should be disposed of at sea. The Coast Guard also collects oceanographic data in support of other missions which, while presently limited in scope, could be utilized in baseline determination.

Captains of the port and port safety officers have small boats, ranging from 31 to 44 feet, at their disposal for a variety of tasks including the supervision of loading of material to be dumped at sea and other calm water surveillance and monitoring. Eighty-two and 95-foot patrol boats are also available for the same tasks. Medium and high endurance cutters can be utilized too, and these vessels are capable of long-range operations of extended duration. Finally, Coast Guard helicopters and fixed wing aircraft can respond in less than 1 hour for surveillance and other duties.

If requested, we could also aid the Environmental Protection Agency in oceanographic monitoring of dump sites and adjacent waters. The Coast Guard has, for several years, been a major participant in the U.S. oceanography program. This participation takes the form of daily observations from lightships and offshore light stations as well as from a variety of ships. Seasonal oceanographic cruises are also carried out in specially equipped vessels. In addition, the Coast Guard Office of Research and Development and the Office

of Engineering are developing monitoring technology and instrumentation to support our present operational programs. Of particular importance will be the development of sensors specifically for pollution control purposes. Finally, our oceanographic unit and our marine scientists are skilled and experienced in the evaluation of environmental data as a result of our efforts in oceanography survey work including the international ice patrol.

In short, the Department of Transportation stands ready and able to aid the Environmental Protection Agency in any way they desire.

This concludes my prepared statement, gentlemen. I would now be willing to answer any questions you might have.

Mr. DINGELL. Mr. Secretary, the chairman wants to thank you for your presence and for your patience and for a very helpful statement.

The Chair is going to recognize at this time Mr. Everett, the counsel for the committee.

Mr. EVERETT. Thank you, Mr. Chairman.

Mr. Secretary, on page 23 of the bill, subsection (c), it reads as follows: "The Secretary of the Department in which the Coast Guard is operating shall conduct surveillance and other appropriate enforcement activity to prevent unlawful transportation of material for dumping or dumping."

Does this give you sufficient authority, in your opinion, to also enforce deviations from any permit that may be issued, such as dumping in a no-dumping area or dumping in violation of the permit or dumping closer inshore than the permit would allow?

Mr. BEGGS. I believe that section, in conjunction with the already existing statutory authority of the Coast Guard for enforcement, would be sufficient. In 14 U.S. Code 89, Coast Guard is given authority to "make inquiries, examinations and inspections and searches, seizures and arrests upon the high seas and waters over which the United States has jurisdiction for the prevention and detection of suppression of violation of laws of the United States." This would provide satisfactory authority for surveillance, yes.

Mr. EVERETT. Would you not think it would be advisable to make a reference in subsection (c) to that particular law that would be utilized for purposes of enforcing the Act and deviations?

Mr. BEGGS. Yes, I think that would be appropriate.

Mr. EVERETT. Another matter that gives me concern is how are you going to keep abreast of the permits that are issued in order to carry out your responsibilities with respect to the present language of the bill? How do you know when a permit has been issued or is there any requirement that the permit be displayed on the vessel at all times so that when you board a vessel it will be readily available for investigation?

Mr. BEGGS. I do think that there will have to be a procedure worked out with the Environmental Protection Agency so the Coast Guard is informed by copy of each permit or by appropriate notification of what has been involved in the issuance of the permit. We have talked already with EPA about procedures of this type. These have been preliminary discussions, but I believe that a satisfactory procedure can be worked out with them so that the Coast Guard is kept informed at all times.

Mr. DINGELL. Would it be helpful to you if you have specific directions in the statute from EPA to inform the Coast Guard?

Mr. BEGGS. Again, I think that would be appropriate.

Mr. DINGELL. That would make your job of enforcement rather easier?

Mr. BEGGS. Yes, it would. Although, again, I think that the motivation here will be in the direction of both parties keeping each other informed.

Mr. DINGELL. Do you want something said about having the permit displayed at some appropriate place on the vessel carrying cargo?

Mr. BEGGS. Perhaps I should have Admiral Hammond comment on that, since he is more familiar with the operational details.

Admiral HAMMOND. Mr. Chairman, I think it would be difficult to have a permit displayed on a vessel so that it could be seen and identified closely enough to be of real value.

Mr. DINGELL. I am not thinking of your standing off a thousand yards and reading the permit on the bridge, but I am thinking it should be readily available for inspection.

Admiral HAMMOND. It should be available so that the barge and tug operators could show it to the Coast Guard or other law enforcement agency upon demand.

Mr. DINGELL. Does the bill, in your opinion, definitely require amendments to afford that direction to permit holders?

Admiral HAMMOND. I would say that this again would be something that we could certainly work out very easily with EPA. It would be included in their regulations implementing the legislation.

Mr. DINGELL. Would you take a look at this particular matter that we are discussing at this time and when you return give us your views as to whether or not you need statutory authority with regard to the display of permits, et cetera?

Mr. BEGGS. Yes, sir; we certainly will.

(The information follows:)

The display of the permit can be required by regulation, and we do not recommend that a statutory requirement for its display be included in the Bill.

Mr. EVERETT. Mr. Secretary, I notice that you mentioned monitoring several times in your statement. Do you find anything in the bill that would require a monitoring program to be carried out?

Mr. BEGGS. No, not specifically. However, to accomplish the intent of the bill would require monitoring and the establishment of baseline data on the dumping grounds and the waters in general. The Coast Guard is doing a certain amount of this already. In pursuit of the responsibility they would have under this bill for surveillance they will have to develop, or assist in developing, probably with NOAA and EPA, a satisfactory baseline and continuous monitoring activity to note any adverse changes that were developing.

Mr. EVERETT. I get the impression from reading your statement that the Coast Guard is ready and willing and would be delighted to accept this responsibility. I was wondering if you were in a position to suggest an amendment to this effect that we put the monitoring responsibility on the Coast Guard.

Mr. BEGGS. I would suggest that this requires some discussion with NOAA, which has a broad responsibility in this area of developing

baseline data on contiguous waters. The division of responsibility between NOAA and the Coast Guard, I think, is something that will have to be carefully worked out. I do not think that we are prepared to offer an amendment at this time which would delegate this responsibility to the Coast Guard.

There is a developing relationship, I should say, between the Coast Guard and NOAA as to what assistance NOAA requires from the Coast Guard. Clearly, the NOAA organization will have to rely to a large extent on the data gathering facilities of the Coast Guard, both data gathering in the harbor areas and in the contiguous waters. So, here again I think we would have to consult with NOAA to find out what an appropriate division of responsibilities would be there.

Mr. EVERETT. Under section 8(b) of the bill, pages 12 and 13, the administrator has the authirty to delegate responsibility to other Federal agencies. I note you refer in your statement to the issuance of permits. Is there any contemplation that EPA will transfer this responsibility or delegate this responsibility to the Coast Guard?

Mr. BEGGS. No. As a matter of fact, I think EPA has in mind developing the capability to issue the permits directly themselves. What I had reference to was the existing organization and facilities of the Coast Guard and the captiains of the port, the marine inspection offices, and so forth, which are in place and are available to EPA to assist them in judging the background and details of any request for a permit. I am sure that EPA will take advantage of that.

Mr. EVERETT. Those are all the questions I have.

Mr. DINGELL. Mr. Pelly?

Mr. PELLY. I want to apologize to you both for being unavoidably detained.

I have had a chance, Mr. Secretary, to look through your statement. I am curious as to what is involved in monitoring. Have you the present equipment to take on such a responsibilitiy?

Mr. BEGGS. To a large extent; yes, sir. Although we will need some augmentation, I am sure, as the program develops. But in the Coast Guard's program of gathering oceanographic data in pursuit of their normal mission, they can indeed gather data that will be needed to establish the baseline as well as continue to gather further data as the dumping grounds are observed from time to time, after each dump.

So I think that the facilities and capabilities exist now, although I would expect that as time goes on there will be need of some augmentation, depending on how large a program we get into. I suspect it will eventually get quite large.

Mr. PELLY. You have quite a worldwide responsibility. I must say that I would hope that you would get additional up-to-date equipment. I think the authorization bill here moves in that direction. But you can't monitor from the air, can you?

Mr. BEGGS. Only to a modest extent. My understanding of the technology is that there is some capability, although modest, to do a certain amount of monitoring from the air. But very basically the information you need has to be taken through sampling and soundings by ships.

Mr. PELLY. I would be hopeful that this monitoring responsibility would not interfere with your duty to patrol our waters, because we

have had ever increasing encroachment by foreign vessels. They have damaged our crab pots recently. They have intruded into our waters which are an exclusive fishing zone where they are not permitted, and I think you need more equipment for that responsibility. That is why I asked the question.

Mr. BEGGS. Yes, sir, we are very conscious of our responsibility in this area. As you pointed out, we are getting an increasing frequency of foreign vessels intruding and violating our fishing laws.

Mr. PELLY. Meanwhile, we loan our vessels, including the Coast Guard's, to Latin American countries and they use them to patrol international waters and to seize our fishing fleet. So, if we could get some of those back maybe we could use them to protect the fishing zone and the contiguous zone and so forth without really requiring modern, new equipment.

Mr. BEGGS. In answer to your previous question, it is this administration's intent, as this program proceeds, to request additional facilities and equipment from the Congress as the need develops. We think we have adequate equipment to start the program and to get some feel for what additional equipment will be necessary.

Mr. PELLY. I would like one particular vessel that would be assigned off the coast of Latin America to cruise and add some sense of security to our fishing fleet down there, although I am not advocating that we go to war.

Thank you, Mr. Chairman.

Mr. DINGELL. Thank you, Mr. Pelly.

Gentlemen, I will recognize Captain Heyward, who is the Oceanographic Subcommittee counsel.

Mr. HEYWARD. Mr. Beggs, this is my maiden attempt on the subcommittee staff to ask you a few questions.

In connection with the discussion on surveillance and enforcement activity, would you care to comment as to whether or not there should be a provision in the bill which might authorize the Secretary to schedule the permitted dumping so that you might be able to have a better grasp of the timing of the dumping and therefore utilize the facilities in a more reasonable fashion?

Mr. BEGGS. My current feeling on this is that scheduling is not necessary. I might ask Admiral Hammond to comment on this further, but I feel we are in a position to adequately handle the situation without scheduling. If it becomes necessary, I think we would be back up here asking for that authority.

Mr. HEYWARD. I have another question in connection with section 5(c) in connection with permits. This question might be better addressed to the Administrator of EPA. I wonder whether you would have any comment on whether the word "may" in subsection (c) under (2) should be "shall". I am addressing myself to the question of what these permits would show that you are expected to enforce when you go aboard a ship to determine what they are doing. Shouldn't the legislation perhaps require each permit to contain certain information which would give you the knowledge upon which you could respond?

Mr. BEGGS. Perhaps I should ask my counsel to tell me what the implication of that might be in terms of the Administrator's responsibilities.

Mr. DINGELL. Excuse me, Mr. Secretary. Counsel is perfectly welcome to sit at the table.

Mr. BEGGS. This is Frederic Schwartz, from my General Counsel's Office.

Mr. HEYWARD. In connection with section 8 and the assessment of the penalties, do you have any reaction as to whether or not the process of violation of permits should in some way authorize you to act rather than to enforce this through the Administrator in connection with violation of permits which you discover?

Mr. BEGGS. I believe, in light of our general statutory authority, we would have the power to enforce the act.

Mr. DINGELL. Captain, if you will yield just briefly, for purposes of laying out the legislative history on this matter.

Then what you are saying is that this bill would not affect your existing statutory authority in these areas, and that you have statutory authority in these areas to handle violations, for example, of the kind you meet in improper dumping or illegal dumping or dumping in violation of the administration's statute now before us?

Mr. BEGGS. Yes, sir; that is my understanding as well. While the assignment of the actual penalty under this act does lie with the Administrator of EPA, there are general enforcement powers in the Coast Guard under the existing statute.

Mr. DINGELL. Would you have authority sufficient to assess civil penalties or criminal penalties under your existing authority?

Mr. BEGGS. No, I think again that would have to go to the Administrator.

Mr. DINGELL. I would appreciate if you would review those and give us more deliberate thoughts, after you have had an opportunity to reflect on it more fully.

Mr. BEGGS. Yes, sir.

(The information follows:)

Section 6 of H.R. 4723 provides for both civil and criminal penalties. These penalties would be assessed by the Administrator of the Environmental Protection Agency, unless he chose to delegate all or part of that function.

Mr. HEYWARD. I have one question which I think is important, Mr. Chairman. That is in connection with the facilities for this surveillance and enforcement that Mr. Pelly alluded to.

I recognize that you may be able to do some part of the job in connection with other missions, provided you can schedule the dumps so that they can be surveyed. But I wonder whether or not you are not really saying that you are going to take on another job without additional resources.

Could you furnish the committee some idea, depending on the number of permits involved, the distance offshore, the frequency of the dumping that may be permitted, the hourly cost of plane surveillance to ascertain the adherence to the dump site, the vessel cost per day to escort vessels out to the dump site, so that the committee might have some idea of the amount of money they are talking about in connection with the total enforcement problem?

Mr. BEGGS. Yes. We will certainly do that.

I might make this comment, though. We don't envision that in every case there would have to be surveillance on the site. We believe that in

many cases administrative surveillance, that is, review of log books and navigation records, and so forth, would be sufficient to determine whether the dumping had taken place in the proper spot and under proper conditions.

So I do not believe that we are in a position where we will be unduly taxed at this time, but we certainly will furnish for the record the data you ask for.

(The information follows:)

We assume from 3,000 to 6,000 permits will be issued during the first year. Assuming we will conduct surveillance of all the toxic loads, but only a low percentage of all other loads, we believe this will require about 600 aircraft hours per year at a cost of $500 per hour and 350 ship days per year at a cost of about $3.500 per day. This comes to a total of approximately $1,350,000 per year for enforcement operations.

Mr. HEYWARD. May I ask whether or not, in connection with the inspection program of the Coast Guard, is there a possibility under the inspection program to take a look at the license of the vessel to actually carry out these dumps, such as the dump barges that operate out of New York, Philadelphia, and other ports?

Mr. BEGGS. Admiral Hammond, do you wish to comment on that?

Admiral HAMMOND. I am not sure I understand your question exactly.

Do you mean could we determine if the barge or dump vessel is actually licensed for this business?

Mr. HEYWARD. Yes.

Admiral HAMMOND. Certainly this is true concerning many barges and vessels. I am sure, however, that some small contractors would be engaging in dumping operations using vessels not so licensed.

Mr. HEYWARD. I was wondering how far the present inspection program might be extended, or whether under the present inspection program there might be a way to regulate the particular vessels that would be utilized in carrying out the dumping.

Perhaps if you could inquire and have a comment further for the committee.

Admiral HAMMOND. Fine.

(The information follows:)

The existing marine inspection program can be partially utilized to police the permit requirements, however, it is anticipated that a complete policing program would require the cooperative efforts of the Officer in Charge, Marine Inspection at the Captain of the Port of a given port. Another way to regulate particular vessels, such as dump barges, et cetera, would be to place a restriction on their Certificate of Inspection that would preclude operations without a permit.

Mr. HEYWARD. One final question. I am not sure that you are able to answer it, but I will take a chance.

In 6(e), the bill talks about forfeiture of vessels, and it says, "A vessel, except a public vessel . . . or other public property of a similar nature. . . ."

Do you have any idea of what the "other public property of a similar nature," which would have an in rem action against it, other than a vessel?

Admiral HAMMOND. The term "other public property of a similar nature" would. under the general definition, refer to federal, state,

county or municipally-owned facilities not used for commercial purposes. In this case, examples might be navy yards, army port facilities, NOAA shore facilities, government owned fuel farms, etc."

The only thing that comes to mind is a dredge or pipeline, something of that sort. Perhaps we can amplify that again for you.

Mr. DINGELL. Gentlemen, I have looked with interest on the Coast Guard facilities that you have listed to us, and it brings to mind several things.

First of all, the Reorganization Act requires this committee to submit with our bill a statement of the 5-year expenses anticipated under the legislation.

Since your statement does not indicate what your estimate for the 5-year cost is, I would appreciate it if you will submit to us a statement indicating the 5-year cost for this particular program.

(The statement follows:)

The estimated five year cost of the program would be $6,500,000. This includes personnel augmentation and aircraft and vessel operating costs. The first year is estimated to be $1,610,000, tapering off in the fourth and fifth years if dumping is curtailed as CEQ desires. This does not include costs of acquiring vessels or monitoring instruments.

I would secondly like to make a statement on which I would like your comment.

I think the Coast Guard is a fine service, one of the finest I have ever had the privilege of observing, but they are perhaps in terms of their total mission the most undermanned and underequipped that it has ever been my misfortune to look upon.

I was in Alaska, for example, an area where you have a coastline of 33,000 miles, longer than the coastline, I understand, of the rest of the United States. At the time you had, and, Admiral Hammond, you remember, because you were the officer up there, you had three aircraft, two of which were down, one for routine maintenance and one as a result of gusty landing. You had two buoy tenders, one high endurance cutter, and two low endurance cutters.

Admiral HAMMOND. We had a few more buoy tenders than that.

Mr. DINGELL. That was substantially your capacity to police the fishing problem, which is your major problem.

Perhaps, Mr. Secretary, you and the Admiral can give us some appreciation of how you are going to add this to your search and rescue responsibilities, the fish protection responsibility that you have, and how you are going to add this to the hospitalization chores that you undertake to get people to the hospital when it is indicated, so as to properly protect the ocean areas from illegal dumping in an area of that size, with that kind of resource.

I must tell you I don't see how in the heck you will be able to do it, but I am curious to hear your explanation on that matter.

Mr. BEGGS. Certainly the Coast Guard, as you point out, has very broad responsibilities in the area of search and rescue and navigation.

But it is our view that as this program starts up, we can handle the additional chores, where physical surveillance is necessary, within the current resources.

It was recognized that as the program developed in forthcoming years, we would very likely have to request additional resources. But

we do not have a clear idea at the present time of our total responsibilities under the Act or of what the Environmental Protection Agency might assign us in addition to that.

So we feel that we can start up on our current resource base and build from there. The monitoring activities, of course, are going forward at present under our general responsibility to gather oceanographic data.

Mr. DINGELL. Are you saying, then, that you are not going to ask for additional resources initially in regard to this particular program?

Mr. BEGGS. Not this year. That is correct.

Mr. DINGELL. Well, let us take Alaska, because that is the area, because of my study up there, I am perhaps the most familiar with.

I am of the flat opinion that your resources up there are grossly inadequate to the mission that is assigned to the Coast Guard at this particular time. I am curious as to how you are going to take on any additional responsibilities in that area.

I am satisfied that you are no better off in the rest of the United States.

If I were to take the trouble to go through on an item-by-item basis, discussing different Coast Guard facilities as listed in your statement, which the Chair will at this time insert by unanimous consent request at the appropriate point in the record, I am satisfied that each and every one of those would be hopelessly inadequate to the missions presently assigned to them, let alone discussing the additional responsibilities which this statute is going to impose.

I say this without criticism, because it is very clear in my mind that the Coast Guard is doing an outstanding effort under almost hopeless circumstances, almost hopelessly limited in terms of equipment, to carry out their existing responsibilities.

Yet this legislation would overlay a broad additional responsibility.

You are indicating to the committee that with this understaffed, undermaned, very fine agency you propose to take on additional very broad responsibilities.

I cannot look with much comfort on your statement that you think you are going to be able to do it initially. They will certainly try, but I am not satisfied that they will be able to do it.

I would like your comments. It would help the committee and the record.

Mr. BEGGS. I agree with you, Mr. Chairman. We are very proud of the Coast Guard and the way they have handled all of the challenges thrown at them. They have done a magnificent job.

Mr. DINGELL. The Bureau of the Budget does not seem to appreciate their work. I am not sure whether the Department of Transportation does.

I have not observed whether you good folks are at fault in this matter or not. I know where the major part of the responsibilities lies. That is in the laps of the Bureau of the Budget.

We have not gotten around the fact that you are hopelessly underequipped to carry out your responsibilities.

Mr. BEGGS. We have augmented the Coast Guard budget to some extent over the past 2 years for surveillance of oil pollution. There is additional money in the 1972 budget. We have added to the Coast Guard budget each of the last 2 years for additional equipment.

As I say, we are going to have to closely observe how far those resources stretch. If they do not stretch far enough, we will have to come back for more.

Mr. DINGELL. Just to be perfectly fair and I am not critical with you, because I understand your problems with the Bureau of the Budget, but you don't want me to walk away from here with the impression that the Coast Guard has resources to do really an adequate job of superintending this ocean dumping problem, any more than they have full capability to superintend any of the responsibilities that the Administration has given them by law and regulation; do you?

Mr. BEGGS. Again, I do not have right now an assessment of just how much this is going to entail in additional workload for the Coast Guard.

It may well be that when we size up everything required by the act, we will require more funds. But I don't think I can say that at the present time.

Mr. DINGELL. Do you have any idea of the number of dumping permits which will be issued under this, or the number of dumpings which take place? It is on the order of hundreds of thousands of tons.

Mr. BEGGS. I don't have any idea of the number of specific dumping permits that are involved, or, the number of surveillance missions that the Coast Guard will have to carry out.

Mr. DINGELL. I have less trouble about the rascals that are going to be dumping perhaps outside of their assigned areas than I have about the rascals that will be dumping without permits at all, or dumping substances for which they have no permit.

I am curious how many boardings are you going to be able to carry out to ascertain whether these people are actually dumping what they purport to dump.

Mr. BEGGS. Generally speaking, and I will ask the admiral to comment on this, our experience has been that if a statute requires that something be done in accordance with certain rules and regulations, the maritime industry and the folks who are associated with the operation of barges along the coast will comply. I think the more serious problem will be those who dump without permit.

Mr. DINGELL. That is right.

Let us take another for instance. You have another problem that is almost as discouraging, and that is the very obvious one of bilge pumping. One of our major problems is people pumping bilges up and down the coast. Nobody knows who does it. Nobody knows how you survey it. All of a sudden, you have oil on the beach.

Mr. BEGGS. We think the surveillance activity there can be carried out with aircraft.

As I stated earlier, we have requested additional resources to do that. I think the 1972 appropriations request contains an amount for six additional aircraft for the specific purpose of surveillance in the coastal contiguous zones.

Mr. DINGELL. Let me add this. I am not quarreling with you. I just want you to understand at this time that I am fully aware of the magnitude of the problem that you are taking on. I think you are. I hope you are.

I am not satisfied that your resources, despite your optimistic statements today, are going to be adequate even to the initial responsibilities, let alone the long-range responsibilities which you are undertaking in this particular piece of legislation.

I think you had better give careful thought to keeping this committee advised as to, one, adequacy of resources, and, two, changes in the law that will enable the Coast Guard to take on the responsibilities here.

Mr. BEGGS. We will do that, Mr. Chairman.

Mr. DINGELL. Gentlemen, I hope you don't take unkindly my remarks. Thank you very much for your presence. It is always a pleasure to see you here, Mr. Secretary, and, Admiral Hammond, who I regard as a conscientious and able public servant, and an old friend, it is particularly nice to see you.

Mr. BEGGS. Thank you, gentlemen.

Mr. DINGELL. Our last witness is James J. Reynolds, appearing here on behalf of the American Institute of Merchant Shipping.

Mr. Reynolds, we are happy to welcome you.

STATEMENT OF JAMES J. REYNOLDS, PRESIDENT, JOHN PROKOP, LEGISLATIVE ATTORNEY, AND O. LINCOLN CONE, STAFF MEMBER, AMERICAN INSTITUTE OF MERCHANT SHIPPING

Mr. REYNOLDS. On my left is John Prokop, legislative attorney with the American Institute of Merchant Shipping. On my right is O. Lincoln Cone, member of my staff, who is particularly conversant and expert in the field of navigation improvements, channels, et cetera.

Mr. Chairman, I will attempt to make this statement a little briefer in my presentation than it reads. I would like permission to submit the full statement, Mr. Chairman. I will attempt to shorten it out of forbearance for your patience and that of your colleagues.

Mr. DINGELL. Without objection, your full statement will appear in the record at this point, and we are happy to recognize you.

(Statement follows:)

STATEMENT OF JAMES J. REYNOLDS, PRESIDENT, AMERICAN INSTITUTE OF MERCHANT SHIPPING

My name is James J. Reynolds. I am President of the American Institute of Merchant Shipping. AIMS is a national trade association composed of 34 United States companies which own and operate about 500 oceangoing vessels of all types registered under the U.S. flag. These vessels aggregate approximately 8,300,000 deadweight tons and are engaged in the foreign and domestic trades of the United States.

We are very grateful for the opportunity afforded us of appearing before the above Subcommittees and presenting this statement of our views and recommendations relative to H.R. 4723, cited as the "Marine Protection Act of 1971."

Section 2 of H.R. 4723 states that "it is the policy of the United States to regulate the dumping of all types of material in the oceans, coastal, and other waters and to prevent or vigorously limit the dumping into the oceans, coastal, or other waters of any material which could adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities." Section 2 further states that to carry out the foregoing policy "it is the purpose of this Act to regulate the transportation of material from the United States for dumping into the oceans, coastal, or other waters, and the dumping of

material by any person from any source if the dumping occurs in waters over which the United States has jurisdiction."

At the outset I wish to state that the AIMS and its members companies wholeheartedly support the above policy and purpose of H.R. 4723 and it is our desire to cooperate in the accomplishment of this policy and purpose. In order to accomplish this policy and purpose, H.R. 4723 would transfer from the Secretary of the Army and Chief of Engineers of the Department of the Army to the Administrator of the Environmental Protection Agency the authority to issue permits for the (1) transportation of material from the United States for dumping in the oceans, coastal and other waters and (2) dumping of material in ocean, coastal and other waters which are within the territorial jurisdiction of the United States i.e. within the three mile limit, except as provided in 33 USC 441. The term "material" is defined in section 3(c) of the bill to mean among other things dredged spoil, rock and sand which result from deepening and widening the nation's waterways.

For about 147 years the U.S. Army Corps of Engineers has, since 1824, studied, investigated, recommended, constructed and maintained waterway improvement projects authorized by Congress and the President. Needless to say, the Corps of Engineers has acquired a great amount of knowledge, understanding and experience during this period of time in respect to determining suitable, economical and safe areas for the disposal of dredged material resulting from waterway improvements. Under the terms of H.R. 4723, however, the Secretary of the Army and Chief of Engineers could no longer make the foregoing determination with respect to disposal of dredged material. This determination would be made by the Administrator of the EPA and the Secretary of the Army and Chief of Engineers would be required to obtain a permit from the EPA Administrator for disposal of such dredged material at locations to be determined by the EPA Administrator.

The American Institute of Merchant Shipping is unalterably opposed to the transfer of the permit authority from the Secretary of the Army and Chief of Engineers to the Administrator of the EPA for the above purpose. We do not believe this transfer of the permit authority is necessary to achieve the policy and purpose set forth in H.R. 4723.

As you probably know, one of the major activities of AIMS is the initiation and accomplishment of navigation improvements in Federal channels in U.S. ports and waterways to more adequately accommodate large vessels, particualrly by tankers, dry bulk carriers, container ships, LASH (Lighter Aboard Ship) and Seabee ships. The deepening of channels enable these vessels to increase their cargo-carrying capacity and revenue earning capability, thereby achieving reductions in transportation costs. It is a well known fact that the cost of transportation is an important factor in determining the price of goods to consumers. Therefore, an increase or decrease in the transportation cost has a corresponding effect upon the consumer price structure.

The planning, construction and maintenance of the extensive and excellent system of waterways serving the transportation requirements of our country is a result of the expert and dedicated work which the Corps of Engineers has performed since 1824. The entire nation owes a great debt of gratitude for the fine job they have done and are still doing. For this reason, AIMS urges that no action be taken which would interfere with or delay the continued progress of the waterway improvement program under the direction of the Army Engineers.

Generally speaking, under existing laws and regulations all dredging, filling, erection of structures and depositing of refuse in the navigable waters of the United States is permitted only when recommended by the Chief of Engineers and authorized by the Secretary of the Army through issuance of a permit. The delegation of this permit authority to the Chief of Engineers and Secretary of the Army had its origin in the Act of June 29, 1888. The permit authority was considerably enlarged and etxended by the Act of March 3, 1899. The Corps of Engineers has therefore been exercising this permit authority for a period of 83 years and has acquired extensive experience and expertise in this area which is indispensible to the administration of the permit authority.

For many years the Corps of Engineers administered its authority to issue permits taking into consideration only the effect of the proposed work on navigation. However, following the enactment of the Fish and Wildlife Coordination Act of 1956, consideration given by the Corps of Engineers in connection with permit applications was extended to include the impact of proposed waterway improvements and deposits on fish and wildlife.

As the problems of water pollution and maintenance of water quality became of increasing concern, they have become significant factors in the evaluation of permit applications. The regulations of the Chief of Engineers governing issuance of permits now include requirements for evaluation of effects of the proposed Federal and non-Federal works, including disposal of dredged material, not only on navigation but also on fish and wildlife, water quality, pollution, conservation, aesthetics, ecology and other environmental factors. We wish to point out that the policy and practice of the Corps of Engineers of evaluating many of the foregoing factors were initiated *prior* to the enactment of the National Environmental Policy Act of 1969, approved by the President January 1, 1970 (Public Law 91–190). This Act has served to confirm the policy and practices of the Corps of Engineers of giving due weight to the preservation and enhancement of the quality of the environment in connection with the consideration of applications for permits for dredging, filling, erection of structures or depositing of refuse in navigable waters. Accordingly, the enactment of the National Environmental Policy Act is regarded as a strong affirmation of the administrative policy of the Chief of Engineers.

We wish to point out that section 123(a) of the River and Harbor Act of 1970 (Public Law 91–611) approved by the President December 31, 1970 provides that with respect to the Great Lakes and their connecting channels "the Secretary of the Army, acting through the Chief of Engineers, is authorized to construct, operate, and maintain * * * contained spoil disposal facilities of sufficient capacity for a period not to exceed ten years," and that "before establishing each such facility, the Secretary of the Army shall obtain the concurrence of appropriate local governments and shall consider the views and recommendations of the Administrator of the Environmental Protection Agency and shall comply with the requirements of section 21 of the Federal Water Pollution Control Act, and of the National Environmental Policy Act of 1969." Subsection (b) provides that the "Secretary of the Army, acting through the Chief of Engineers, shall establish the contained spoil disposal facilities authorized in subsection (a) at the earliest practicable date, taking into consideration the views and recommendations of the Administrator of the Environmental Protection Agency as to those areas which, in the Administrator's judgment, are most urgently in need of such facilities and pursuant to the requirements of the National Environmental Policy Act of 1969 and the Federal Water Pollution Control Act."

In addition, subsection (i) of section 123 of the River and Harbor Act of 1970 stipulates that "the Chief of Engineers, under the direction of the Secretary of the Army, is hereby authorized to extend to all navigable waters, connecting channels, tributary streams, other waters of the United States and waters contiguous to the United States, a comprehensive program of research, study, and experimentation relating to dredged spoil. This program shall be carried out in cooperation with other Federal and State agencies, and shall include, but not be limited to, investigations on the characteristics of dredged spoil, and alternative methods of its disposal. To the extent that such study shall include the effects of such dredge spoil on water quality, the facilities and personnel of the Environmental Protection Agency shall be utilized."

Accordingly, in view of the above provisions of section 123(i) of the River and Harbor Act of 1970, and for reasons set forth in this statement, the American Institute of Merchant Shipping strongly urges that H.R. 4723 be amended to provide that the authority to issue permits for the transportation and disposal of dredged material resulting from waterway improvement projects shall be retained by the Secretary of the Army, acting through the Chief of Engineers, taking into consideration the views and recommendations of the Administrator of the Environmental Protection Agency in respect to criteria and guidelines to be followed in the seltcion of disposal areas.

Legislation similiar to that contained in section 123(a) and (b) for the Great Lakes should also be enacted to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct, operate and maintain contained land spoil disposal facilities on other U.S. waterways, taking into consideration the views and recommendations of the EPA Administrator.

Our proposal for retention of the permit authority in the Secretary of the Army and Chief of Engineers is in accord with the delegation of authority made by the President himself to the Secretary of the Army in Executive Order 11574 issued under date of December 23, and published in the Federal Register of December 25, 1970. Under the terms of this Executive Order, the President specifically delegated to the Secretary of the Army the authority to administer the permit pro-

gram under section 13 of the Act of March 3, 1899, commonly known as the Refuse Act (33 USC 407). Section 2(a)(1) of the President's Executive Order stipulates that the Secretary of the Army "after consultation with the Administrator [of the EPA] respecting water quality matters, issue and amend, as appropriate, regulations, procedures, and instructions for receiving, processing, and evaluating applications for permits pursuant to the authority of the Act." Paragraph (2) provides that the Secretary of the Army "shall be responsible for granting, denying, conditioning, revoking, or suspending Refuse Act permits." It is the position of AIMS that the foregoing procedure prescribed by the President in his Executive Order 11574 should be followed as the most practicable and expeditious method of considering and acting on dumping permit applications.

To transfer from the Secretary of the Army and Chief of Engineers to the Administrator of the EPA complete authority to issue permits for the disposal of dredged material resulting from waterway improvement projects, including dredging of access channels and berths to private facilities, would in our opinion seriously jeopardize the economic justification and progress of essential waterway improvement projects now under study or recommended by the Army Engineers and those which have been authorized by Congress, including perhaps those projects for which funds have already been appropriated.

While the Corps of Engineers has consistently endeavored throughout the years to develop and maintain a balanced evaluation of the effects of a waterway improvement project on navigation, industrial and economic growth, fish and wildlife, water quality, pollution, conservation, aesthetics, ecology and other environmental factors, we are of the opinion that because it is the primary function and concern of EPA to preserve the environment, no matter how laudable it may be, EPA will not be in a position to evaluate on an impartial and equitable basis all the foregoing factors related to a waterway improvement project. It is logical to conclude that from the standpoint of EPA environmental considerations will outweight all others by far and influence the EPA Administrator to require that dredged material be transported for disposal far at sea or to inland locations. In either case, the effect of such a requirement on projects under study or recommended by the Corps of Engineers or authorized by Congress would be to greatly increase the cost of such projects and thereby jeopardize their economic justification by adversely affecting the benefit-cost ratio. We have been reliably informed that for each 30 miles the dredged material is transported the cost of spoil disposal is doubled, thereby substantially increasing the cost of the waterway improvement project. If the material is ordered to be disposed at sea, it would be necessary to use oceangoing barges. Most of the barges now in use for transporting spoil disposal are not constructed for oceangoing operation. The cost of constructing oceangoing barges for spoil disposal at sea would be very substantial and would of course be added to the cost of the project.

Should the EPA Administrator take the above action with respect to disposal of dredged material, this would also seriously affect the continued maintenance of channels at their authorized project depths since the cost of such channel maintenance would be greatly increased. If equivalent appropriation increases are not provided annually in the President's budget and by Congress in Public Works Appropriation Acts, the maintenance of channels at their authorized project depths will not be possible and the estimated return to the Federal Government on its original investment in deepening of the channels, based primarily on savings in transportation costs, will not be realized. It is axiomatic that if channels are not maintained, the cargo-carrying capacity of vessels will be reduced due to reductions in draft occasioned by lack of channel maintenance, thereby causing an increase in transportation cost per ton of cargo. Such increased transportation costs are usually reflected in increases in the prices of goods and services to consumers. Thus it is the general public that will ultimately bear the burden of higher costs involved in the construction and maintenance of waterway improvements that may be caused by requirements imposed by the EPA Administrator for disposal of dredged material far at sea or at inland locations, rather than at for more economical waterway or shore locations adjacent to or in the vicinity of the river and harbor construction or maintenance projects, which for the most part is the present practice. The Corps of Engineers has endeavored to follow the latter practice in the interest of maintaining the cost of waterway improvement and maintenance projects at a minimum, thus helping to achieve a favorable benefit-cost ratio so as to establish the economic justification of improvement projects. We could not be sure that the Administrator of the EPA

would give appropriate consideration to project cost factors in the event the authority to issue dumping permits is transferred from the Secretary of the Army and Chief of Engineers to the EPA Administrator.

A case in point, which is typical of other projects, is the Baltimore Harbor and Channels, Maryland and Virginia, navigation improvement project which would primarily provide for the deepening of the channels through Chesapeake Bay into Baltimore Harbor from 42 to 50 feet mean low water. As you are aware, this project was authorized by the River and Harbor Act of 1970 with the stipulation, however, "that construction shall not be initiated until approved by the Secretary of the Army and the President." This project has not yet been cleared by the Office of Management and Budget, including the Bureau of the Budget. Until it is, the Secretary of the Army and the President cannot be expected to approve the project for construction.

We wish to call attention to the fact that one of the conditions of local cooperation stipulated by the Chief of Engineers, which has been accepted by the states of Virginia and Maryland, is that these States will "provide without cost to the United States * * * suitable areas *determined by the Chief of Engineers* to be required in the general public interest for initial and subsequent disposal of spoil, and also necessary retention dikes, bulkheads, and embankments therefor, or the costs of such retaining works" (emphasis supplied).

The Baltimore District Engineer in his report (page 53) on the Baltimore Harbor and Channels project states as follows: "Disposal in deep water in the Atlantic Ocean is planned for the material dredged from the Cape Henry Channel while disposal in deep water in Chesapeake Bay is planned for the York Spit and Rappahannock Shoal Channels." The Board of Public Works of the State of Maryland "has given assurance, * * * * * that disposal areas will be provided in the waters of Chesapeake Bay opposite Kent Island, or in overboard or diked areas near Baltimore Harbor, or in combinations of the two areas. *The cost estimates for the plans of improvement in Baltimore Harbor are based on disposal of the dredged material in Chesapeake Bay opposite Kent Island below the William Preston Lane, Jr. Memorial Bridge.* This area is considered to be economically equal to and representative of all the potential disposal areas, both diked and overboard. A final determination will be made at the time of preparation. The effect of such action would be to substantially increase the cost of the method of dredging" (Emphasis supplied).

According to the report of the District Engineer, the above plans for disposal of dredged spoil have been coordinated with the proper Federal agencies and concerned agencies of Virginia and Maryland.

The total estimated cost of the Baltimore Harbor and Channels improvement project is about $100,000,000 resulting in a benefit-cost ratio of 2 to 1. I would like to point out, however, that if H.R. 4723 is enacted in its present form, the Administrator of the EPA would then have the authority and power to revise the above spoil disposal plans outlined in the report of the Baltimore District Engineer as approved by the Chief of Engineers, and require that some or all of the dredged spoil be transported for disposal at sea or some other more costly location. The effect of such action would be to substantially increase the cost of the project. This would adversely affect the benefit-cost ratio and might endanger the economic justification of the project. This could create a problem with respect to clearance of the project by the Office of Management and Budget for approval by the President and Secretary of the Army for construction.

As I have previously stated, the U.S. Army Corps of Engineers is making every effort in consultation with the Environmental Protection Agency, Department of the Interior, Maritime Administration and other Federal, State and local government agencies to determine suitable locations for the disposal of dredged material resulting from waterway improvement projects. In our opinion, there is nothing to be gained and much to be risked from the standpoint of the formulation and progress of the waterway improvement program if the authority to determine spoil disposal sites is transferred from the Secretary of the Army and Chief of Engineers to the Administrator of the EPA. We therefore strongly reaffirm our recommendation that H.R. 4723 be amended to provide that the authority to issue permits for transportation and disposal of dredged material resulting from waterway improvement projects shall be retained by the Secretary of the Army and Chief of Engineers.

The Lake Carriers Association, representing companies operating U.S. flag ships on the Great Lakes, has endorsed our position and recommendation with respect to H.R. 4723.

The favorable consideration of our views and recommendations will be most helpful and appreciated.

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

The association I represent represents some 34 major merchant marine companies owning and operating about 500 oceangoing vessels of all types registered under the U.S. flag. These vessels aggregate approximately 8,300,000 deadweight tons and are engaged in the foreign and domestic trades of the United States.

We are very grateful for the opportunity afforded us of appearing before your subcommittee and presenting this statement of our views and recommendations relative to H.R. 4723, cited as the "Marine Protection Act of 1971."

I am privileged, Mr. Chairman, to inform you that the Lake Carriers Association, which is the association representing U.S. flag carriers on the Great Lakes, endorses our observation and recommendations with respect to this bill today.

Mr. Chairman, I would find it difficult to contemplate any responsible American who would not applaud the basic objectives of this piece of legislation; namely, to limit the dumping into the oceans, coastal, and other waters of any material that could adversely affect human health, welfare, or the amenities, or the marine environment, ecological systems, or economic potentialities.

The objectives of the bill are superb, we support them completely. Our concern focuses on only one feature of the bill.

H.R. 4723 would transfer from the Secretary of the Army and Chief of Engineers of the Department of the Army to the Administrator of the Environmental Protection Agency the authority to issue permits for (1) transportation of material from the United States for dumping in he oceans, coastal, and other waters, and (2) dumping of material in ocean, coastal, and other waters which are within the territorial jurisdiction of the United States. That is, within the 3-mile limit except as provided in 33 U.S.C. 441.

The term "material," we note, is defined as meaning among other things dredged spoil, rock and sand which result from deepening and widening of the Nation's waterways.

Parenthetically, Mr. Chairman, of course, when we speak of the issuance of permits, we speak of the authority of the Corps of Engineers to recommend to the Secretary of the Army to issue permits not only to private parties, under contract to the corps or otherwise, but indeed to the Corps of Engineers, itself.

For some 147 years, the U.S. Army Corps of Engineers has studied, investigated, and recommended, constructed, et cetera, waterway improvements authorized by Congress and the President.

Needless to say, it acquired a great deal of knowledge, understanding, and experience during this period of time in respect to determining suitability, economical, and safe areas for the disposal of dredged material resulting from waterway improvement.

The planning, construction, and maintenance of the extensive and excellent system of waterways serving the transportation requirements of our country is the result of the expert and dedicated work which the corps has performed since 1824.

Indeed, I think you would agree with me the entire Nation owes a great debt of gratitude for the fine job they have done, and they are still doing.

Generally speaking, under existing laws and regulations, all dredging, filling, erection of structures, depositing of refuse in the navigable waters of the United States is permitted only when recommended by the Chief of Engineers and authorized by the Secretary of the Army through issuance of a permit.

This delegation of this permit authority to the Chief of Engineers and the Secretary of the Army had its origin in the act of June 29, 1888. The permit authority was considerably enlarged and extended with the act of March 3, 1899.

Therefore, the corps has been exercising this permit authority for a period of 83 years, and has certainly acquired extensive experience and expertise in this area.

For many years the Corps of Engineers administered its authority to issue permits taking into consideration only the effect of the proposed work on navigation. However, following the enactment of the Fish and Wildlife Coordination Act of 1956, consideration given by the Corps of Engineers in connection with permit applications was extended to include the impact of proposed waterway improvements and deposits on fish and wildlife.

As the problems of water pollution and maintenance of water quality became of increasing concern, they have become significant factors in the evaluation of permit applications. The regulations of the Chief of Engineers governing issuance of permits now include requirements for evaluation of effects of the proposed Federal and non-Federal works, including disposal of dredged material, not only on navigation but also on fish and wildlife, water quality, pollution, conservation, aesthetics, ecology, and other environmental factors.

We wish to point out that the policy and practice of the Corps of Engineers of evaluating many of the foregoing factors were initiated prior to the enactment of the National Environmental Policy Act of 1969, approved by the President January 1, 1970, Public Law 91–190.

This act has served to confirm the policy and practices of the Corps of Engineers of giving due weight to the preservation and enhancement of the quality of the environment in connection with the consideration of applications for permits for dredging, filling, erection of structures, or depositing of refuse in navigable waters.

Accordingly, the enactment of the National Environmental Policy Act is regarded as a strong affirmation of the administrative policy of the Chief of Engineers.

We wish to point out that section 123(a) of the River and Harbor Act of 1970 (Public Law 91–611) approved by the President December 31, 1970, provides that with respect to the Great Lakes and their connecting channels:

> The Secretary of the Army, acting through the Chief of Engineers, is authorized to construct, operate, and maintain * * * contained spoil disposal facilities of sufficient capacity for a period not to exceed ten years * * *

and that:

> Before establishing each such facility, the Secretary of the Army shall obtain the concurrence of appropriate local governments and shall consider the views and recommendations of the Administrator of the Environmental Protection Agency and shall comply with the requirements of section 21 of the Federal Water Pollution Control Act, and of the National Environmental Policy Act of 1969.

Subsection (b) provides that the:

> Secretary of the Army, acting through the Chief of Engineers, shall establish the contained spoil disposal facilities authorized in subsection (a) at the earliest practicable date, taking into consideration the views and recommendations of the Administrator of the Environmental Protection Agency as to those areas which, in the Administrator's judgment, are most urgently in need of such facilities and pursuant to the requirements of the National Environmental Policy Act of 1969 and the Federal Water Pollution Control Act.

In addition, subsection (i) of section 123 of the River and Harbor Act of 1970 stipulates that:

> The Chief of Engineers, under the direction of the Secretary of the Army, is hereby authorized to extend to all navigable waters, connecting channels, tributary streams, other waters of the United States and waters contiguous to the United States, a comprehensive program of research, study, and experimentation relating to dredged spoil. This program shall be carried out in cooperation with other Federal and State agencies, and shall include, but not be limited to, investigations on the characteristics of dredged spoil, and alternative methods of its disposal. To the extent that such study shall include the effects of such dredge spoil on water quality, the facilities and personnel of the Environmental Protection Agency shall be utilized.

Accordingly, in view of the above provisions of section 123(i) of the River and Harbor Act of 1970, and for reasons set forth in this statement, the American Institute of Merchant Shipping strongly urges that H.R. 4723 be amended to provide that the authority to issue permits for the transportation and disposal of dredged material resulting from waterway improvement projects shall be retained by the Secretary of the Army, acting through the Chief of Engineers, taking into consideration the views and recommendations of the Administrator of the Environmental Protection Agency in respect to criteria and guidelines to be followed in the selection of disposal areas.

Legislation similar to that contained in section 123 (a) and (b) for the Great Lakes should also be enacted to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct, operate, and maintain contained land spoil disposal facilities on other U.S. waterways, taking into consideration the views and recommendations of the EPA Administrator.

Our proposal for retention of the permit authority in the Secretary of the Army and Chief of Engineers is in accord with the delegation of authority made by the President himself to the Secretary of the Army in Executive Order 11574 issued under date of December 23, and published in the Federal Register of December 25, 1970.

Under the terms of this Executive order, the President specifically delegated to the Secretary of the Army the authority to administer the permit program under section 13 of the act of March 3, 1899, commonly known as the Refuse Act, 33 U.S.C. 407. Section 2(a)(1) of the President's Executive order stipulates that the Secretary of the Army:

> After consultation with the Administrator [of the EPA] respecting water quality matters, issue and amend, as appropriate, regulations, procedures, and instructions for receiving, processing, and evaluating applications for permits pursuant to the authority of the Act.

Paragraph (2) provides that the Secretary of the Army "shall be responsible for granting, denying, conditioning, revoking, or suspending Refuse Act permits."

It is the position of AIMS that the foregoing procedure prescribed by the President in his Executive Order 11574 should be followed as the most practicable and expeditious method of considering and acting on dumping permit applications.

To transfer from the Secretary of the Army and Chief of Engineers to the Administrator of the EPA complete authority to issue permits for the disposal of dredged material resulting from waterway improvement projects, including dredging of access channels and berths to private facilities, would in our opinion seriously jeopardize the economic justification and progress of essential waterway improvement projects now under study or recommended by the Army Engineers and those which have been authorized by Congress, including perhaps those projects for which funds have already been appropriated.

While the Corps of Engineers has consistently endeavored throughout the years to develop and maintain a balanced evaluation of the effects of a waterway improvement project on navigation, industrial and economic growth, fish and wildlife, water quality, pollution, conservation, esthetics, ecology, and other environmental factors, we are of the opinion that because it is the primary function and concern of EPA to preserve the environment, no matter how laudable it may be, EPA will not be in a position to evaluate on an impartial and equitable basis all the foregoing factors related to a waterway improvement project.

It is logical to conclude that from the standpoint of EPA, environmental considerations will outweigh all others by far, and influence the EPA Administrator to require that dredged material be transported for disposal far at sea or to inland locations.

In either case, the effect of such a requirement on projects under study or recommended by the Corps of Engineers or authorized by Congress would be to greatly increase the cost of such projects, and thereby jeopardize their economic justification by adversely affecting the benefit-cost ratio.

We have been reliably informed that for each 30 miles the dredged material is transported, the cost of spoil disposal is doubled, thereby substantially increasing the cost of the waterway improvement project.

If the material is ordered to be disposed at sea, it would be necessary to use oceangoing barges. Most of the barges now in use for transporting spoil disposal are not constructed for oceangoing operation. The cost of constructing oceangoing barges for spoil disposal at sea would be very substantial and would, of course, be added to the cost of the project.

Should the EPA Administrator take the above action with respect to disposal of dredged material, this would also seriously affect the continued maintenance of channels at their authorized project depths, since the cost of such channel maintenance would be greatly increased.

If equivalent appropriation increases are not provided annually in the President's budget and by Congress in Public Works Appropriations Acts, the maintenance of channels at their authorized project depths will not be possible, and the estimated return to the Federal Government on its original investment in deepening of the channels, based primarily on savings in transportation costs, will not be realized. It is axiomatic that if channels are not maintained, the cargo-carrying

capacity of vessels will be reduced, due to reductions in draft occasioned by lack of channel maintenance, thereby causing an increase in transportation cost per ton of cargo.

Such increased transportation costs are usually reflected in increases in the prices of goods and services to consumers. Thus, it is the general public that will ultimately bear the burden of higher costs involved in the construction and maintenance of waterway improvements that may be caused by requirements imposed by the EPA Administrator for disposal of dredged material far at sea or at inland locations, rather than at far more economical waterway or shore locations adjacent to or in the vicinity of the river and harbor construction or maintenance projects, which for the most part is the present practice.

The Corps of Engineers has endeavored to follow the latter practice in the interest of maintaining the cost of waterway improvement and maintenance projects at a minimum, thus helping to achieve a favorable benefit-cost ratio so as to establish the economic justification of improvement projects.

We could not be sure that the Administrator of the EPA would give appropriate consideration to project cost factors in the event the authority to issue dumping permits is transferred from the Secretary of the Army and Chief of Engineers to the EPA Administrator.

A case in point, which is typical of other projects, is the Baltimore Harbor and channels, Md. and Va., navigation improvement project. which would primarily provide for the deepening of the channels through Chesapeake Bay into Baltimore Harbor from 42 to 50 feet mean low water.

As you are aware, this project was authorized by the River and Harbor Act of 1970, with the stipulation, however, "that construction shall not be initiated until approved by the Secretary of the Army and the President." This project has not yet been cleared by the Office of Management and Budget, including the Bureau of the Budget. Until it is, the Secretary of the Army and the President cannot be expected to approve the project for construction.

We wish to call attention to the fact that one of the conditions of local cooperation stipulated by the Chief of Engineers, which has been accepted by the States of Virginia and Maryland, is that these States will:

> Provide without cost to the United States * * * suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil, and also necessary retention dikes, bulkheads, and embankments therefor, or the costs of such retaining works.

The Baltimore district engineer in his report (p. 53) on the Baltimore Harbor and channels project states as follows:

> Disposal in deep water in the Atlantic Ocean is planned for the material dredged from the Cape Henry Channel while disposal in deep water in Chesapeake Bay is planned for the York Spit and Rappahannock Shoal Channels.

The Board of Public Works of the State of Maryland:

> Has given assurance, * * * that disposal areas will be provided in the waters of Chesapeake Bay opposite Kent Island, or in overboard or diked areas near Baltimore Harbor, or in combinations of the two areas. * * * *The cost estimates for the plans of improvement in Baltimore Harbor are based on disposal of the dredged material in Chesapeake Bay opposite Kent Island below the William Preston Lane, Jr. Memorial Bridge.* This area is considered to be economically equal to and representative of all the potential disposal areas, both diked and overboard. A final determination will be made at the time of preparation of

plans for the dredging, both as to the disposal areas to be used and the method of dredging. (Emphasis supplied.)

According to the report of the district engineer, the above plans for disposal of dredged spoil have been coordinated with the proper Federal agencies and concerned agencies of Virginia and Maryland.

The total estimated cost of the Baltimore Harbor and channels improvement project is about $100 million, resulting in a benefit-cost ratio of 2 to 1.

I would like to point out, however, that if H.R. 4723 is enacted in its present form, the Administrator of the EPA would then have the authority and power to revise the above spoil disposal plans outlined in the report of the Baltimore district engineer, as approved by the Chief of Engineers, and require that some or all of the dredged spoil be transported for disposal at sea or some other more costly location.

The effect of such action would be to substantially increase the cost of the project. This would adversely affect the benefit-cost ratio, and might endanger the economic justification of the project. This could create a problem with respect to clearance of the project by the Office of Management and Budget for approval by the President and Secretary of the Army for construction.

As I have previously stated, the U.S. Army Corps of Engineers is making every effort, in consultation with the Environmental Protection Agency, Department of the Interior, Maritime Administration, and other Federal, State, and local government agencies to determine suitable locations for the disposal of dredged material resulting from waterway improvement projects.

In our opinion, there is nothing to be gained, and much to be risked, from the standpoint of the formulation and progress of the waterway improvement program if the authority to determine spoil disposal sites is transferred from the Secretary of the Army and Chief of Engineers to the Administrator of the EPA.

We therefore strongly reaffirm our recommendation that H.R. 4722 be amended to provide that the authority to issue permits for transportation and disproval of dredged material resulting from waterway improvement projects shall be retained by the Secretary of the Army and Chief of Engineers.

In conclusion, I would say I believe the important thing is that it is the Corps of Engineers which has the basic expertise with respect to the needs of the waterways of this Nation, but what is of equal importance, on the basis of the policy and the objectives of this bill, is that before they decide on any disposal area, they consult with and get the advice of the Director of the Environmental Protection Administration.

I believe it is a matter of Government teamwork and consultation, but the utlimate decision should reside where it has been for some 84 years, and where it has been exercised responsibly.

I know full well the problems that people bring up, that spoils taken from harbors that have been despoiled by the outrages of our human irresponsibility and have been dropped in the seas, and have visited injury to marine ecology.

I believe that is a thing of the past. I don't believe that the Corps of Engineers, or any other agency at this moment in history, or in the future, is going to do anything which is going to be inconsistent with the basic objectives of this statute, Mr. Chairman.

Thank you.

Mr. DINGELL. Thank you very much, Mr. Reynolds.

Mr. Everett.

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

Mr. Reynolds, is it your opinion that if this legislation passes, it is going to prohibit the dumping of dredged spoils back into some of the areas where they are presently being dumped?

Mr. REYNOLDS. Mr. Everett, I think that it would only depend on whether or not the Administrator of EPA determines that it was a suitable place and site for their disposition.

If he so decided after due deliberation, then the spoil could be deposited exactly as it is being placed today. And, hopefully, that may be what will happen, because if my thesis is correct, that the Corps of Engineers is acting responsibly, and is using a whole list of criteria, and not just the economics of the situation, then I am sure there will be an agreement.

Mr. EVERETT. That brings up another point.

The National Environmental Policy Act, as well as the Fish and Wildlife Coordination Act, in essence requires the corps to meet the same requirements that the Environmental Protection Agency will have to meet under the bill.

So, in effect, these areas that you are probably dumping in now are probably already spoiled, and of no further use for fish and wildlife resources, or for sound ecological programs. It might be that after the study is made, many of these areas over which you are concerned will still be available for dumping.

Mr. REYNOLDS. This may very well be, Mr. Everett, but no one can be certain of that.

Mr. DINGELL. Could I ask at this point: How would you be differently served by having EPA issue the permit? With the corps doing essentially what this statute is going to impose on it, how would you be in any worse state if EPA issued the permit, using the same general criteria?

Mr. REYNOLDS. I think that the application of the criteria by an organization which for a generation has been engaged in the improvement of waterways of this Nation might conceivably, bluntly, come to a different result than if a group, very laudably and commendably given only the mission of preserving the ecology, were to apply the same criteria.

I think it is as blunt as that, Mr. Chairman.

I believe that the delay, the waiting for the permits, the evaluation of permits by individuals who are not attuned to the engineering methods, or the waterway needs, or the broad concepts of the need of the merchant marine and need of commerce, but only ecology, would add to cost and delay.

Maybe that is what is desired. I will be very frank about it. If the Nation is prepared to say that it is the ecology which shall be paramount, and all other considerations take second and third place, then one would say let us put the permit-issuing authority in the hands of the Administrator.

I think, frankly, it would be a mistake. I don't think there is that much of a monopoly on concern for the ecology.

I believe the Corps of Engineers share that view. I believe they have the same devotion to the basic objectives of this bill as the director of EPA.

Mr. DINGELL. Are there any further questions?

Captain Heyward.

Mr. HEYWARD. I would like to ask a couple of questions on section 11, Mr. Reynolds.

I am sure the Army Engineers tomorrow will probably be able to address themselves to the same problem. However, if I can straighten my own thinking out in connection with section 11, I don't think that we are talking about subsection (a) here in connection with your statement.

Is that correct?

Mr. REYNOLDS. No, we do not believe subsection (a) should be repealed.

Mr. HEYWARD. In connection with subsection (b), does your statement address itself to the repeal of subsection (b), which has to do with the New York Harbor refuse control?

Mr. REYNOLDS. We do not believe it should be repealed.

Mr. HEYWARD. I am merely asking whether or not the Engineers issue any dredging deposit permits presently under subsection (b), which is being repealed by this act.

It is my impression that they do not, but I may be mistaken.

Mr. REYNOLDS. Let me ask Mr. Cone.

Do you know whether any permits are presently issued under this statute of EPA?

Mr. CONE. One of the big points here is that the Corps of Engineers determines where the channel shall be dredged, and where the spoils shall be deposited at the present time, after taking into consideration the views of all the other Government agencies.

Mr. HEYWARD. I understand that, Mr. Cone, but I am really trying to focus our attention on what specific act we are talking about. As you are perfectly well aware, the Rivers and Harbors Act contains so many different features, as well as these other acts that we are talking about.

For instance, I call your attention to subsection (c), which repeals 407(a). We are not concerned with that. That is mine tailings, et cetera.

When you get down to subsection (e), this act supersedes the Refuse Act, this section 13, to the extent that it applies to dumping.

If you look at 407 in the act, you will find it does not prohibit operations in connection with the improvement of navigable waters or construction of public works. So, to the extent, it seems to me, that 407 is superseded, you are not superseding anything about public works.

Am I wrong in my interpretation?

Mr. CONE. You can not only look at this section 11. I think you have to turn back to section 7(c), subsection (c), paragraph 2 on page 11.

Mr. HEYWARD. I understand that. I was trying to narrow down the effect of these repealers first, before I get back over to the cooperation.

Mr. CONE. I realize what you are driving at.

I would like to call your attention to paragraph 2 on page 11, the proviso clause.

Mr. HEYWARD. I was coming to that next.

Mr. CONE. Which states that:

After the effective date of this Act, no Federal license or permit shall be issued under the authority of the Rivers and Harbors Act of 1899 to conduct any activity otherwise regulated by Section 4 of this Act and the regulations issued hereunder—

and so forth and so on.

Mr. HEYWARD. This says, "No Federal license or permit shall be issued under the authority of the Rivers and Harbors Act of 1899."

I am trying to get to what section of the Rivers and Harbors Act of 1899 are we talking about.

It is my impression that what we are talking about is section 419 of title 33. If we can narrow our attention to that, I think we could come up with——

Mr. CONE. You say 419?

Mr. HEYWARD. It is subsection (d) of section 11.

Mr. CONE. That is true. 419 of title 33 is applicable.

Mr. HEYWARD. That is the one under which I believe the Secretary of the Army is authorized to prescribe regulations concerning the dumping of dredging.

Mr. CONE. That is right.

Mr. HEYWARD. Now, if that is so, would you take a look at the second part of that, "whenever in his judgment such regulations are required in the interest of navigation."

Does that mean he does not have authority to issue regulations unless he finds it necessary in the interest of navigation?

I am not challenging your thesis, Mr. Reynolds, but I am trying to clarify what this bill is doing to the present law.

Mr. REYNOLDS. I appreciate that thoroughly.

Mr. HEYWARD. Maybe in pursuing your thesis, this bill needs some positive authority. If the committee accepted your thesis, to give the Engineers certain definite authority, but I am not sure in what you are saying, in merely not repealing some of these things, that you are really doing what you want to do, because I point out that under this act, depending on what you mean by "waters adjacent thereto," or what Congress meant, the Engineers do not now have general authority in the ocean dumping field beyond the navigable waters, except to the extent that their protection of waters on the Outer Continental Shelf gives them the authority in connection with the navigational protection and permit for construction.

But in some of those cases do I see authority in the dumping field, and this is what concerns me.

Mr. REYNOLDS. I see your point, because 419 only refers to the navigable waters or waters adjacent thereto. It does not get into contiguous waters.

Mr. HEYWARD. In connection with the EPA authority under this act, which requires the administrator to consult with the Secretary of the Army, and no permit shall be issued if the Secretary of the Army determines that navigation will be unreasonably impaired, does that not protect what 419 authorized the Secretary of the Army to do, to protect navigation?

Mr. REYNOLDS. I question that that would do it.

Indeed, he has the responsibility to consult with the Secretary of the Army to determine that there will be no impairment of the stream for navigation, but I think that is quite another matter, is it not?

Mr. HEYWARD. I agree with you, but I am suggesting that perhaps confining your testimony here today to authorize the Secretary of the Army to issue certain permits, that perhaps you might be ready to recommend some specific language other than these general repealers, and accept some whereases that we are faced with in section 7 and section 11.

I don't know about the committee, but it is very confusing to me.

Mr. CONE. This section 419 that you just mentioned, under that section the Army issues permits to applicants who want to dredge a private channel. They are all required to make applications for a permit.

Mr. HEYWARD. I think his authority under excavations you will find over in section 10 of the Rivers and Harbors Act is not disturbed by this legislation. That is section 403 of title 33.

Mr. CONE. Do you mean to imply that this bill does not withdraw from the Secretary of the Army the right to determine where channels shall be dredged, or the dredged spoil shall be put?

Mr. HEYWARD. I mean that this bill, in my opinion, does not affect the Secretary of the Army's authority to regulate any tpe of construction, dredging, or any other public works in the navigable waters of the United States.

The question that comes to my mind is whether or not it is superseding something that the Army presently has in connection with deposit of the results of the dredging, which is a different matter, which should be retained by the Army.

I am not implying anything, Mr. Cone. I am asking for your expert testimony to straighten out some of my confusion.

Mr. CONE. The Army Engineers at the present time determines where the dredge spoil from the channel improvement which they are dredging is to be put.

Mr. DINGELL. Yes, but this is subject to the fact they only have it in navigable waters of the United States. This is subject to the fact that it is highly doubtful whether the corps has jurisdiction over dumping or transporting for the purpose of dumping on the high seas outside the 3-mile limit, or outside the 12-mile limit, depending on how far one may interpret the navigable waters of the United States to extend.

Mr. CONE. They do have authority to determine dumping outside the 3-mile limit in three areas only. That is New York, Baltimore, and Norfolk.

Mr. DINGELL. And that is all?

Mr. CONE. That is all. In those cases, I forget the section number, but the supervisor of the harbor can extend the jurisdiction out into the ocean.

Mr. DINGELL. But as Captain Heyward has indicated, they have never issued a permit in those areas for dumping of——

Mr. CONE. They don't have to issue the permits to themselves, because they are doing the dredging, the Army Engineers are doing the dredging.

Mr. DINGELL. The Army Engineers do not do the dredging. The Army Engineers do it through contractors, in most instances. Sometimes they do their own dredging, but rarely do they do so.

Mr. CONE. On a Federal project, the Army Engineers award the dredging contract to a contractor. That is true.

Mr. DINGELL. Very little maintenance dredging is done by the corps.

Mr. CONE. That is true.

Actually, as a practical matter, there is no permit, as I understand it, involved, because the Army Engineers will award the contract to a dredging contractor, and that is that.

Mr. REYNOLDS. I think the point you have raised is very well taken, sir. I most respectfully suggest it might be well to explore with the Corps of Engineers people and find out exactly what their authority is, and what it is not.

I have been assuming, on the basis of my reading of the enabling statute, that they had all this authority. It has been my approach that they should retain it, and possibly maybe something more is needed, if indeed it is a valid assumption that they should have the authority vis-a-vis the Administrator in this one particular area.

Mr. HEYWARD. That is the point I was bringing up.

Mr. REYNOLDS. It is a good point.

The real measure, it seems to me, is the problem of controlling permits for the disposal of industrial waste, the human waste and municipal waste.

All we are concerned about is this one specific area, Mr. Chairman.

I appreciate your patience in listening to us.

Mr. DINGELL. We are very happy to have had you here.

The chairman wants to compliment Captain Heyward for a very useful contribution to the hearings.

The chairman will appreciate, gentlemen, that after we have had an opportunity to discuss these matters in more detail with the corps, as we shall do, as I understand it, tomorrow, it will probably be very helpful if you will give us your further thoughts in writing in regard to this.

I don't want you to take my comments today as commitment that I will do anything one way or the other.

I think it would be helpful to the committee if you would give us your judgment in the light of such additional testimony and information we receive not only as a result of this afternoon's deliberations, but also after we have heard tomorrow the corps' responsibilities, and so forth.

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

Mr. DINGELL. Gentlemen, we are grateful to you.

The Chair has received two papers on the subject of the risks involved to the oceans from radioactive pollution, and without objection, these papers will be placed in the record at this point. The author of these papers, Dr. Jerold Lowenstein, is a well-known expert on the subject, being simultaneously a qualified physician and nuclear physicist. Also, and particularly significant, in the light of the scope of these hearings, I should add that Dr. Lowenstein is a director of the Oceanic Society, a group providing an important voice in the dialog on the protection of the oceans.

If there is no further business to come before the committee, the committee will stand adjourned until 10 o'clock tomorrow morning.

(The documents mentioned follows:)

RISKS OF RADIOACTIVE POLLUTION OF THE OCEANS—JEROLD M. LOWENSTEIN, ASSOCIATE CLINICAL PROFESSOR OF MEDICINE, RADIOACTIVITY RESEARCH CENTER, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, CALIFORNIA, U.S.A., MEMBER, BOARD OF DIRECTORS OCEANIC SOCIETY—PRESENTED AT INTERNATIONAL COLLOQUIUM ON THE EXPLORATION OF THE OCEANS, BORDEAUX, FRANCE, MARCH 9–12, 1971.

At a recent meeting of the United Nations Food and Agriculture Organization in Rome, it was reported that all types of pollutants in the ocean are increasing except for radioactivity. The report was widely disseminated in the news media and probably reassured millions of people who are concerned about the dangers of radioactivity in the environment. This happy situation can last only a short time. The major source of radioactive pollution of the oceans now is nuclear fallout due to atomic weapons testing in the atmosphere, which has been decreasing for the past ten years, since the U.S. and the U.S.S.R. stopped atmospheric testing. Very soon, however, this trend will be reversed because of resumed atmospheric testing of nuclear weapons by other nations, and because of the increasing numbers of nuclear power plants and nuclear ships in operation. Within a generation, we may be seeing serious radiation effects on ocean ecology and human health.

Due to fallout that will continue for another generation from nuclear weapons already tested, the world's oceans have already been contaminated with approximately twenty million curies of strontium-90 and cesium-137, isotopes with half-lives of thirty years, which enter the metabolic cycles of all living organisms (1). There are, at present, measurable amounts of these two radioactive isotopes in all living creatures, including man. There is considerable scientific controversy as to the "safe" concentration of these materials, or whether there is a safe concentration. But it is important to realize that if at some point we should decide that the "safe" concentration has been exceeded, we must then wait at least 30 years for that amount to be reduced by fifty percent.

Present levels, whether safe or not, are low indeed compared with those that may be projected to the end of the century. Until now, nuclear power has been largely experimental, but by 1980 there are expected to be about 100 plants of 1000 megawatt capacity in operation. Under present U.S. regulations, the allowable release of radioactive materials into coolant water will be 22,000 curies per year. The nuclear industry claims it is only releasing 2.5% of the allowed amount, but it violently opposes any downward change in the regulations. The direct discharge, however, accounts for less than one hundred millionth of the total radioactive wastes, which are either stored in tanks as corrosive liquids that will boil for more than a hundred years, or incorporated into glassy materials and stored in abandoned salt mines. By 1980, it is estimated that ten trillion curies of accumulated wastes will be stored, of which one trillion will be strontium-90 (2). Although precautions are taken to prevent these lethal and long-lived radioactive poisons from entering the environment, a number of storage tanks have already developed leaks, and the heat from wastes stored in salt mines have been observed to deform the walls of the mines and raise the ground temperature at the surface by several degrees. Inevitably some of these radioisotopes will find their way into the world's waters and into the hydrobiosphere.

What I have said so far takes the most optimistic view of future radioactive pollution, for it assumes that present U.S. standards will be adhered to, and that there will be no major accidents. But some other nations already have less rigorous controls of nuclear wastes, and it cannot be expected that developing nations, which are viewed as possible customers for nuclear power plants exported by the advanced nations, will adhere to waste disposal techniques which are expensive and require a high level of technology. With regard to accidents, even at the present minimum stage of nuclear activity, there have been several major blow-ups (at Windscale, England; Chalk River, Canada; and Colorado, U.S.A., for examples) which spilled vast quantities of radioisotopes into the surrounding areas. With the extreme safety-consciousness of the nuclear industry, I think it fair to predict that major accidents will be rare—but serious, for unlike other industrial explosions, the radioactive hazard may persist for months

or years. As most nuclear plants are being built along rivers or the sea, the aquatic environment is the most vulnerable.

Nuclear shipping presents an even more direct threat to the aquatic environment. Not only does it discharge fission products into the water, especially during warmup, but a nuclear vessel carries all its radioactive power source and radioactive wastes with it, and in case of accident, the entire amount eventually may go into the ocean. Two U.S. and one Soviet nuclear submarine have already been lost, with millions of curies of fission products on board. Although the reactors of these vessels are strongly contained so as to prevent accidental release, it seems likely that over many years these corrosive radioactive wastes, with half-lives of thirty, a hundred, or a thousand years, will escape into the sea. Collisions in closed harbors, where most such accidents occur, could endanger large population centers and result in closure of a harbor to commercial activities for months or years.

From these sources—continued fallout, effluents and wastes from nuclear power and nuclear shipping—we see the prospect of steadily rising radioactive pollution of the ocean for several decades. During the next ten years, there will be a tenfold increase in the production of radioactive wastes and, as yet, there are no international agreements limiting the disposal of these wastes into the oceans.

So violent are the disagreements among scientists regarding the biological hazards of radioactivity, that the general public has become quite confused. Citizens' groups in the U.S. have succeeded in blocking the construction of several nuclear power plants and are fighting legal battles against several others. The power companies have counterattacked by a massive advertising campaign to persuade the public that nuclear power is safer and cleaner than conventional power.

What are the facts?

As usual, they are complex enough to provide arguments for both sides.

Many aquatic organisms concentrate radioactive elements. Oysters, for example, have been observed to concentrate zinc-65, a common fission product, by a factor of 250,000 over its level in the surrounding water, and cobalt-60 by a factor of a million. Certain edible seaweeds concentrate iodine-131. Other typical radionuclides which may be avidly incorporated by aquatic organisms are tritium, chromium-51, iron-59, manganese-54, as well as the familiar cesium-137 and strontium-90. Some investigators point out that though the concentration factors may be high, the absolute amounts of the radionuclides in sea animals and plants are still small, and that one would have to eat very large amounts of any species in order to exceed the "allowable limit" for a particular isotope. A scientist studying zinc-65 concentration in oysters near the Humboldt Bay nuclear reactor in California claimed that one would have to eat nothing but oysters in order to exceed the "allowable limit" of zinc- 65.

Other scientists insist that many of the present limits are set too high, that they are based on ignorance of the detailed, or long-term effects of the radionuclide. For example, more recent studies of zinc-65 in rabbits have revealed that though the animals appeared well after small daily doses for several months, more sensitive studies showed deleterious effects on a number of proteins, on blood clotting and on immunity from disease (3).

In humans, the allowable limits of radiation have been reduced progessively, as effects have been observed at lower and lower levels. For example, the permitted total body dose to radiation workers was set at 2500 rem/yr in 1902 (this is about three times the mean lethal dose, if given all at once) ; it was reduced to 100 in 1925, to 25 in 1936, to 5 in 1955; and Gofman and Tamplin believe it should be reduced now to 0.5, which is just the value that the previous downhill slope would predict for 1970! (4)

Gofman and Tamplin, vocal critics of the present radiation standards, have compiled voluminous evidence that there are increased rates of cancer and leukemia at currently permitted radiation levels (5). Other experts have denied this and supported the concept of a "threshold" radiation dose below which no ill effects occur. Against the "threshold" concept and suporting the Gofman and Tamplin view, is a recent study by Stewart and Kneale, in England, showing that children whose mothers had x-rays taken while pregnant are more likely than other children to develop cancer, and that the probability increases with the number of x-ray pictures taken (6). The radiation dose in these cases is extremely small and, until the time of this study, were considered completely safe for humans at any age. It appears now that unborn babies and infants may be

a hundred times more sensitive than adults to the carcinogenic effects of radiation.

As with DDT, the direct effects on man may prove to be less important than the indirect ecological impact due to eradication of vulnerable species. Among the disastrous effects of DDT, discovered many years after it was pronounced a safe insecticide, are the fragility it induces in some birds' eggs, such as the pelican's which in certain areas are now threatened with extinction. The Soviet biologist Polikarpov has observed that extremely low concentrations of strontium-90 cause abnormalities, especially in the spinal cords, of developing fish eggs. Almost all fish eggs float in the upper five centimeters of sea water, where they are vulnerable to fallout and industrial discharge (1). Polikarpov predicts that one result of radioactive pollution will be to shift the ecological balance from more radiosensitive species like fish to less sensitive species like plants. Whether or not some commercial species of fish will be wiped out by radiation, as this line of research suggests, the possibility itself illustrates, in analogy with DDT, that trace amounts of pollutants can cause unexpected catastrophes by breaking a weak link of the ecological chain.

Radiation does literally break a link in the helical chain that transmits genetic information, causing abnormalities and depth in descendants. These effects, while they occur at the lowest levels of radiation, may not become apparent for several generations. Therefore some of the most serious delayed consequences of radioactive pollution may not appear for ten to fifty years in affected species, which includes all species on earth. It can be argued that some mutations are useful, that improved strains of food plants have been produced by deliberate irradiation of seeds, that the process of evolution may ultimately depend on radiation-induced mutations (7). But the ratio of harmful to useful mutations is at least a million to one, so radioactive pollution constitutes genetic experimentation on a global scale, with unpredictable consequences to all life on earth.

I am very much disturbed by the massive advertising campaign which has been launched by power companies in the United States, aimed at convincing the public that nuclear power is clean, virtually free of radiation, good for the environment, and necessary to meet the power demands which their advertising has helped to create. The parallel with the cigarette companies, which for years made unsupported health claims for their products, and have persisted in their promotional efforts despite the proved carcinogenic and other disease-inducing results of smoking, are only too striking. It seems to me grossly irresponsible to substitute the techniques of mass persuasion for the scientific investigation and careful search for answers which only many years of experience and observation will assure. In the meantime, restraint and careful planning in nuclear exploitation of the oceans, and worldwide agreements limiting radioactive pollution, are urgently needed.

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Radioactive Pollution of the Seas—Jerold M. Lowenstein, Associate Clinical Professor of Medicine, Radioactivity Research Center, Univerisity of California, San Francisco, California, U.S.A. Member, Board of Directors, Oceanic Society—Presented on July 1, 1970, at the International Convocation, Bacem in Maribus, Malta

The first decade of intense exploitation of nuclear power, during which there will be a ten-fold increase in production of radioactive wastes, begins with no international agreements regarding the disposal of these wastes into the seas, wth inadequate but ominous data regarding their effects on aquatic organisms, and with mounting evidence that the current permissible radiation doses in man

are too high and could, if given to large segments of the population, result in thousands of cases of cancer and leukemia, and inestimable numbers of genetic defects being passed on to future generations.

In fact, the major impact of radioactive pollution will be felt by future generations, both because the projected production of radioactive wastes ascends steeply to and beyond the end of this century, and because the genetic and ecological effects of low level radiation emerge slowly. When they do emerge, it will be too late to do anything about it: the most troublesome waste, strontium-90, has a half-life of 30 years, and others go into the hundreds and thousands of years.

Strontium–90 levels in the Irish Sea, due to the nuclear power station at Windscale, are already about a hundred times as high as in most other waters, in a concentration range where the Soviet biologist Polikarpov (1) observed abnormalities, especially in the spinal cords, of developing fish eggs. He concluded that one effect of radioactive pollution will be to shift the ecological balance from more radiosensitive species like fish to less sensitive species like plants. As in terrestrial ecology, the more highly developed organisms are the first eliminated by radiation (2).

Aside from nuclear power plants, the principle sources of radioactive pollution will be radioactive fallout from nuclear weapons tests in the atmosphere, and nuclear shipping. As a result of nuclear weapons tests more than a decade ago by the U.S.A. and the U.S.S.R., the world's oceans were contaminated with approximately twenty million curies of strontium-90 and cesium-137 (1), and the fallout will continue for another generation, supplemented by the current nuclear weapons tests of France and China and those of other nations when they are ready. When one considers that Polikarpov observed deleterious effects on fish eggs at ^{90}Sr concentrations of 10^{-12} curies/liter, and that most fish eggs are in the upper five centimeters of seawater, the most vulnerable to fallout, the potential for ecological disaster may be appreciated.

Nuclear shipping represents hazards of yet another magnitude. Radioactive wastes discharged directly into the water by nuclear plants and nuclear ships are only about one-millionth of the total fission product produced in these reactors. The remainder are buried or stored in tanks as corrosive liquids that will boil for more than a hundred years (3). Two serious "blow-ups" have occured in stationary nuclear reactors—at Chalk River, Canada, and Windscale, England—that resulted in thousands of curies of isotopes being released to the environment. With ships, accidents are inevitable, and can be expected to become increasingly frequent as more and more vessels are nuclear powered. The loss of the U.S. Nuclear Submarine Thresher in 1963 may have released a million curies of fission products: enough, according to Polikarpov, to contaminate a volume of water as great as both the Black and the Irish Seas. Such a catastrophe within a closed harbor, where most shipping accidents ocur, could result in closure of the harbor to all commercial activities for years: In the open sea, the effects will not be as immediate but merely add to the increasing radiation burden of all sea life.

The proponents of nuclear power consistently minimize the risks, though their reassuring statements often have the opposite effect; as, for instance this one, from Mawson, in his book on Management of Radioactive Wastes (3), writing in 1965 regarding nuclear ships: "Liberation of radioactive material into the confined waters of harbors would appear very hazardous, and liberation at sea would contaminate an international resource, with no control other than that of the captain of the ship. However, similar problems concerning the discharge of fuel oil have been faced with considerable success . . ."

The nuclear power advocates, which include the U.S. Atomic Energy Commission, point out that effluents from reactors do not exceed the maximum permissible concentrations set as safe by the Federal Radiation Council. But aquatic organisms may concentrate trace amounts of radioactive materials a thousand-fold or more. An example occurred in a worker at the Hanford reactor, which discharges large amounts of zinc-65 into the Columbia River. The worker was found somehow to have taken in excessive amounts of ^{65}Zn. Finally the source was traced not to industrial carelessness, but to some oysters he had eaten which came from the Pacific Ocean 250 miles away, and which contained 200,000 times as much radioactive zinc as the surrounding sea (1). We do not know how many such cases are occurring in people who are not routinely checked for absorption of fission products.

Another objection to the "safe limits" argument is the questionable adequacy of present radiation standards. Recently Gofman and Tamplin (4,5), and others,

have adduced impressive evidence that there are increased rates of cancer and leukemia at the present allowable total body dose for radiation workers of five rem per year. The permitted dose has been progressively reduced since the beginning of this century, as radiation effects were observed at lower and lower levels (6): from 2500 rem/yr in 1902, to 100 in 1925, to 25 in 1936, to 5 in 1955. If one extrapolates this downslope to 1970, one predicts a reduction to 0.5, which is about what Gofman and Tamplin are suggesting! More and more it appears that there is no really safe dose of radiation, but the risk is proportional to the dose.

What, then, is an acceptable risk? It seems to me that there is a critical difference between a risk which one chooses, in order to gain a larger benefit, such as having an x-ray taken, or working professionally with radioactive materials, as I do, and the situation with which we are now confronted, in which every living thing on the land, in the air, and on and under the sea, is being poisoned with radioactive wastes because some decision-makers, in some countries, have decided that their people must have atomic bombs and atomic power, regardless of the consequences to the environment.

Polikarpov concluded his book, Radioecology of Aquatic Organisms: "It has been shown that further radiocative contamination of the seas and oceans is inadmissible, because it entails great risk of a) producing irreversible changes in the hydrobiosphere, b) disrupting the resources upon which the fisheries depend and c) producing dangerous levels of contamination in the marine organisms consumed by man. To avoid these radiation consequences, it is essential to end all nuclear weapons tests and the dumping of liquid and solid radioactive waste into the seas and oceans."

What can we do to save this great "common heritage of mankind" from further contamination?

The most hopeful signs I see in a generally discouraging world trend are conferences such as this one, exploring the possibility of an Ocean Regime, that would involve agreement among all nations not to turn the seas into a radioactive sump (7,8,9). Just as international fishing agreements are necessary in order to save desirable species from extinction, limitations on waste disposal will benefit all nations by preserving healthy aquatic species (10). The frustrated individual, confronted with reckless industrial and military interests (11) and their enormous money and power, can join conservation organizations, such as the Oceanic Society, which I represent here, and make their voices heard. Collective action has proved to be effective at times, as in blocking the building of a reactor at Bodega Bay, California, on the San Andreas Fault. At stake is the health of the oceans, on which all life depends.

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(Whereupon, at 6 p.m., the committee adjourned, to reconvene at 10 a.m., Wednesday, April 7, 1971.)

62-513—71——25

OCEAN DUMPING OF WASTE MATERIALS

WEDNESDAY, APRIL 7, 1971

House of Representatives,
Joint Subcommittees on Oceanography
and Fisheries and Wildlife Conservation,
Washington, D.C.

The joint subcommittees met, pursuant to adjournment, at 10 a.m., in room 1334, Longworth House Office Building, Hon. John D. Dingell (chairman of the Subcommittee on Fisheries and Wildlife Conservation) presiding.

Mr. Dingell. The subcommittees will come to order.

This is a continuation of the hearings scheduled on the subject of ocean dumping and on legislation related thereto.

The Chair observes that we have a statement presented to the committee by our colleague, Michael Harrington of Massachusetts. Without objection, that document will be inserted in the record in its entirety.

STATEMENT OF HON. MICHAEL J. HARRINGTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. Harrington. Mr. Chairman, it is my pleasure to appear before these subcommittees for the second time on this most important subject of ocean dumping.

When I testified last July 28 before the Fisheries and Wildlife Conservation Subcommittee, I had hoped that some form of strong anti-dumping bill would be reported out of committee. That did not happen, but the hearings were valuable in bringing to public attention the danger in which we find ourselves—of losing our oceans to the pollution which is consuming our air and inland waters.

I am confident that a bill will come out of committee this year. Chairman Garmatz has introduced his own bill, as subcommittee Chairman Dingell, and there are several others, aside from my own, pending before the committee. All of these bills have merit, and all recognize the obvious need for legislation in this field.

We cannot wait any longer for firm and binding prohibitions against dumping ecologically harmful materials into our oceans. We are in the position of being able now to save our last remaining natural resource from certain destruction by pollution.

We are hearing more and more about the incredible value of our oceans. We hear that our food supply may eventually come in greater proportion from the ocean than from the land. Untapped mineral resources lie within these waters. As a source of oxygen and through

its interaction with the terrestrial ecosystem, a healthy ocean may well have critical importance for the survival of the human species.

Distinguished marine biologists are warning that unless we act, the current accelerating pace of ocean pollution could destroy significant life in the sea in 50 years or less. This would be catastrophic.

To halt this devastation, Congress will have to act immediately to legislate major new policies backed by a massive aid and action program.

If we are to legislate effectively to save our oceans, we need a bill which—at a minimum—includes the following four provisions:

1. The broadest definition of the waters to be covered under the act.
2. The strongest prohibitions against the dumping or discharge of ecologically harmful wastes made in conjunction with the establishment of strong standards before permission to dump is granted.
3. Stringent enforcement of those standards with all necessary authority provided.
4. Strong penalties—including fines and jail sentences for those who fail to comply with those standards.

I am testifying before you today in support of a bill which I believe contains the provisions which I have outlined. H.R. 805, 807, 808, 1329, and 2581 (all identical) will, if enacted, go a long way toward keeping our oceans clean. I am gratified by the fact that more than 65 of my colleagues have joined me in cosponsoring this legislation.

The committee is also considering legislation introduced by Congressman Garmatz, H.R. 4723. I endorse the basic concept of Chairman Garmatz' bill, but there are several changes which I would like to see incorporated in the bill before I could fully support it. I believe the changes are essential, and I urge the committee to enact them.

In some respects, my bill is similar or identical to Mr. Garmatz' bill. In other areas, we differ greatly. I would like to take the four requirements I believe are essential and compare my bill with that of Chairman Garmatz in those areas.

1. DEFINITION OF THE WATERS TO BE COVERED

Dumping of harmful substances should be prohibited not only in what we normally think of as ocean, but in all coastal waters. Salt marshes and other such "inland" tidal features, because they nourish and shelter many marine organisms, are as important to the marine ecosystem as open water areas.

Section 5B(a) of my bill defines:

> Oceans, coastal and othe rwaters as "oceans, gulf, bays, saltwater lagoons; saltwater harbors, other coastal waters where the tide ebbs and flows, the Great Lakes, and all waters in a zone contiguous to the United States extending to a line 12 nautical miles seaward from the baseline of the territorial sea as provided in article 24 of the Convention on the Territorial Sea and the Contiguous Zone."

This wording is identical to that found in Congressman Garmatz' bill.

2. STANDARDS AND PROHIBITIONS

Section 5B(b) of my bill would require the Administrator of the Environmental Protection Administration acting through the Fish

and Wildlife Service, and in consultation with the Army Chief of Engineers, to establish standards—

which apply to the deposit or discharge into the ocean, coastal and other waters of the United States of all industrial wastes, sludge, spoil and all other materials that might be harmful to the wildlife or wildlife resources or to the ecology of these waters.

This section gives the Administrator jurisdiction over all wastes entering the coastal waters.

I have included the U.S. Army Corps of Engineers in the standard making, because they have some experience with ocean dumping, and the mechanism is already established for issuance of dumping permits by them under the provisions of the 1899 Refuse Act.

The Corps has not distinguished itself in its enforcement of the Refuse Act, but with the Presidential order of last December and the new regulations presently being reviewed—and most importantly with new legislation, which this committee is considering, mandating protection of our oceans—the Corps will have the mechanism ready to go to enforce antidumping regulations.

Congressman Garmatz' bill would have the Administrator of the EPA establish or revise criteria (section 5(a)) in consultation with the Secretaries of Commerce, Interior, State, Defense, Agriculture, Health, Education, and Welfare, and Transportation, the Atomic Energy Commission, and other appropriate Federal, State, and local officials.

I find this long list a little bewildering. The problem with the Government now is red tape and vested interests. Is it not time to allow the person in charge of protecting the environment some latitude in doing his job? Will not consultations with so many different agencies merely delay the setting of criteria? No one has done any kind of job in this area to date. We need less consultation and more action.

Congressman Garmatz' bill exempts "effluent from any outfall structure," and oil. I see no point in relying on the existing fragmented regulatory structure dealing with these types of waste. Oil spillage and effluent from sewer outfalls contribute heavily to the pollution of our most valuable recreational and commercial coastal waters. The problem of ocean pollution, from whatever source, deserves treatment with coherent, comprehensive legislation.

I consider the exemptions of oil and effluents from outfall structures to be one of the most serious deficiencies of the Garmatz bill. The exemption of these two pollutants is totally unacceptable.

The disposal of domestic wastes of all kinds into our coastal waters has introduced toxic heavy metals and organics into these waters. The result has been to lower the available oxygen content of the bottom water.

Our new technology has also created new kinds and larger amounts of material which must be disposed of. During the past 30 years we have disposed of many synthetic chemicals heretofore unknown.

These chemicals are foreign to organisms, and natural pathways of biodegradation are lacking or inefficient. Thus, many chemicals now dumped into our coastal waters enter the marine food chain and increase in density as they move through the chain until they become harmful to both marine and human life.

The problem is particularly acute when we look into the amount of municipal and industrial wastes being dumped.

The estuaries of this country are being fed approximately 30 billion gallons of sewage and industrial waste every day. In the New York City area, five of the 18 municipal systems are still pumping raw sewage into the heavily polluted waters. And, in Boston, five municipal systems dump 400 million gallons a day of only primary-treated sewage into the harbor.

The story is the same on the West Coast. In San Francisco Bay, for example, about 700 million gallons a day of effluents are being poured in—with about half of these wastes being treated at the primary level.

The situation is intolerable now. But the October 1970, Council on Environmental Quality report stated that we can expect an increase of 50 percent by the year 2000 in sewage sludge generated in the coastal zone.

With tougher water quality standards and coastal area industrialization, we can expect a massive increase in pressure for industrial dumping at sea. Forty percent of the Nation's industry is in coastal regions right now.

We cannot duck this issue by omitting these effluents from the legislation before us, as does the Garmatz bill. My bill covers all materials harmful to the ecology of the waters.

But we also cannot expect the cities and towns of this country to build waste treatment facilities without additional Federal help. I would, therefore, urge the committee to recommend greater Federal aid to municipalities and industries for waste treatment.

We cannot legislate standards that are impossible to attain, nor can we be so remiss as to ignore the fact that these wastes are a major source of our ocean's pollution.

I therefore have two recommendations. First, it is my intention shortly to introduce legislation which will provide for 90 percent Federal funding of municipal waste treatment plants, and which will also provide advance funding for waste treatment planning grants.

Many of our cities are on the verge of bankruptcy. They cannot afford to pay 70 or 60, or even 50 percent of the cost of these treatment facilities. They must receive our help.

We supply a greater Federal share for urban renewal, mass transit, solid waste disposal, and law enforcement assistance than we do for municipal sewage treatment.

When this Nation decided that it required coast-to-coast highways, it did not expect the States or localities to bear the great portion of the cost. Instead, we established a Federal Highway Trust Fund, with the Federal Government putting up 90 percent of the cost.

We are faced now with a need as great or greater than our need for highways. Without clean water—and I include all inland waters as well as our oceans—we cannot survive. It is time we squarely faced that need and provided the funds required to build these municipal waste treatment plants. Ninety percent is what is needed.

Second, on January 22, 1971, I introduced the Industrial Water Pollution Abatement Loan Act, H.R. 806. This bill, presently pending before the Public Works Committee, would provide low-cost loans to marginal industries to build waste treatment facilities beyond their financial abilities. The cost of building a treatment plant in compli-

ance with State water quality standards would force some companies to go out of business.

My bill would allow the Administrator of EPA to provide loans to these marginal industries where he finds that:

(1) such business firm could not continue to operate competitively if it were required to bear the burden of the cost of such construction without such financial assistance, or (2) that other financing credit is not reasonably available to such business firm for the cost of such construction.

Of course, all loans made under this act would require that the treatment facility be in compliance with a comprehensive plan approved by the administrator for the abatement of water pollution in the city, town, or water pollution abatement district where the business form applying for the loan is located.

This coordinated plan of 90 percent Federal grants to municipalities and loans to marginal industries for waste treatment facilities, in conjunction with strong antidumping bills, would save our oceans.

H.R. 805 states that the standards established "shall be for the purpose of insuring that no damage to the natural environment and ecology including but not limited to marine and wildlife ecology of the ocean, coastal, and other waters of the United States will result from any such activity."

This language is considerably more stringent and explicit than section 5(a) of Congressman Garmatz' bill, which permits such dumping as "will not unreasonably degrade or unreasonably endanger human health, welfare, or amenities or the marine environment, ecological systems, or economic potentialities."

I would like to know, Mr. Chairman, what constitutes an unreasonable degradation of human health? We must realize that after we are through temporizing and equivocating on this issue, we are faced with a matter of human survival. There is only one standard that can be applied to the establishment of standards or the issuance of dumping permits—there must be no damage to the environment.

If we persist, as provided by section 5(a) (2) of Congressman Garmatz' bill, in shortsighted assessment of "the probable impact of issuing or denying permits on considerations affecting the public interest," our oceans will never be clean.

I am deeply disturbed by the lack of clarity of this language. Before I could support such legislation, I would have to know what is meant by not unreasonably degrade or unreasonably endanger human health. The language in H.R. 805 is, I believe, far more precise.

Another imprecise definition may be found in section 5(e) of Mr. Garmatz' bill which states that the administrator "may issue general permits for the transportation of dumping or dumping, or both of classes of materials which he determines will have a minimal impact considering the factors cited in subsection (a)." How do we define minimal? Certainly, mercury pollution was considered minimal until last year.

Can we afford to take the chance with other substances? Once again, H.R. 805 states that there shall be no environmental damage.

Because the environmental effects of many wastes are not yet perfectly understood it is important that no material be assumed safe for dumping without decisive scientific evidence.

As Dr. Max Blumer, senior scientist at Wood's Hole, notes:

> The marine food web is so involved and the biochemical processes necessary for the survival of every species are so complex that it is virtually impossible to foresee which species might be damaged by a certain persistent chemical. The award of the Nobel Prize to the discoverer of the insecticide DDT illustrates our ignorance in this area. Lacking sufficient foresight we need to be much more cautious in the use of persistent chemicals lest we disrupt inadvertently processes in the sea upon which our survival may depend.

Accordingly, section 5B(a) of my bill requires that the person wishing to dump sustain a burden of proof that the materials that are dumped will not endanger the natural environment of these waters and will meet any additional requirements as the Administrator of the EPA deems necessary for the orderly regulation of such authority.

I feel that placing the burden of proof on the dumper is an important part of this legislation. It is time that those who wish to dispose of refuse material be required to consider the ecological consequences of their actions.

The public must not be asked to assume the risk of environmental damage because there has been insufficient time to study the problem thoroughly.

The Federal Government should not have to do all the work in this one area. Dumping is a privilege—not a right. The right involved here is the right of every American to a decent environment. This is neither a new nor particularly startling concept.

I have introduced a constitutional amendment (H.J. Res. 522) to accomplish this end. The right to a decent environment is as basic as the right to life and liberty, for without a decent environment we can have neither.

Therefore, it is the obligation of the people and the Government to protect the environment as the Government.

Burden of proof does not require the person wishing to dump to prove beyond a shadow of a doubt that the materials will be harmless. Rather, burden of proof requires a preponderance of evidence which demonstrates that the dumper can abide by the standards.

In addition, this legislation takes into account the fact that in some locations materials can be dumped without harm to the waters, whereas the same materials would be harmful to other areas.

I have always felt that a unilateral prohibition against dumping was both unjust and unrealistic. Ocean currents in some areas will disperse most refuse material to the point where it does no harm. In other locations, however, the materials may stagnate.

H.R. 805 also provides that different amounts of the same type of refuse may be dumped in different locations. Each dumping site and material has its own particular characteristics and these must be taken into account, as they will have to be by the person wishing to dump. There are, of course, certain materials, such as mercury, which would not be dumped at all.

The standards set by the Administrator of the EPA and the burden of proof required by the dumper would effectively prohibit any dumping of such materials. Therefore, this section provides a flexible approach to the problem of dumping into the coastal waters.

Section 5B(c) of H.R. 805 provides that the standard established by the Administrator of the EPA shall be adopted and applied to all Federal and State authorities which have the right to issue authorizations to discharge or deposit material into these waters.

In his role as standardmaker, the Administrator would find it possible to establish longer term goals for reducing ocean pollution, as well as issuing standards for the immediate guidance of regulatory bodies.

I should point out that these provisions do not require every permit application to cross the Administrator's desk. My bill allows the retention of the present regulatory structure, subject to new standards established by the administator. Since these standards will be designated to prevent all environmental damage, it is not essential that the Administrator consult formally with the Secretary of every department, and with every State board.

3. Stringent enforcement:

Section 5B(d) requires that the standards apply to all parts of the Federal and State governments and all persons who have authorization from the State or its agency to deposit or discharge such materials into these waters.

Section 5B(e) permits the States to establish and enforce standards covering these activities within their jurisdiction only on the condition that the State standards are stricter than the Federal standards and that the States provide adequate procedures for enforcement. I believe this section is important because, as we have seen in the case of automobile pollution, many States have wished to enact stricter regulations than the Federal ones but have been unable to do so because Federal laws require that the Federal standards apply.

The Garmatz bill sets no minimum requirements for the States or territories. Although section 7(e) states that Federal standards could not preempt the requirements or liabilities imposed by States or territories, the State or territory could set a much less strict standard than the Federal Government's.

The oceans are interstate bodies of water. The currents carry pollution from one State seacoast to another. It is not fair to require strong standards of one State when another would be allowed to set weak ones. I therefore, recommend that the wording of sections 5B(d) and 5B(e) of H.R. 805 be incorporated into this bill.

Section 5B(f) of H.R. 805 provides that every State and Federal instrumentality and every person applying for authorization to discharge or otherwise dispose of any material into these waters maintain records, make reports, and provide whatever additional information the Administrator of the EPA needs to determine that the standards are being complied with. The Administrator may also, upon request, have access to these records.

Thus, we require that dumpers continually sustain a burden of proof that their activities are harmless. The Administrator may revoke a permit if the dumper fails to do so. Due process of law requires that a person whose permit is revoked is subsequently entitled to a hearing, but I feel that section 5(f) of Congressman Garmatz's bill, providing for formal hearings, before a permit may be revoked is unwise. No one has an inalienable right to dump wastes into the oceans.

Denying the Administrator decisive power over permits forces the public to bear much of the risks of non-compliance by dumpers.

Section 5B(g) of H.R. 805 provides that the District courts of the United States have jurisdiction to restrain violations of this act. The courts have subpena power and failure to obey the subpena may be punishable by a charge of contempt of court.

I endorse Section 6 (a), (b), and (d) of the Garmatz bill which provides for both criminal and civil penalties with the District courts having jurisdiction to grant relief as the equities of the case require. I would like to see the District courts having subpena power.

4. Punishment:

Section 5B (h) of H.R. 805 provides that each violation of these standards shall be punishable by a fine of not more than $10,000 nor less than $5,000. This means that each time refuse is dumped in violation of these standards, the violator is liable for this fine. In many cases, several dumpings or discharges occur per day and each instance is a violation punishable by the fine.

Mr. Garmatz's bill would provide for a civil penalty of $50,000 for each violation and a criminal penalty of "not more than $50,000 or imprisonment for not more than one year, or both."

I heartily endorse these higher fines and would amend my bill to include them. In my amendment, however, I would set a minimum fine in criminal penalties of $25,000, retaining the maximum $50,000. I would also increase the jail sentence to 5 years for repeated convictions. The minimum fine is a stiff one—but the destruction of our environment is a deadly serious matter. Stiff minimum fines would be a deterrent from the beginning.

I would also like to see amended the language of section 6(c) of H.R. 4723 which states, "For the purpose of imposing civil penalties and criminal fines under this section, each day of a continuing violation shall constitute a separate offense."

I realize that the differences between Chairman Garmatz's bill and mine are very great. This testimony has emphasized those differences but I want to say that there are many portions of H.R. 4723 which I applaud and support. We basically agree on the need for an end to ocean pollution, and this fundamental agreement is what is required for effective legislation.

I would hope that the committee will seriously consider making the change I have suggested in my testimony.

All forms of ocean pollution must be covered—including municipal and industrial effluents and oil. Without a coordinated and comprehensive program, we are never going to be able to regulate cleaner oceans.

The Federal Government must make standards which are applicable to the States—otherwise chaotic enforcement will ensue, and we could continue to have serious pollution problems throughout the country.

Most importantly, Mr. Speaker, our standard must be no pollution. We have already done irreparable damage to our waters through ignorance and laziness. We must develop alternate means of waste disposal and we need a far greater Federal investment in municipal and industrial waste treatment.

Everyone has the responsibility for saving our oceans and coastal waters. The dumper has an obligation to all of us to demonstrate that his material is not harmful. The Government has an equal responsibility to set and enforce standards for dumping.

We need a strong law—a clear law—a comprehensive law —to halt the degradation of our oceans and coastal environment. I urge the committee to report out a bill of this nature. We in Congress bear a primary responsibility for a decent environment. We have failed thus far to act to save our oceans and coastal waters.

We must act now.

Mr. DINGELL. The same unanimous request is made with regard to the statement of our colleague, Cornelius Gallagher.

STATEMENT OF HON. CORNELIUS E. GALLAGHER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. GALLAGHER. Mr. Chairman, I am very pleased to have the opportunity to testify this afternoon before your distinguished commiteee on legislation to control the dumping of waste materials into our oceans. For far too long, we have looked to the oceans as an inexhaustible source for the disposal of side effects of man's technological abundance and urbanization. I contend, as have the many Members of the Congress who have appeared before you, that it is no longer possible.

The problem of ocean dumping is one in which I am particularly interested for two specific reasons: (1), in May 1969, the Subcommittee on International Organizations and Movements of the House Committee on Foreign Affairs, which I chaired at the time, held what is widely regarded as the first hearing on the dumping of any substance into the ocean; and (2), there are 250 major dumping areas nationwide; 15 of these areas are located off the coast of my home State of New Jersey. Two of these 15 areas have been closed to shellfish harvesting due to the impact of the dumpings.

The major feature of the bills I have cosponsored is that before any discharge can take place in any ocean an approval must be obtained from the Administrator of the Environmental Protection Agency. This may seem like a somewhat small step to take when so many in our land are speaking the language of doomsdaymanship and are freely predicting ecocatastrophies, but I think this is vital.

Let me illustrate the essential nature of fixing responsibility in the Federal Government for assessing the dangers of each ocean dump by describing what we learned during our Foreign Affairs Subcommittee consideration of plans to dump obsolete poison gas into the oceans.

This plan vitally affected the mandated responsibilities of the Department of Defense, the Department of State, the Department of Transportation, and the Department of the Interior. Each of these Federal Agencies had a particular responsibility in the transportation of the trainloads of poison gas across our Nation and in the disposition of the poison gas in the oceans.

Yet, the only time representatives of these Agencies ever gathered in the same room to discuss their mutual problem was in the hearing

room of the Subcommittee on International Organizations and Movements.

This was after 12 similar shipments had already taken place. Not only was the Congress in the dark, but the affected Federal Agencies had not been informed, either.

It may be of special interest to subcommittees of the Merchant Marine and Fisheries Committee that the only citizens who were informed of the movement of this lethal gas were recreational boaters who were warned to stay clear as the disposal ships were towed to sea.

Residents of the crowded urban areas which trains moved through were not informed, and this includes a city in my 13th District of New Jersey, Elizabeth. Fortunately, many changes have been made in national policy since our subcommittee took its pioneering actions, but I do believe that a significant weakness in Federal structure was disclosed.

That is why it is absolutely essential that one man and one agency be firmly fixed with the ultimate responsibility in this area. One staff should evaluate competing interests and competing proposals, and one decisionmaking apparatus should be the focus of evaluation and review, and when necessary, of the wrath of those who disagree with the final decision.

I, therefore, feel that no matter what the final form of the many bills you are debating during these hearings may take, retention of centralized control is essential. In this way we can prevent what we discovered in May 1969; policy by default and pollution by indifference.

I appreciate the opportunity to make this brief statement, Mr. Chairman, and I would close by stating that the environmental issue is now closing in on each of us.

It is closing in a symbolic sense, as the operational arm of man's concern with the welfare of his fellow man. It is also closing in a physical sense, by forcing us to realize that no man is an environmental island, complete unto himself. The dangers of ocean dumping must be dealt with before the accumulated sludge fills up the oceans and there are no islands and probably no men, at all.

Mr. DINGELL. The Chair observes that the Sierra Club has called advising the committee that it will not be possible for the scheduled witnesses on behalf of the Sierra Club to be present. For that reason, the same order is made with regard to that and a like order from the Chair with regard to a statement from distinguished Mr. Louis Clapper, Conservation Director of National Wildlife Federation, and you will see to it that is also inserted in the record.

(The statements referred to follow:)

STATEMENT OF EUGENE V. COAN, THE SIERRA CLUB

We appreciate this opportunity to present our views on the question of dumping into the ocean and the Great Lakes, for this has become a matter of growing concern to us. Of all our many environmental problems, this one appears to hold some especially grave dangers.

We have reached the time when we can no longer consider the ocean and the Great Lakes to be a dumping grounds of last resort. We can no longer indiscriminately place our waste materials in the sea and assume that they will not return to haunt us again. For as large and powerful is the sea, it is surprisingly fragile. It is also of growing importance to us. Given time, the fresh water of the world can cleanse itself, but the sea cannot. Once we put our chemicals and trash into

it, they may be there for a very long time. We are already familiar with the tragic story of DDT, the first recognized and best understood of a growing list of materials we have come to call "environmentally hazardous substances." It is probable that other chemicals will prove to be as long-lived and as harmful, for instance the heavy metals, other chlorinated hydrocarbons, the petrochemicals lost in oil spills, and radioactive plutonium.

When we commit environmental injustice on land, it is often within our power to undo the damage, given enough time and money. If we do further harm to the seas, it will be beyond our power to undo that harm.

There are three broad, interrelated areas of marine conservation. First, water quality. Second, conservation of marine organisms, including fisheries and other wildlife. Third, shore conservation and planning. Some of our fisheries have already declined. In some cases, it is very difficult to determine the reasons for the declines, whether poor management of the fishery or the result of coastal contamination. In some ways, the use of our shoreline is dictated by the degree of water pollution. So, maintain water quality is a key factor in marine conservation.

Obviously, the answer is that we must stop all pollution of the sea. The sea is just as insufficient an answer to the problem of waste disposal as food from the sea is the solution to the problem of hunger and over-population.

Moreover, we cannot allow the deep sea to be the ultimate carpet under which to sweep our trash. We know less about the life of the deep sea than any other area of our planet. Recent work at Woods Hole has begun to show that the creatures of the deep sea are more diverse and abundant than we had previously supposed. We have no more right to contaminate and kill the organisms of the deep sea than those of shallow water simply because they are less well known and more distant from us.

We must move now to extract ourselves from this potential dangerous situation by establishing two basic goals. First, we must set in motion the machinery which will enable us to find out what is happening to the sea and what we can do about it. Then, we must take action now where we can.

To an extent, the necessary studies have already been initiated by the Environmental Protection Agency, by the National Science Foundation, and by the Sea Grant Program, now under the National Oceanic and Atmospheric Administration. What is required is the proper funding of these programs, an overall, clear set of goals, and coordination among these granting programs.

These research goals must be (1) to established baselines for the existing levels of contamination or natural levels for as many substances as possible over as wide an area as possible, (2) to establish water quality criteria based on extensive testing of a wide array of substances on a wide array of marine organisms. We must look not only for immediate toxicity of the substances but their subtle effects on the health and reproductive ability of marine organisms for more than one generation. We need to have this information about as many organisms as possible, but certainly about the most important ones both commercially and ecologically. Until we have such exhaustive information, we cannot possibly set water quality standards. In this regard, the Environmental Protection Agency has a very long way to go. (3) Finally, we need to put as much money as possible into finding ways to reclaim and recycle so-called wastes. It will only be after we have extensive information in all of these three fields that we can deal adequately and knowledgeably with the problem of dumping.

Needless to say, it will be a considerable time before we have most of the required answers. We must act now upon the most serious problems and give ourselves deadlines for eliminating marine pollution.

The legislation which should be enacted this Congress should, at a minimum, do the following things:

(1) Establish a national policy and goal of eliminating environmentally harmful dumping.

(2) Establish a permit system under the Environmental Protection Agency for all forms of ocean dumping, including sewage discharge.

(3) Place the burden of proof on the parties wishing to dump materials into the sea or Great Lakes to prove that no environmental harm would be done.

(4) Establish broad criteria for the use of the Environmental Protection Agency in evaluating dumping permit applications.

(5) Allow public hearings when a dumping permit is contested.

(6) Completely prevent dumping into the sea of environmentally hazardous substances, being defined as substances which persist in the marine environment

because of their physical, chemical, and biological properties, and/or which become widespread in the marine environment because of their physical and chemical properties, and/or which tend to become more concentrated in living organisms than in the surrounding environment, *and* which may present a danger to living organisms by their direct toxicity or their influence on the health or reproductive ability of living organisms or the health of man.

(7) Establish fines for parties violating the regulations and necessary enforcement procedures.

(8) Establish dates after which sewage to be placed in the sea or Great Lakes must be upgraded. We would expect that increased Federal assistance will make it possible to meet these deadlines.

(9) Enable substantial areas to be set aside in which no dumping would be allowed. These would be especially fragile areas and a substantial number of areas to serve as baselines for biological study.

(10) Finally, it would establish a national goal for the Department of State to seek international cooperation with regard to preserving the oceans.

STATEMENT OF LOUIS S. CLAPPER ON BEHALF OF THE NATIONAL WILDLIFE FEDERATION

Mr. Chairman, I am Louis S. Clapper, Conservation Director of the National Wildlife Federation which has its national headquarters at 1412 Sixteenth Street, N.W., here in Washington, D.C.

The National Wildlife Federation has affiliates in all 50 States and the Virgin Islands. These affiliates, in turn, are made up of local groups and individuals who, when combined with associate members and other supporters of the Federation, number an estimated 3 million persons.

Mr. Chairman, we want to congratulate the Subcommittees for holding these hearings on ocean dumping. In our opinion, this is a major problem—one which merits immediate action and we are pleased by the interest of members of these Subcommittees and by other members of the Congress who have introduced appropriate legislation on the subject.

Basically, the Federation does not believe that the oceans or the Great Lakes or other areas of the U.S. shorelines should be used for dumping or waste disposal purposes. Ed Chaney, one of our Staff members, is outlining this attitude in a forthcoming article for our NATIONAL WILDLIFE Magazine and he points out quite appropriately that the earth is a closed system—that nothing actually can be thrown away. Unwanted wastes must be reclaimed or recycled back into the overall ecological system.

We note that H.R. 4723 defines "material" as "matter of any kind or description, including, but not limited to, dredge spoil, solid waste, garbage, sewage sludge, munitions, chemical, biological and radiological warfare agents, radioactive materials, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial wastes." H.R. 3662 and H.R. 4359 defines "waste materials" as "all solid and liquid products or byproducts of the industrial process (including tailings, sediment, and like materials resulting from marine mining or dredging activities), industrial waste acids, chemicals, sewage, sludge, garbage, dredge spoils, radioactive materials, construction and demolition debris, military ordinance, explosives, and any other form of discarded material or equipment." After reviewing these definitions, Mr. Chairman, *we simply cannot see any valid reason for using the Nation's offshore water areas for waste disposal.* For far too long, this has been another indication of the "out-of-sight," "out-of-mind" attitude toward waste disposal and we no longer can afford this type of degradation in our environment.

If dumping is to be allowed, however, then we generally are in agreement with the below listed principles which are expressed by one or more of the bills under consideration:

1. For the reasons already expressed, we note with exceptional interest that some bills "phase out" ocean dumping. In the Senate, S. 192 would terminate all dumping by June 30, 1975. H.R. 3662 and H.R. 4359 would phase out ocean dumping of municipal and industrial wastes with primary treatment by 1972, by secondary treatment by 1974, and tertiary treatment by 1976. In lieu of outright prohibition, we would be in accord with that schedule.

2. It is our firm belief that any regulation of dumping should apply to all U.S. waters and the oceans outside this Nation's territorial waters and the contiguous zone. In this connection, we like the definition contained in Section 3(b) of H.R. 4723 which specifies the coverage as "oceans, gulfs, bays, salt-water lagoons, salt-water harbors, other coastal waters where the tide ebbs and flows, and the Great Lakes." However, definitions in H.R. 3662 and H.R. 4359 are essentially the same.

3. We think it is appropriate for the Environmental Protection Agency to be empowered to issue permits, if any dumping is to be allowed, if the action will not degrade the environment or ecological systems or endanger human health, welfare, or the amenities. H.R. 4723 appears to give the EPA Administrator suitable discretion in issuing permits and we like the provision in this proposal which burdens the applicant with providing information to justify a permit.

4. We agree that the EPA Administrator should be authorized to designate by a permit the type and amount of materials to be transported and/or dumped and the location, as well as the period of time that the permit is valid. This is outlined in H.R. 4723. And, we also are in accord with that proposal's requirement that a permit shall not violate applicable water quality standards.

5. We concur with the principle expressed in H.R. 4723, whereby EPA will establish and apply criteria for evaluating permit applications. We prefer this discretionary process on this criteria more than formal regulations as in some other bills before the Committee.

6. We do not disagree with the provision which names the Department of Justice responsible for conducting any legal actions which may be necessary, or with surveillance by the Coast Guard. However, we do note a wide variance in the amounts of maximum fines to be applied to violators for each offense: $2,000 in H.R. 4359, $5,000 in H.R. 808, $50,000 in both H.R. 4723 and S. 1238, and $25,000 in S. 1286. Penalties should serve as deterrents and we question whether $2,000 is enough in some instances. On the other hand, penalties can be so severe that many courts would be reluctant to impose them. However, in our judgment, we do not feel that $50,000 is so severe as to impede such sentencing when this is a maximum.

7. We are in concurrence with provisions in H.R. 3662 and H.R. 4359 which would immediately suspend the dumping or disposal of radioactive wastes, toxic industrial wastes, and chemical or biological warfare materials.

8. We note with particular interest the provisions in H.R. 3662 which would authorize and direct the Administrator of the EPA to conduct research and investigation on the marine ecology. We believe that the authorized appropriation of $1 million per year for this purpose is both reasonable and appropriate.

9. We think favorably of the provision in H.R.4359, proposed new Section 7(g) to the Act of August 3, 1968, wherein: "The Administrator of the Environmental Protection Agency may by regulation prohibit the disposal or dumping of any waste material which he determines may damage the ecology of the marine environment, and in making such determination he may rely upon whatever indicators are currently available to him, regardless of the fact that such indicators may not be conclusive."

10. We recommend that the Subcommittees give consideration to proposed Section 7 in S.1082. This proposal would provide for determining means of recovering useful materials from wastes. Certainly, in our opinion, if a deleterious waste can be transferred into a positive value, the entire environmental movement will have been strengthened.

To conclude, Mr. Chairman, we have welcomed this opportunity of making these remarks and we certainly hope that these Committees can take joint action to report a bill to the full Committee at the earliest possible time.

Mr. DINGELL. The Chair is very pleased to welcome for our first witness the very able Administrator of the Environmental Protection Agency, Mr. William D. Ruckelshaus.

We are happy to welcome you to the committee. The Chair observes that you probably have members of your staff present in the room, and if you would like to have any of them present with you at the table, you may feel free to do so, if you will only identify them for the record by name and by responsibility.

STATEMENT OF WILLIAM D. RUCKELSHAUS, ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY DAVID DOMINICK, ACTING COMMISSIONER OF THE WATER QUALITY OFFICE, EPA

Mr. RUCKELSHAUS. Thank you, Mr. Chairman.

I have with me today Mr. David Dominick, Acting Commissioner of Water Quality Office of EPA, who will participate in the answering of any questions that the committee or chairman may have.

Mr. DINGELL. Mr. Dominick, we are happy to welcome you.

You may proceed, sir.

Mr. RUCKELSHAUS. Mr. Chairman and members of the committee, I appreciate the opportunity to meet with you today to discuss the Administration's proposal for the control of ocean dumping entitled, "The Marine Protection Act of 1971." This bill, H.R. 4723, has been introduced in recognition of the critical need for a national ocean dumping policy.

Our proposal is the product of an intensive and comprehensive study of the problems of ocean dumping. That study and the recommendations for a strong policy of preventive and remedial measures were reported to the Congress in the Report on Ocean Dumping prepared by the Council on Environmental Quality. I understand that Chairman Train has discussed the study and recommendations with you.

I believe we are all in agreement as to the need for a strong bill to control ocean dumping. We endeavored in the drafting of our proposal to translate the recommendations of the Ocean Dumping Report into law. Our purpose here is to recommend to the committee and to the Congress the creation of the farthest reaching and strongest authority that law and technology will allow.

Members of this committee and other members of Congress have introduced bills which in many cases are similar to our own proposal. Other proposals take somewhat different approaches.

Mr. Chairman, we wish to work with you and the committee to develop the most effective legislation possible.

Our proposal, H.R. 4723, would invest regulatory authority over ocean dumping in the Administrator of EPA. As that Administrator, I propose to administer H.R. 4723, if it is enacted, in a way that will fully implement the recommendation of the Council on Environmental Quality as set forth in its Ocean Dumping Report.

I would like to describe briefly the principal provisions of our bill and our thinking about it.

The purpose of H.R. 4723 is to regulate the dumping of all types of material in the oceans, estuaries, and the Great Lakes, and to prevent or strictly control the dumping into such waters of any material which could adversely affect human health or welfare or the marine environment. These objectives would be carried out by means of a permit system established and administered by the EPA.

An important feature of the bill is that it would require a permit for two different kinds of activity. In the first place, persons desiring to transport materials from this country for dumping into ocean or coastal waters, anywhere, whether or not within our territorial jurisdiction, would be required to obtain a permit.

This requirement is based on the authority of the United States to control the disposition of materials transported from U.S. territory.

Secondly, a permit would be required for the dumping of materials—whether transported from this country or not—in waters covered by the bill which are within our territorial jurisdiction, including the 3-mile territorial sea, or in waters of the 9-mile contingous zone beyond the territorial sea where the dumping may affect our territory or territorial sea.

Both requirements would apply to foreign nationals and foreign governments, as well as to United States citizens and to all agencies and instrumentalities of Federal, State and local government.

Thus, the bill would utilize the regulatory authority of the United States to its fullest extent consistent with the established principles of international law.

The bill would apply to any disposition of material with several exceptions, the most important of which is the disposition of effluents from outfall structures. The bill is aimed at intermittent dumping as opposed to continuous discharges from fixed sources. This is an important distinction.

Continuous discharges from outfall structures into territorial waters covered by the Act are already subject to regulation under the Federal Water Pollution Control Act.

Amendments to that Act proposed by the Administration would extend its coverage to outfalls in the contiguous zone and also to outfalls in the high seas beyond the continguous zone which discharge matter originating within U.S. territory.

The Administrator, in issuing permits to dump materials or to transport them for dumping would be required to determine that such activity will not unreasonably degrade or endanger human health, welfare or amenities, or the marine environment, ecological systems, or economic potentialities.

He would be required to establish criteria for evaluating permit applications, to include—

> The likely present and future impact of the dumping on human health and welfare and the marine environment.
>
> The possible persistence or permanence of the effects of the dumping.
>
> The volume and concentration of the materials involved.
>
> Alternative locations and methods of disposal, including land-based alternatives.
>
> The probable impact on the public interest of either issuing or denying a permit or of requiring alternative locations or methods of disposal.

These criteria would be refined as additional knowledge is gained about the environmental impact of ocean dumping and about the acceptability and feasibility of various land-based alternatives.

The Administrator would be permitted to impose restrictions in permits relating to the type and amount of materials to be dumped, the place of dumping, and the period of validity of the permit.

He would be authorized to deny the issuance of a permit where he finds that the materials in question cannot be dumped consistently

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with the criteria established for the issuance of permits, as well as to alter or revoke permits upon such finding.

The Administrator would be authorized to require applicants for permits to provide such information as he considers necessary to evaluate the application. Information required by the Administrator might include detailed plans for conversion to land-based disposal. The Administrator would also be authorized to prescribe reporting requirements for actions taken pursuant to permits.

Any person who violates the act or the provisions of any regulations or permit issued thereunder would be liable to a civil penalty of up to $50,000 per day, imprisonment of up to one year, or both. The Attorney General would be authorized to bring actions for equitable relief to redress any such violations, and the Administrator would be authorized to revoke or suspend a violator's permit. The bill would require the Coast Guard to conduct surveillance and other enforcement activity.

No permit would be denied, suspended, or revoked, or a civil penalty assessed, without notice and opportunity for a hearing.

An important aspect of the bill is the clear definition of its relationship with other Federal laws related to ocean dumping and water pollution control. As I have already indicated, the bill would be inapplicable to internal navigable waters, except for estuarine areas and the Great Lakes, and would be inapplicable to effluents discharged from outfall structures.

Overlap with the Federal Water Pollution Control Act and the Refuse Act of 1899, which between them deal with discharges of all types into navigable waters, is avoided by specific provisions which would prevent duplication or conflict with the provisions of these other laws.

The Refuse Act requires a permit issued by the Army Corps of Engineers for the discharge of wastes other than municipal sewage into navigable waters. Duplicate permit requirements for the disposal of wastes into waters covered by both Acts would be avoided, since H.R. 4723 would expressly supersede the Refuse Act in areas in which both apply.

With respect to the Federal Water Pollution Control Act, under which water quality standards are established and enforced, H.R. 4723 provides that no permit may be issued for dumping of material which would violate such standards.

Under another Administration proposal relating to standards and enforcement, the Administrator of EPA would be given authority to establish water quality standards for the contiguous zone with respect to the discharge of matter originating within U.S. territory.

Such standards, as well as the standards already established by joint Federal-State action for coastal waters out to the 3-mile limit, will be of great assistance in implementing H.R. 4723 if it is enacted.

Except as I have just indicated with respect to the Refuse Act, all existing authorities and actions taken under the Rivers and Harbors Act of 1899 would be preserved. The authority of the Atomic Energy Commission to regulate the disposal of radioactive materials would be affected.

In implementing H.R. 4723, EPA would rely on assistance provided by other Federal agencies. In establishing or revising criteria for the issuance of permits, the Administrator would consult with

the Secretaries of Commerce, Interior, State, Defense, Agriculture, Transportation, and Health, Education and Welfare, and with the Atomic Energy Commission.

He would consult with interested Federal and State agencies in reviewing individual permit applications, and would be precluded from issuing a permit where the Secretary of the Army determines that it would cause an unreasonable impairment of navigation.

In administering the Act, EPA would be guided by the ultimate objective of terminating all ocean dumping which is damaging to the marine environment.

We would adopt a precautionary, preventive approach, aimed at terminating all dumping not clearly demonstrated to be safe. Ocean dumping of materials clearly identified as harmful would be stopped as soon as possible. Where existing information on the effects of ocean dumping of particular materials is inconclusive, yet the best indications are that such materials may create adverse conditions when dumped, the dumping of these materials would be phased out.

If further information conclusively proves that such dim dumping does not damage the environment, it could be allowed to continue under regulation.

The dumping of some materials, such as chemical warfare materials and toxic industrial wastes, would be stopped immediately. The dumping of other materials, such as sewage sludge and solid waste, would be discontinued as soon as possible, and no new sources of such dumping would be allowed.

It might prove unnecessary to discontinue the dumping of some inert, nontoxic materials, such as unpolluted dredge spoil and construction and demolition debris, although the dumping of such materials would be strictly regulated to prevent damage to estuarine and coastal areas.

As one example of how H.R. 4723 might be implemented, consider the case of ocean disposal of sewage sludge. Some communities have substantial financial investment in facilities and equipment for the barging of digested sewage sludge to sea. To impose an immediate ban on ocean dumping by these communities would be uneconomic and possibly self-defeating where acceptable land-based disposal methods are not immediately available.

In such cases, EPA would temporarily allow the dumping to be continued but would require it to be phased out entirely within a reasonable period of time. No new sources of ocean disposal of sewage sludge would be permitted.

This would mean that communities already dumping at sea would not be allowed to increase the volume of such dumping over current levels or what the existing barging facilities will accommodate. In the case of municipalities which do not currently dump sewage sludge at sea, they would not be allowed to start.

H.R. 4723 would not place an absolute ban on the dumping of specified classes of materials, nor would it ban the dumping of materials in specified waters within the coverage of the bill. Instead, the Administrator would be authorized, based on criteria developed by him in consultation with other agencies, to permit, limit, or ban the dumping of particular materials, in all or portions of the waters covered by the bill, depending on all the circumstances of a particular case.

It would not be feasible to ban all ocean dumping at once. In some instances, waste disposal methods which are less damaging to the environment than ocean dumping are not immediately available. Research is needed on the recycling of wastes and the development of other alternatives to ocean dumping.

Conversion to land-based disposal methods will require a substantial reallocation of resources by municipalities and others presently disposing of wastes at sea.

EPA is making every effort to develop solutions to the often very complex problems of recycling and alternate disposal of wastes which otherwise would find their way into inland and ocean wastes.

Some of the projects now underway include an examination and demonstration of the recycling of solid wastes, an examination of the feasibility of mixing municipal sewage sludge and solid waste into a composting material, the location of national land disposal sites for the disposition of hazardous and toxic industrial wastes, the incineration of solid wastes as a fuel for power production, and the use of sewage sludge for soil enrichment or as landfill—especially in strip mined areas.

We are also making an intensive effort through our grant and contract authority to develop and demonstrate practical industrial waste water recycling and by-product recovery as well as industrial methods which minimize the production of pollutants.

In addition to the technological problems, we face an array of social, legal, and economic problems when we seek answers to the puzzle of waste disposal sites and waste transportation.

A great deal of effort and investment is necessary.

Some of the bills pending before these subcommittees would ban the dumping of all materials into the territorial sea or into waters over the Continental Shelf. EPA is not favorable to a ban of this nature which would be applicable to all classes of materials since it might lead to undesirable results in some instances.

For example, again using the case of sewage sludge, it might be necessary for some communities which presently barge sludge for dumping in near-shore ocean waters over the Continental Shelf to invest substantial amounts in new equipment to barge a farther distance from shore. It might be preferable to allow such communities to continue near-shore dumping on an interim basis and to invest their money instead in developing a capability for land-based disposal.

However, EPA does agree that special protection should be accorded to those portions of the marine environment which are biologically the most productive and the most sensitive, that is, estuaries and shallow, near-shore areas in which many marine organisms breed or spawn. In many cases, a complete ban of dumping in such areas might be appropriate.

Several of the bills pending before this committee would require designated levels of treatment for municipal sewage and industrial wastes by specified dates. This approach does not take into account variations in water use designations, the quality or characteristics of the receiving waters, or other factors which bear on the appropriate level of treatment in a given instance.

We believe that water quality standards established under the Federal Water Pollution Control Act provide more flexible and responsive vehicle for the determination of base levels of treatment for these continuous discharges.

Mr. Chairman, I wish to emphasize again our intention to cooperate with the committee to the fullest extent.

We will be pleased to provide you with more detailed information on any of the matters I have dealt with here today, and to make such information a part of the record of these hearings.

We will endeavor to answer now any questions you may have.

Thank you.

Mr. DINGELL. The committee thanks you for a very helpful statement.

The Chair has an observation I would like to bring to the attention of my colleagues on the committee. I am informed that the House will meet at 11 o'clock. This being the case, the Chair observes that this will leave a very limited amount of time for the members and it has been the practice, the Chair observes, of this occupant of the Chair not to impose the 5-minute rule. So the Chair will request that the members do voluntarily restrict themselves to that period of time so that everyone here present can have a full opportunity to question Mr. Ruckelshaus on matters of interest and concern.

On the conclusion of that, the Chair will then afford members additional time on appropriate sequence to ask questions of Mr. Ruckelshaus.

Mr. Pelly?

Mr. PELLY. Thank you, Mr. Chairman.

I will be very limited in my questions and then, if I may, Mr. Ruckelshaus, refer questions to you for written reply for the record.

Mr. RUCKELSHAUS. Certainly.

Mr. PELLY. I am concerned about the fact the Administration bill doesn't have any provision for authorizing additional funds. EPA would do the research work in recycling, for example, would it?

Mr. RUCKELSHAUS. Yes, Mr. Pelly, we have under the Resources Recovery Act of 1970, the specific responsibility for a great deal of research in recycling of solid waste. In section 212 of that act, we have a mandate from Congress to institute a 2-year study on national disposal sites for solid waste. The results of that study are to be made available to Congress. It would now be a year from this October when the bill passed in October 1970.

Mr. PELLY. Would you have adequate funds for carrying on the necessary research?

Mr. RUCKELSHAUS. In our supplemental request for appropriation to Congress, and also in our fiscal year 1972 request, we have allocated funds for this study and for implementation of the Resource and Recovery Act, and we believe those funds are adequate, Mr. Pelly.

Mr. PELLY. If we could have some additional material placed in the record with regard to the present state of recycling, I think it would be very interesting and helpful to us, and I am not going to ask you any questions on that.

There are one or two matters that have come up and that have been brought up by other witnesses that I think I would like to ask you to

comment on now. One is the port authorities, who are greatly concerned over the time that would be consumed in their channeling and dumping of what I would say would be non-toxic materials. They sought to have the bill provide that they could get permission from the Coast Guard, as I recall, without having to go to two different agencies of Government. Do you think that in connection with the necessary channeling of ports to provide for the adequate depth for ships that come into the port, that this procedure could be simplified?

Mr. RUCKELSHAUS. I think it could, Mr. Pelly. Under the provisions of the present law, any dredging of a channel of that nature in a port would be handled under the dredge and fill permits of the Coprs of Engineers. There is a specific provision in H.R. 4723 providing that where a permit is issued under section 403 of the Rivers and Harbors Act of 1899 there is no necessity for two permits to be used. But there is a requirement for consultation with the Environmental Protection Agency by the Corps in the instances in which they issue such permits.

Mr. PELLY. I should think that would be desirable and general for EPA to keep surveillance over this commercial activity that is not confined to just the channeling into port, but goes up rivers and has a vast effect on the environment, I would think.

Mr. RUCKELSHAUS. Yes, I think it is under section 7(c)(3), Mr. Pelly, where it provides that there is no need for duplication of permit under this type of situation that you describe.

Mr. PELLY. I know the chairman of this committee testified as to his concern as to some of the effects of this legislation and his interest, of course, was the Port Authority of Baltimore. And I know there are others of us who have various ports and we do want to make it possible to conduct this necessary work as expeditiously as possible. But I am sure none of us want to violate the principles of good environment.

Mr. RUCKELSHAUS. Yes, sir; that is precisely our position, too, Mr. Pelly.

Mr. PELLY. You would have no objection, would you, if we added to the bill the provision which is in Mr. Rogers' bill for authorization of—I think Mr. Rogers had a million dollars. Some seemed to think it should be more than that.

Mr. RUCKELSHAUS. We have some preliminary figures which I can give to the committee now as to implementation of our bill, and this does not include any of the other provisions which have been suggested in other bills or in previous hearings.

Mr. PELLY. Would you feel that there is reason to have an authorization clause in the bill, so that we can fund?

Mr. RUCKELSHAUS. There is a general authorization clause in section 13 of the bill, as I understood the committee was interested in how much we estimated the implementation of the act or the bill would cost.

Mr. PELLY. Chairman Dingell reminded another witness of the fact that there is a new provision which is required that any legislation now has to give the 5-year cost, and I presume you have that?

Mr. RUCKELSHAUS. Yes, we have the 6-year cost, Mr. Pelly, so we will be glad to provide that.

Mr. PELLY. Will you put that in the record?

Mr. RUCKELSHAUS. Yes, we will.

(The information follows:)

SIX-YEAR COST ESTIMATE ON IMPLEMENTATION OF H.R. 4247

WATER QUALITY (PROJECTED PROGRAM) MARINE PROTECTION ACT OF 1971

[In millions of dollars]

	Fiscal year—					
	1972	1973	1974	1975	1976	1977
Budget authority:						
Permit program	0.5	0.5	0.5	0.3	0.2	0.2
Disposal research:						
In-house	.1	.4	.3	.2	.2	.2
Contracts	1.0	1.1	.7	.5	.5	.5
Subtotal	1.1	1.5	1.0	.7	.7	.7
Technical studies and monitoring:						
In-house	.1	.4	.6	.6	.6	.6
Contracts	.3	.6	2.4	2.4	2.4	2.4
Subtotal	.4	2.0	3.0	3.0	3.0	3.0
Total	2.0	4.0	4.5	4.0	3.9	3.9
Obligations:						
Permit program	.5	.5	.5	.3	.2	.2
Disposal research:						
In-house	.1	.4	.3	.2	.2	.2
Contracts	1.0	1.1	.7	.5	.5	.5
Subtotal	1.1	1.5	1.0	.7	.7	.7
Technical studies and monitoring:						
In-house	.1	.4	.6	.6	.6	.6
Contracts	.3	.6	2.4	2.4	2.4	2.4
Subtotal	.4	2.0	3.0	3.0	3.0	3.0
Total	2.0	4.0	4.5	4.0	3.9	3.9
Outlays:						
Permit program	.25	.40	.45	.3	.2	.2
Disposal research:						
In-house	.05	.32	.27	.2	.2	.2
Contracts	.65	.88	.43	.4	.7	.6
Subtotal	.7	1.20	.70	.6	.9	.8
Technical studies and monitoring:						
In-house	.05	.32	.55	.6	.6	.6
Contracts	.2	.128	1.6	2.2	2.7	2.6
Subtotal	.25	1.60	2.15	2.8	3.3	3.2
Total	1.2	3.2	3.3	3.7	4.4	4.2
Positions	70	100	110	90	79	79

COST OF IMPLEMENTING THE MARINE PROTECTION ACT OF 1971

INTRODUCTION

In a message to the Congress on April 15, 1970, the President directed the Council on Environmental Quality to work with other Federal Agencies and with State and local governments on a comprehensive study of ocean disposal that would result in research, legislative, and administrative recommendations. Their report was issued in October 1970 and a legislative proposal has been prepared by the Administration for submission to the Congress.

If the proposal is adopted, the transportation and dumping of all materials in the oceans, estuaries, and the Great Lakes will be regulated by the issuance of permits. The Administrator would be authorized to establish criteria which would consider the possible detrimental effects of ocean disposal and the impact of the use of alternative locations and methods; to ban ocean dumbing of specific

materials and to designate safe sites; and to issue permits where the applicant presents information indicating that proposed transportation and/or dumping will not unreasonably degrade or unreasonably endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.

Implementation of this legislation will require the development of criteria and regulations for the granting of permits. This development must recognize both the characteristics of the materials to be dumped and their potential impact on receiving waters. To accomplish this will require not only an augmented research effort and understanding on the effects of different waste materials on the marine environment but also a series of baseline technical investigations of existing water quality conditions in present and potential dumping areas.

As a continuing effort it will be necessary to continuously evaluate and update the impact of ocean dumping on the marine environment. While the act specifically assigns surveillance and enforcement functions to the Coast Guard, it will be necessary for EPA to work closely with the Coast Guard in carrying out these functions and in modifying permit requirements and regulations as environmental requirements or conditions change.

EPA already has available staff expertise on marine pollution problems and has laboratory capabilities of running a wide variety of laboratory tests. It must be recognized, however, that EPA does not presently have any ocean-going ship capabilities; it is therefore anticipated that EPA will make full use of the Coast Guard, National Ocean Survey, and Corps of Engineers' ocean-going equipment and personnel to carry out environmental investigations of marine pollution problems. It may also be anticipated that the services of private contractors will be utilized for this purpose under the supervision of EPA personnel. (A contract for establishing the organizational framework of an overall coastal monitoring network, which will include monitoring of ocean dumping zones, will be negotiated during FY 1971. The report from this study should be available about the middle of FY 1972.)

It should also be recognized that extension of water quality standards to the contiguous zone will require the same type of technical investigation and monitoring as will be required by the Marine Protection Act specifically for ocean dumping problems. The program outlined here is directed specifically toward implementation of the Marine Protection Act; however, it should be recognized as part of an overall attack on coastal and marine pollution problems.

STAFFING

A supervisory headquarters staff will be required to initiate the program, to supervise its operations, coordinate efforts within EPA and all other Federal and State agencies concerned with the program. The staff would control final granting of permits. After development of criteria, regulations, and guidelines for the granting of permits had been developed, some of the authorities for the granting of permits will be delegated to the regions.

Headquarters staff will also be required to coordinate research efforts on a continuing basis and to assist in the continuing review and up-dating of criteria and regulations. It is anticipated that much of the research necessary will be carried out by grants or contracts or integrated into the surveillance and monitoring programs and baseline technical investigations of environmental conditions.

Development of a broadly based technical staff to supervise the technical investigations necessary to provide a viable program with the ultimate goal of stopping ocean dumping completely is a necessary part of the overall research and monitoring effort. A broadly based headquarters technical staff is needed to work with the Coast Guard, NOAA, Corps of Engineers, and other Federal and State agencies whose facilities will be used to carry out monitoring and surveillance functions and to make full use of the facilities of other agencies in carrying out ocean disposal research programs. It is expected that each coastal region will develop its own specialized technical expertise to deal with the overall problem as well as problems unique to the region.

OCEAN DISPOSAL PERMIT PROGRAM

Fiscal year 1972: Positions: 48; Budget: $500,000

The law as proposed will become effective 6 months after passage. Within this time interim criteria and regulations for the granting of ocean disposal permits

must be established and guidelines for permit evaluation must be developed and promulgated.

The headquarters staff will convene an advisory committee and set up a task force of in-house personnel to develop the necessary criteria, regulations, and guidelines. The work of this group should be closely coordinated with the setting of water quality standards for the contiguous zone if such laws are enacted. An approximate $100,000 is required for the operation of this advisory committee, and $100,000 for the salaries of eight headquarters personnel for an average of 6 months during FY 1972. A total of 40 personnel will be placed in the eight EPA coastal regions: Boston, New York, Philadelphia, Atlanta, Dallas, San Francisco, Seattle, and Chicago. The tasks of these personnel will be to: coordinate input from all EPA offices; develop working relationships with all Federal and State agencies concerned; receive and review applications for permits; issue permits where applications fall within established criteria or send to the headquarters control group those applications having unusual problems that cannot be resolved locally; coordinate permit information with the enforcement and surveillance agency (Coast Guard); establish a time schedule with other existing or proposed regulations; coordinate and select suitable interim disposal sites with NOAA and the fisheries agencies; and coordinate with State and Federal agencies selection of alternative methods of disposal. Approximately $300,000 will be required for salaries of regional personnel during FY 1972.

Fiscal year 1973: Positions: 48; Budget: $500,000

During this fiscal year, the permit regulations and guidelines will be reevaluated in terms of actual practice and a stronger set of criteria will be developed to discourage ocean disposal except of the most innocuous materials. It is anticipated that during this fiscal year, the initial results of research and technical studies will become available and consideration can be given to the elimination of some ocean disposal areas and relocation of others.

Fiscal year 1974: Positions: 48; Budget: $500,000

During this fiscal year, a solid environmental data base on the impact of ocean dumping on the environment should begin being available and the thrust of the ocean disposal permit program will be toward the elimination of ocean disposal where possible and the relocation of dumping grounds to areas of small ecological significance.

Fiscal year 1975: Positions: 35; Budget: $300,000

By fiscal year 1975, research and technological development should have advanced to the point where ocean dumping as a disposal technique can begin to be phased out. The reduced staff allocation to this part of the program during this year assumes this condition.

Fiscal years 1976 and 1977: Positions: 24; Budget: $200,000

By this time, ocean disposal should be eliminated except for demonstratively innocuous materials and the criteria and guidelines should be developed to the point where only the most routine permit granting efforts are required. It is expected that a regional staff of twenty people will be maintained in this part of the program with a supervisory staff of four in headquarters.

OCEAN DISPOSAL RESEARCH

Fiscal year 1972: Positions: 11; Total Budget: $1,100,000; Contracts: $1,000,000

During this fiscal year, a major effort will be initiated to evaluate the impact of ocean disposal on the marine environment and alternative methods of disposal of material presently being dumped. A combination of 11 new personnel and $100,000 for their salaries during fiscal year 1972 and grants, contracts, and interagency agreements totaling $1,000,000 in fiscal year 1972 will be required. Much of the work will be integrated into technical studies, monitoring, and baseline studies for surveillance; the bulk of this work will be done in cooperation with the Coast Guard, NOAA, the Corps of Engineers, and various fisheries agencies. Specific research projects to be initiated during this fiscal year are:

(1) Alternative Methods of Disposal—$400,000.
(2) Environmental Impact Studies—$300,000.
(3) Beneficial Use of Wastes in the Marine Environment—$300,000.

Fiscal year 1973: Positions: 22; Total Budget: $1,500,000; Contracts: $1,100,000

During this fiscal year, $1,100,000 will be used in contracts, grants, and reimbursable agreements for ocean disposal research. This money will be split between developing technical and alternative methods of disposal to eliminate ocean dumping and toward determining environmental impacts of continuing ocean disposal in the past. Research activities during this fiscal year will begin being channeled into the beneficial uses of wastes in enhancing the marine environment. Some funds will also be allocated toward the solution of ocean disposal problems of particular concern in certain regions and an increase of regional staff is indicated to support this action.

Fiscal year 1974: Positions: 22; Total Budget: $1,000,000; Contracts: $700,000

This fiscal year research efforts specifically directed toward ocean dumping should decrease as problems are solved. It is not anticipated that additional efforts in new directions will be initiated, but that funds will be directed toward the more difficult problems as found during the preceding two years.

Fiscal years 1975, 1976, and 1977: Positions: 15; Total Budget: $700,000; Contracts: $500,000

During these years, a continuing research effort will be maintained directed toward eliminating the environmental impact of past dumping and toward the solution of specific regional problems.

TECHNICAL STUDIES AND MONITORING

Fiscal year 1972: Positions: 11; Total Budget: $400,000; Contracts: $300,000

Contractual or reimbursable agreements will be negotiated with Federal agencies, such as the Coast Guard, or with private contractors for carrying out studies of specific dumping areas as an interim guide for the granting of permits. In carrying out such studies, it is anticipated that EPA personnel will be very closely associated with the survey efforts, either as on-board observers, as project officers or both. EPA laboratories will be required to provide some laboratory support, particularly in the more difficult types of determination. Therefore studies of the dumping grounds of the New York Bight and the New Jersey coast will be in the first order of priority.

During this year, the mechanism needed for continued surveillance of ocean disposal sites and the continued laboratory support of surveillance operations will be developed. The ocean disposal surveillance program will be integrated into the overall EPA coastal and ocean monitoring network.

Fiscal year 1973: Positions: 30; Total Budget: $2,000,000; Contracts: $1,600,000

During this fiscal year, an intensive series of studies of ocean dumping grounds will be carried out, with particular emphasis being given to the development of disposal sites with small ecological significance. Part of the work carried on will be of a research nature and will absorb funds from the research part of the program. Much of the contract money will go for vessel support and laboratory facilities. Sixteen personnel will be distributed among the regions and will provide technical expertise on specific regional problems. It is anticipated that these personnel will participate in surveys and will assist the Coast Guard in its surveillance activities.

Fiscal year 1974: Positions: 40; Total Budget: $3,000,000; Contracts: $2,400,000

By fiscal year 1974, the Coast Guard should be maintaining a full scale surveillance of all dumping activities with close support from EPA personnel and laboratories. Additional personnel will be needed in the regions to deal with specific local problems.

Fiscal year 1975: Positions: 40; Total Budget: $3,000,000; Contracts: $2,400,000

During this fiscal year, a major effort will be made on the overall impact of ocean dumping on the coastal and marine environment. The bulk of the contract money will go to reimbursable agreements or contracts or ship support to assist in these activities. By the end of this fiscal year, all the important areas of the coastal environment subject to dumping impact will have been evaluated in terms of their ecological significance and usability for continued ocean disposal.

Fiscal years 1976 and 1977: Positions: 40; Total Budget: $3,000,000; Contracts: $2,400,000

By this time, a continuing program of surveillance can be carried out by contract or reimbursable agreements with the major EPA effort going into laboratory support and studies of particular local or regional programs. The

personnel and budget indicated are those which it now appears necessary to commit to have a sustained surveillance program through the Coast Guard to meet EPA objectives. It should be noted, however, that this surveillance program and the studies associated with ocean disposal will probably be integrated into an overall coastal and oceanic monitoring network and that the personnel and budget indicated specifically for the ocean dumping programs will also continue toward this overall effort.

COST OF IMPLEMENTING THE MARINE PROTECTION ACT

[In millions of dollars]

	1971	1972	1973	1974	1975	1976	1977
Budget authority	0	2.0	4.0	4.5	4.0	3.9	3.9
Obligations	0	2.0	4.0	4.5	4.0	3.9	3.9
Outlays	0	1.2	3.2	3.3	3.7	4.4	4.2
Man-years	0	70.0	100.0	110.0	100.0	79.0	79.0

Mr. DINGELL. Mr. Rogers?

Mr. ROGERS. Mr. Ruckelshaus? It is good to see you.

Just to pursue for a moment the question on solid wastes, what is the Administration's request for funds? What are your requests for funds?

Mr. RUCKELSHAUS. I don't have those figures before me, Mr. Rogers. I can provide them for you. We have requested in our Solid Waste Office as we inherited it, a budget of approximately $17 million. We have requested in our supplemental request which is still in the process of approval more money for the purposes of new and innovative demonstration projects under the Resource Recovery Act. And in addition to that, we have requested additional funds for the fiscal year 1972 submission for this same purpose, for new and innovative demonstration projects, and also for all of the studies which we were required to make under the Resource Recovery Act.

Mr. ROGERS. What is your 1972 request? It is only about $17 million, isn't it?

Mr. RUCKELSHAUS. No, it is more than that.

Mr. ROGERS. What is your figure?

Mr. RUCKELSHAUS. I can't give you the figure now, because there was a separate request in the budget that was sent to Congress of $85 million.

Mr. ROGERS. For how much?

Mr. RUCKELSHAUS. Eighty-five million dollars. This did not just cover the Solid Waste Office of the Environmental Protection Agency. This was because our agency came into existence so late in the budget cycle that the Office of Management and Budget gave us this extra $85 million to meet the additional needs that we would have as an agency. This budget information will be submitted as soon as we have allocated the funds.

Mr. ROGERS. This hasn't come up to the Congress yet?

Mr. RUCKELSHAUS. Eighty-five million dollars has come up, but there has been no designation as to what the request represents.

Mr. ROGERS. You don't know whether you will get any of it for Solid Waste or not?

Mr. RUCKELSHAUS. We have requested some of it for that purpose. I can't tell you the exact figure at this time, because I can't recall.

Mr. ROGERS. What is your 1972 budget request for solid waste, which

was already submitted? In the President's budget, what figure is that for solid waste?

Mr. RUCKELSHAUS. I think it is between $17 and $19 million.

Mr. ROGERS. As I recall, it is about $17 million, maybe it is $19 million, which is far under the authorization, isn't it?

Mr. RUCKELSHAUS. Yes, that is right.

Mr. ROGERS. About how much under?

Mr. RUCKELSHAUS. Well again I would have to look at that authorization figure in the act.

Mr. ROGERS. Are any of your people here who could help us? I realize you may not have every figure in your mind. Don't you have some Solid Waste people here who can help us?

Mr. RUCKELSHAUS. No, we don't have any Solid Waste people here with that figure.

Mr. ROGERS. Well, I won't pursue that at this time, if you will furnish that for the record.

(The following was submitted in response to the above:)

This information has not yet been cleared by the Office of Management and Budget. It will be provided as soon as such clearance has been obtained.

Mr. ROGERS. Don't you think it is a good idea to have specific deadlines as to when we should say everything must have primary, secondary, tertiary treatment before you dump it in the waters? Would you support that principle?

Mr. RUCKELSHAUS. I think it is a good idea to have deadlines. I think it is a question of whether it is to have deadlines in the act or whether to have deadlines administratively proposed.

Mr. ROGERS. Have you set any deadlines?

Mr. RUCKELSHAUS. No, because we don't have authorization to set deadlines at all.

Mr. ROGERS. Then we ought to either give you deadlines or give you the authorization to do it?

Mr. RUCKELSHAUS. Yes, I think that is right.

Mr. ROGERS. In principle, you are for that, as I recall, and you were for that in the air pollution bill.

Mr. RUCKELSHAUS. Yes.

Mr. ROGERS. We have that in the proposal and I am hopeful we can do it, and I see no reason why it could not be done legislatively.

Mr. RUCKELSHAUS. It is my belief that, where you have a problem that may be complex, as where different kinds of dumpings that are involved, that there ought to be legislative authorization to have administrative agency set the deadlines.

Mr. ROGERS. Perhaps if we set the goal, we may have some slippage—we hope not—but in principle you agree to the deadline idea?

Mr. RUCKELSHAUS. Yes.

Mr. ROGERS. Let me ask you this. Do you think municipal sewage and discharge of waste should be exempt from any requirement of permits?

Mr. RUCKELSHAUS. That is covered under the Water Pollution Control Act, Mr. Rogers. We think it is better to control it under that act than to try to control under the provisions of this act. We don't want to exempt them from regulation, but we think the regulation under the Water Pollution Control Act is a more effective way of doing it than through ocean dumping control legislation.

Mr. ROGERS. I thought you said the Refuse Act requires a permit issued by Army Corps of Engineers for discharge of waste other than municipal sewage.

Mr. RUCKELSHAUS. That is right. But we control the discharge of municipal sewage into the territorial sea under present law, the Federal Water Pollution Control Act, not under the Refuse Act. We are asking in our proposed amendment to the Federal Water Pollution Control Act to extend that coverage to the contiguous zone, and even beyond, when it originates here in our own country.

Mr. ROGERS. In other words, you do believe municipal systems should be covered?

Mr. RUCKELSHAUS. They should be controlled, not necessarily by permits.

Mr. ROGERS. Well, standards that they would have to meet, and so forth?

Mr. RUCKELSHAUS. Yes.

Mr. ROGERS. Now you also say dumping of some materials, such as chemical warfare materials and toxic industrial wastes, would be stopped immediately. Should this be stopped immediately?

Mr. RUCKELSHAUS. We think it should be, Mr. Chairman. That is why we suggested that power should be given to the agency to stop it, Mr. Rogers.

Mr. ROGERS. Is there any reason now why Federal installations couldn't immediately be stopped in line with the Presidential intent?

Mr. RUCKELSHAUS. I think that the Federal agencies, in compliance with Presidential Executive Order 11507, should stop the discharge of any of these materials.

Mr. ROGERS. Are you aware of the dumping that the Norton Air Force Base has been carrying on?

Mr. RUCKELSHAUS. I understand, Mr. Rogers, you brought that up yesterday and that Chairman Train was going to get you an immediate answer to it. I have just gotten back late last night and will work with him in getting that answer for you.

Mr. ROGERS. There was some discussion by the Norton Air Force Base that they were dumping, but they said it was treated by the public body into which they have arrangement to make their dumpings into the waste system. When we talked to the body out there, they said, "Oh, no, it must be treated by the people who dump before we accept it".

So, we have a chicken and an egg, and nobody does it. And do you recall any impact statement having been filed by them?

Mr. RUCKELSHAUS. No, I do not.

Mr. ROGERS. As a matter of fact, has any military installation filed an impact statement with your office?

Mr. RUCKELSHAUS. I think some of them have, but I can't give you any specific examples. But I would be glad to supply them for you.

Mr. ROGERS. I presume they would file it with counsel, but they would ask for your comment, wouldn't they?

Mr. RUCKELSHAUS. That is right. Under the Security Order we are the agency which gives them technical assistance in treating their waste of every kind.

Mr. ROGERS. Well, we checked with EPA yesterday and we find that no impact statements have been filed for military bases. Don't you think that is unusual?

Mr. RUCKELSHAUS. I not only think it is unusual, I am not sure it is even so.

Mr. ROGERS. That is what your people are telling us. I don't know whether I can believe them or not.

Mr. RUCKELSHAUS. Mr. Dominick says he knows of one or two.

Mr. DOMINICK. We have had impact statements filed with the agency.

Mr. ROGERS. For military bases?

Mr. DOMINICK. From military bases. I believe we had one filed from Fort Dietrick the other day with respect to certain chemicals that they were proposing to discharge into a sewage system.

Mr. ROGERS. Would you let us know for the record how many?

Mr. DOMINICK. We certainly will.

Mr. ROGERS. Because the information we got from your information people yesterday was that none had been filed.

(The information follows:)

ENVIRONMENTAL IMPACT STATEMENTS RECEIVED BY EPA AND ITS PROGRAM UNITS FROM THE DEPARTMENT OF DEFENSE—MAY 15, 1970–APRIL 15, 1971

DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS

Anclote River, Fla.
Anacostia River and tributaries, Md. and D.C.
Atlantic Intracoastal Waterway bridges
Alpine Lake project, Texas
Arcadia Reservoir, Okla.
Arkansas-Red River Basins water quality control study, Texas, Oklahoma, and Kansas
Alpine, Pecos River, Tex.
Baker Brook flood protections project, Massachusetts
Baltimore Harbor and Channels, Md. and Va.
Brazos Island Harbor, Tex.
Brush Bayou, La.
Beals Creek at Big Springs, Tex.
Beaver Brook Reservoir, N.H.
Big Creek Watershed, Kans.
Black River Harbor, Alcona County, Mich.
Big Creek, Lower White River, Ark.
Baldwin and Hannon Sloughs, Ala.
Blue Marsh Lake project, Pennsylvania
Bucks Harbor project, Maine
Bristol Harbor navigation project, Rhode Island
Blue River, Mo. and Kans.
Bodega Bay dredging, California
Brookfield Lake, Mo.
Blue Springs Lake, Mo.
Brownsville Washington navigation improvement
Buchanan Reservoir project, Chowchilla River Basin, Calif.
Butler Valley Reservoir project, California
Cascadia Dam and Reservoir, Wash.
Cottonwood Creek, Stuart Gulch, Wash.
Calcasieu River, Devil's Elbow, La.
Cedar Bayou, Tex., navigation
Choptank River, Md.
Central and southern Florida, small boat navigation
Champlin Slough Watershed, Tehama County, Calif.
Chino Canyon improvement project, Polin Springs, Calif.
Citadel, santitary landfill permit request, Charleston, S.C.

Calcasieu River at Coon Island, La.
Charles River Dam, Mass.
Columbia River and tributaries, canyons 1 and 2, Wenatchee, Wash.
Clear Creek, Tex., flood control project
Cliff Walk, scienic restoration project, Rhode Island
Coos Bay, Oreg.
Corpus Christi ship channel—45-foot project, Texas
Corpus Christi ship channel, Port Aranas, Tex.
Corpus Christi Beach, Tex.
Corte Madera Creek, channel improvements, Marin County, Calif.
Candy Dam and Reservoir, Okla.
Cottonwood Creek, Calif.
City of Munday, Tex.
Crescent City Harbor Dredging and breakwater extension, California
Cucamonga Creek, San Bernardino, and Riverside Counties, Calif.
Clayton Dam and Reservoir, Jack Ford Creek, Okla.
Crutcho Creek, channel improvements
Delaware Bay-Chesapeake Bay Waterway
Delaware coast protection, Delaware
Des Moines River at Ottumwa, Iowa
Dewitt, Ark., flood control project
Dickey-Lincoln School Reservoir, Maine
Dunkirk Harbor, N.Y.
Dog and Fowl River, Mobile Bay, Ala.
Dodge City, Las Animas, Arkansas River and tributaries, Great Bend, local protection, New Mexico
East River and Steinway Creek, N.Y.
Duck Creek, channel improvement, Garland, Tex.
Buffalo Bayou and tributaries, Texas
Birch Dam, Birch Creek, Okla.
Cow Creek, channel improvement
Big Hill Dam and Reservoir, Big Hill Creek, Kans.
Copan Dam, Little Chaney River, Okla. and Kans.
Clinton Lake, Kans.
Chariton and Little Chariton Rivers, Mo.
Davis Creek Lake, Iowa
Entiat River, Seattle, Wash.
Elk Creek, Wash.
East River, N.Y. (spur channel to Astoria waterfront)
El Paso, local protection project and central area, Texas
Eastern Rapids and South-Central Avoyelles Parishes
Ellicott Creek, N.Y.
Boone, Colo., flood protection project
Bayou Des Gloises Division, channel and tributaries, Louisiana
Bayou Coden, Ala.
Bayous Rapids, Boeuf, and Cocodria and outlets, Louisiana
Edgartown Harbor, Edgartown, Mass.
Eldorado Dam and Reservoir, Walnut Creek, Kans.
Ellicott Creek project, New York
Fall River Harbor, channel project, Massachusetts
Fall River Harbor, navigation project, Massachusetts
Flood control on Merced County streams, California
Flood control project, Bennington, Vt.
Flood protection project, Danbury, Conn.
Fort Charles and Ivy Landing, drainage, district No. 5; and Stringtown Drainage and Levee District No. 4, Illinois
Fisheating Creek Area, Fla.
Fort Meyers Beach, Fla.
Four Mile Run, Va.
Flat Rock Creek, Tulsa, Okla.
Freeport Harbor, Tex.
Gilham Reservoir, Ark.
Gulf Intracoastal Waterway, Texas section
Frenchboro Harbor, Maine
Gulf Intracoastal Waterway, Offatts Bayou, Galveston, Tex.
Highland Bayou, Tex.

Frio River in the vicinity of Three Rivers, Tex.
Gulf Intracoastal Waterway, Chocolate Bayou, Tex., navigation project
Gulf Intracoastal Waterway, mouth of Colorado River, Tex.
Galveston Harbor and Channel, Tex.
Giww, Port Isabel side, channels, Texas
Genesee River Basin study, New York
Geneva-on-the-Lake, Ohio
Gila River, below Painted Rock Dam, Ariz.
Gila River Canal, improvements, Arizona
Goleta, Calif., and vicinity, Santa Barbara County
Gordons Creek, Miss.
Intracoastal Waterway to vicinity of Boute, La.
Great Lakes and St. Lawrence Seaway, navigation season extension
Grand Lagoon, Fla.
Gypsum, Kans.
Hidden Reservoir, Madera County, Calif.
Hoonah Harbor, Alaska, harbor improvements
Hogtown Creek, Fla.
Jacksonville Harbor, section 2, Florida
Humboldt Harbor at Sand Point, Alaska
Ipswich River, navigation project, Massachusetts
Ico Harbor Dam, Wash.
Indian Bend Wash project, Arizona
Jack and Simmerly Sloughs area, Calif.
John F. Baldwin Ship Canal project, California
Kaimu Beach, Hawaii
Kaneohs-Kailua Area, Oahu, Hawaii
Lahaina small boat harbor project, Hawaii
Lake Port Reservoir, Lake County, Calif.
Lee County, Fla., beach erosion control
Jacksonville Harbor, section 1, Florida
Lavon Dam and Reservoir, modification; and East Fork Channel, improvement, Texas
Lido Key, beach erosion control, Sarasota County, Fla.
Las Cruces, local protection project, Las Cruces, N. Mex.
Lake View Dam and Reservoir project
Ludington Harbor, Mich., commercial harbor improvement
Lake Wichita, Holiday Careek, Tex.
Los Esteros, Pecos, Espanola, N. Mex.
Manteo (Shallow-Bay) Bay, N.C., navigation
Logan Airport, Mass.
Lagoon Pond, navigation project, Massachusetts
Local protection project, Marion, Kans.
Long Sands Beach project, Maine
Lower San Joaquin River and tributaries, Sanislaus County, Calif.
Merrimack River, N.H., Hooksett project No. 1913
Marysville Reservoir, Yuba River, Calif.
Massachusetts Port Authority, airport expansion
Merimentau River, La.
Mountain Creek, Trinity River Basin, Tex.
Laneport, North Fork and South Fork Lakes, San Gabriel River, Tex.
Lufkata Reservoir, Okla.
Little Rock Levee (Eastend-Fourche Bayou) Ark.
Kaw Dam and Reservoir, Arkansas River, Okla.
Little Blue, channel improvement, Missouri
Loup River, Nebr.
Lower Granite, Walla Walla, Wash.
Lake Stevens, Wash., section 205, Seattle, Wash.
Lapwai Creek, Idaho
Metlakatla Harbor, Metlakatla, Alaska
Mill Creek, interior survey report, southwest Ohio
Quachita, Monroe, Bayou Bartholemew, and Yazoo River, La.
Mississippi River between Columbus and Huhman, Ky.
Mississippi River, east bank, Warren to Wilkinson, La.
Mojave Forks Reservoir, recreational facilities, California
Mississippi River, flood control, Winona, Minn.

St. Bernard Parish, La.
Scayaquada Creek, N.Y.
San Diego Harbor, navigation channel improvements, California
Sacramento River, bank protection, California
Selma and Selmont, Ala.
Singlaw River, navigation channel, Washington
Shidler Dam and Reservoir, Salt Creek, Okla.
Sheyenne River N. Dak.
Short Sands Beach project, Maine
Smithfield Lake, Mo.
Snohomish River and tributaries, Washington
Slaughters Bar, Wash.
Scappoose drainage district, flood protection
Souris River, N. Dak.
South shore of Lake Ontario, Fort Niagara State Park, N.Y.
Streams in vicinity of Fairfield, Calif.
Tahquitz Creek, debris basin and channel, Palm Springs, Calif.
Tampa Harbor, Fla., navigation
Taylor Bayou, Tex., flood control and major drainage project
Texas City Channel, Tex., industrial canal
Tocks Island Reservoir project
Tybee Island, Ga., beach erosion control and hurricane protection Tyler Island, Ga.
Verona (Staunton) Dam and Reservoir project, Virginia.
Great South Bay and Patchoque River, N.Y.
Pascagoula River Basin, Miss. and Ala.
Pajaro River levies, Santa Cruz and Monterey Counties, Calif.
Potomac River Basin, Sixes Bridge, Dam, and Reservoir project
Panama City Harbor, Fla.
Port Hueneume Harbor project, Ventura County, Calif.
Protective sandfill, Key Biscayne Beach, Fla.
San Diego River, Mission Valley, San Diego, Calif.
Spring River and tributaries, Mo., Kans. and Okla.
Mississippi River from Cassville, Wisc. to mile 300
Mississippi River at Moline, Ill. and Davenport, Iowa
Mississippi River, Gulf outlet, Michoud Canal, La.
Mobile Harbor, Ala.
Monterey Harbor, breakwater project, California
Missouri River, N. Dak., S. Dak., and Nebr.
Murrells Inlet, Georgetown County, S.C.
Napa River flood control project, California
Nawiliwili, deep-draft harbor, Kauai, Hawaii
New London Harbor project, Connecticut.
New London hurricane barrier, Connecticut.
New Jersey coastal inlets and beaches, Great Egg Harbor Inlet to Stone Harbor
Nookagee Reservoir project, Massachusetts
North Nashua flood protection project, Massachusetts
North Nashua River, channel project, Massachusetts
Okeechobee Waterway, Fla.
New Madrid, Mo.
Osceola, Ark.
Jefferson River, Mont.
North Shore of Long Island, Suffolk County, N.Y.
North Harbor, Wisc. (Dorr County)
Lytle and Warm Creeks, San Bernardino, Calif.
Oachita and Black Rivers, navigation project, Arkansas and Louisiana
Ottawa River Harbor, Mich. and Ohio
Oakland, interharbor dredging, Alameda County, Calif.
Ohio River locks and dams, annual list of repair and maintenance projects
Pamlico River and Morehead City Harbor, N.C., navigation
Park River flood protection project, Connecticut
Pax Creek, snagging and clearing project, West Virginia
Peyton Creek, Tex.
Pattonsburg Lake, Mo.
Peripheral Canal, Central Valley project, California
Placer Creek at Wallace, Idaho

Phillips Reservoir, Mass.
Piogahammond Reservoir, Pa.
Pleasant Bay, Cape Cod, Mass.
Oak Bluff Beach project, Massachusetts
Pisquatua River project, New Hampshire.
Point Place, flood control, Toledo, Ohio.
Platte River, channel, Missouri
Port San Luis project, California
Port Sutton, Fla. navigation
Pine Bluff, Bayou Bartholomew, flood study
Portugues and Bucance Rivers, Puerto Rico
Posten Bayou, proposed flood control study
Red Brook Harbor project, Massachusetts
Red Run Drain, Clinton River, Mich.
Roseau River, Minn.
Reservoir operations
Reedy River, S.C., Salvda River Basin
Red River of the North, flood control project, Pembina, N. Dak.
Revene and Nantasket Beaches, Mass.
Skiatook Dam and Reservoir, Okla.
Ridgecraft Wash., channel, Kern County, Calif.
Stillwater Creek and tributaries, Stillwater, Okla.
San Antonio, improvement, San Antonio River and tributaries, Texas
Running Water Draw Watershed, Plainview, Tex.
Running Water Draw, Brazos River, Tex.
Spring Creek, Springdale, Ark.
Sabine River and tributaries, Texas and Louisiana
San Antonio, channel improvement project, Texas
Sand Bar, Milton, Vt.
San Leandro Marine, Alameda County, Calif.
Stratford hurricane barrier, Connecticut
Saxonville flood protection project, Massachusetts
San Luis Rey River, San Diego County, Calif.
Sanoma Creek, channel improvement, California
Small beach erosion project, Broadkill Beach, Del.

DEPARTMENT OF THE ARMY, OFFICE OF THE SECRETARY

Project Eagle, phase I—Disposal of mustard gas at Rocky Mountain Arsenal, Denver, Colo.
Plan to dispose of biological agents and toxins at Fort Detrick, Md.; Pine Bluff Arsenal, Ark.; Beale Air Force Base, Calif.; and Rocky Mountain Arsenal, Colo.

DEPARTMENT OF THE AIR FORCE

Luke Air Force Base, runway improvements

DEPARTMENT OF THE NAVY

Underwater demolition of dud ordnance near the island of Culebra
Santa Rosa Wash project, Pinal County, Ariz.
Santa Paula Creek project, Ventura County, Calif.
Sunset Cliff, segment B, shore protection improvement, Osprey Street to Ladera Street, city of San Diego, Calif.
Edwards Underground Reservoir, Guadalupe, San Antonio, and tributaries, Texas
Tennessee, Tombigbee Waterway project
Theodore Ship Channel, Mobile Harbor, Ala.
Corps of Engineers Circular No. 1120–2–69, guidelines
Tangipahoa River and tributaries, Louisiana
Vicksburg, Yazoo areas, Miss.
Project No. 1194, Union River, Maine
Whiteriver to Augusta, Ark.
Survey of Gulf Intercoastal Waterway to vicinity of Boutte, La.
Ventura, Marina project, California.
Trumbull Pond Reservoir, Conn.
Tahquitz Creek, debris basin and channel improvement, Palm Springs, Calif.

Walnut Creek, Contra Costa County, Calif.
Trexler Lake, Lehigh County, Pa.
Westerly, R.I., hurricane barrier
Whitmanville Reservoir, Mass.
West Tennessee tributaries projects
Wallisville Lake, Trinity River, Tex.
Turtle Creek, Yukon, Okla.
Whitney Lake, Brazos River, Tex.
Waurika Dam and Reservoir, Beaver Creek, Okla.
Water quality control projects, study, Arkansas, Red River Basins, Tex., Okla., and Kans., part II
Woodbine Lake, Kans.

Mr. ROGERS. Do you know of any others besides the one you mentioned?

Mr. DOMINICK. We have had a number of statements filed with respect to the dumping of munitions and other matters. Many of those, of course, have been thoroughly reviewed by the Congress and by others. But impact statements were filed in the more celebrated cases.

Mr. ROGERS. The nerve gas dumping?

Mr. DOMINICK. That is correct.

Mr. ROGERS. I was speaking of other than those that the Congress has gone into. Well, if you will submit that.

I think it is important, if we are going into this whole question, to set up some organization with some toxicologists in it. Do you have any toxicologists operating in your Agency?

Mr. RUCKELSHAUS. Yes, we do.

Mr. ROGERS. What is your setup there?

Mr. RUCKELSHAUS. We are attempting to increase the number of toxicologists that we have in the Agency.

Mr. ROGERS. How many do you have?

Mr. RUCKELSHAUS. I can't give you the specific number, because it changes from day to day. We are trying to hire toxicologists, who are in short supply in our Agency and, indeed, in the country. Particularly in our pesticides office we have a program to hire immediately approximately 50 additional toxicologists, in order to comply with the provisions of the Pesticides Act.

Mr. ROGERS. But you don't know how many you have presently?

Mr. RUCKELSHAUS. I can't give that exact figure. I can supply it for the record.

Mr. ROGERS. Do any of your people here know?

Mr. RUCKELSHAUS. Not that I know of.

Mr. ROGERS. Nobody knows? I won't pursue it, if no one knows.

Mr. RUCKELSHAUS. We can supply that information for the record.

Mr. ROGERS. I think it would be helpful. I realize you can't keep everything in your head, but I think it would be helpful to have supporting people here who could give us some of these answers that we need to pursue.

(The information follows:)

TOXICOLOGISTS EMPLOYED BY THE ENVIRONMENTAL PROTECTION AGENCY

At the present time the Environmental Protection Agency employs 45 toxicologists, all of them in the Pesticides Office. There are plans for the hiring of 13 additional people in this field in fiscal year 1971.

In the Pesticides Office toxicologists review products, labels, and laboratory reports for determination of compliance with label requirements. Toxicologists

also review petition toxicology data for evaluation of sufficiency, and participate in the establishment of tolerances for pesticides residues on or in food and feedstuffs, They conduct (a) studies on the toxic action of pesticides in small animals from low and high level exposure, (b) research on the toxicological effects of pesticides administered to subhuman primates to determine potential risks from long-term low level exposure, and (c) toxicological studies of pesticides residues in estuarine and marine life.

Mr. ROGERS. Let me ask you this, Mr. Ruckelshaus. You have the authority to ban mercury being discharged into the waters?

Mr. RUCKELSHAUS. We would have the authority, Mr. Chairman. In any instances where a toxic substance is discharged into a waterway it is in violation of water quality standards. And in the case of mercury—we have, in all of the industries and installations where we have found discharge of mercury to be occurring, stated that it was our goal to eliminate any continued discharge of mercury from manmade sources into the environment.

Mr. ROGERS. Is there any reason why it shouldn't be banned? Really, we know the results of mercury in the water, don't we?

Mr. RUCKELSHAUS. That is right.

Mr. ROGERS. We know how to remove it and to neutralize it. It is very simple. Is there any reason why it should not be banned?

Mr. RUCKELSHAUS. In discharging into the water, no; not that I know of.

Mr. ROGERS. Would you consider doing that?

Mr. RUCKELSHAUS. That is what we have stated.

Mr. ROGERS. You say you want to phase it out. I am saying a ban, a deadline; no more mercury in the water.

Mr. RUCKELSHAUS. That is essentially what we have done, Mr. Rogers.

Mr. ROGERS. I don't think it is at all, Mr. Ruckelshaus. I know we can talk about this, but it has not been banned. Mercury is still being put into the waters of the United States. You know it and I know it. In fact, even some of the cases that were settled authorized them to do it. Why shouldn't it be banned, if you have that authority? We know it is bad, there is no question about it. Shouldn't it be banned?

Mr. RUCKELSHAUS. I believe that what we are working toward is the ban of mercury.

Mr. ROGERS. I am not saying working toward, I said ban now, a deadline saying "No more after next week." Is there any reason this shouldn't be done?

Mr. RUCKELSHAUS. There is no reason.

Mr. ROGERS. Would you consider doing it?

Mr. RUCKELSHAUS. Yes; I would.

Mr. ROGERS. Would you let me know what your decision finally is?

Mr. RUCKELSHAUS. Yes; I will.

(The information follows:)

EPA POSITION ON DISCHARGES OF MERCURY

The position of the Environmental Protection Agency regarding the discharge of mercury to public waters is to eliminate all man-made discharges. EPA's approach to this goal is to seek from all known industrial mercury dischargers an immediate and substantial reduction. Experience shows this to be possible and practical in most cases with a nominal effort on the part of industry. In

a few cases substanital effort was required by industry, but significant results have been achieved nevertheless. Given additional short periods, a matter of a few months, more sophisticated process, product, or raw material changes plus special treatment techniques have resulted in further reductions in mercury discharges. The search for additional measures which will eliminate the addition of mercury to the aquatic environment then continues, and complete elimination has been achieved in some cases. This effort to identify and eliminate major and specific point sources of industrial mercury discharge has resulted in measurably improved conditions in waters formerly affected.

In addition to the identifiable industrial sources of mercury entering the nation's waters, there are ubiquitous sources from man's activity, which at the source may be undectectable but when collected constitute measurable amounts. A proposal to immediately ban the discharge of all mercury into navigable waters would not recognize the practical limitations imposed by the fact of innumerable sources. Hospitals, dental clinics, university laboratories, medical and scientific research facilities and many varieties of small businesses may all discharge quantities of materials containing mercury. Most often these are collected in municipal systems, where after treatment mercury may still be found in the treatment plant discharge. The methods and alternatives available to these small but numerous sources are far more limited than to a large industrial source. Additionally, the capabilities of municipal waste treatment plants are limited for purposes of completely eliminating any particular waste constituent, including mercury.

The Environment Protection Agency along with other governmental agencies and private concerns, having recognized the potential threat from increasing mercury discharges before any known damage to man has occurred in the United States, have reversed that trend. With continued progress in the reduction of man-made mercury discharges and continued enforcement of appropriate limitations on water and food and the use of mercury in materials such as pesticides and fungicides, it is believed that public health is adequately protected.

Mr. ROGERS. Then one last question. How many enforcement actions have been taken by your agency under the Air Pollution Act? I know when you first came in you said you were concerned because only one of any significance had been taken. Have you instituted any enforcement actions?

Mr. RUCKELSHAUS. One of the problems we have under the Air Pollution Act is that we have two essential enforcement responsibilities. One is to enforce the implementation plans as adopted by the States now. Under the Clean Air Act of 1970, those implementation plans are not adopted for 17 to 19 months after the last day of last year. We have an emergency power under the act where there is a substantial endangerment to human health.

Mr. ROGERS. Has that authority been used at all?

Mr. RUCKELSHAUS. That authority has not been used, because we have not as of this time found any circumstances where this occurred where we were not able to get the particular discharger into compliance without going to court. But we would certainly use that power if we found it necessary.

Mr. ROGERS. How many actions have we had? The only ones I recall were in West Virginia, the chicken case; and the ones in West Virginia were initiated by the Governor.

Mr. RUCKELSHAUS. That is because of the cumbersome administrative hearing procedures that were superceded by the Clean Air Act of 1970. Once we get implementation plans adopted, we don't have to go through those cumbersome procedures of having enforcement conferences and hearings before we get into court.

Mr. ROGERS. We passed the act last year and I want to know if any actions have been instituted this year.

Mr. RUCKELSHAUS. There is no difference in the emergency provisions under the old act and under the new act, but all of our enforcement procedures under the new act are tied into implementation plans which will not be adopted for 17 or 19 months.

Mr. ROGERS. I would like to pursue this more, but the chairman tells me I have exceeded my time. I am very much concerned that no enforcement action has been taken by the agency.

Mr. DINGELL. Mr. Goodling?

Mr. GOODLING. Thank you, Mr. Chairman. I shall be very brief.

Mr. Ruckelshaus, has your agency been in existence long enough to have given thought to ocean dumping of automobiles?

Mr. RUCKELSHAUS. No. The Federal Water Quality Administration, which has been doing some research into certain problems involving ocean dumping, prior to coming into EPA.

Mr. GOODLING. Have you come up with any answers whether it is good or not? Is any harm being done by dumping of junked automobiles?

Mr. RUCKELSHAUS. I don't know the answer to that question.

Mr. DOMINICK. No, we don't have specific answers to that question, Mr. Goodling. I believe that there may be some areas in the oceans where the placing of junk automobiles would be beneficial to fish life, to provide a proper habitat. We can supply answers to you on what studies have been done by the Bureau of Sport Fisheries and Wildlife on that aspect.

(The information follows:)

STUDIES ON FISH HABITATS OF JUNKED AUTOMOBIES

Such information is contained in the attached reports at the pages indicated:
Progress in Sport Fishery Research, 1966, p. 12.
Progress in Sport Fishery Research, 1967, p. 176.
Progress in Sport Fishery Research, 1968, p. 17.
Progress in Sport Fishery Research, 1969, p. 185.

[Progress in Sport Fishery Research, 1966, p. 12]

ARTIFICIAL FISHING REEFS

Automobile body reef study

We made monthly SCUBA observations on the laboratory's pilot artificial reef, two miles off Monmouth Beach, New Jersey. Construction material consists of 16 junk automobile bodies sunk in a depth of 55 feet. The cars are supporting a moderately heavy growth of encrusting organisms—primarily barnacles and hydrozoans. The initial fouling rate during the last summer was very rapid, but with decreasing temperatures the accumulation of encrusting organisms has been reduced. A differential setting of organisms occurred on the car surfaces. The heaviest fouling was on the painted and chrome surfaces of the bodies. The unpainted and rusted surfaces of the engine and chassis have few marine organisms attached.

The fish attracting quality of this test reef became evident soon after it was established. The fish observed in or about the reef were: tautog, cunner, black sea bass, scup, summer flounder, Atlantic mackerel, pollock, longhorn sculpin, puffer, searobin, and ocean pout. Although most of the fish observed were adults, there were also juvenile pollock, puffers, searobins, and hake. If the reef can function as a nursery habitat, it will not only attract angling size fish from other areas, but may enable fish to survive past the larval stage.

We noted a seasonal change in the reef fauna in December. Water temperatures dropped and longhorn sculpins, a boreal species, had moved to the reef.

The two most common demersal invertebrates encountered in the reef were starfish and sand dollars. We found both species densely packed under and

around the car bodies. The reason for the aggregation is not understood, but it might be a response to eddy currents that are set up by the car bodies. The starfish were frequently aggregated into "balls," made up of several individuals.

The Bureau of Economic Research, Rutgers University, in cooperation with our Laboratory, has submitted a research proposal to the Ford Foundation for an economic feasibility study on the utilization of metropolitan wastes for the construction of artificial fishing reefs.

A cooperative artificial fishing reef program was arranged with the Bureau of Marine Fisheries, New York State Department of Conservation. We plan to construct a pilot-reef off Rockaway Beach utilizing a permit issued to the State of New York by the Corps of Engineers. Other areas along the Long Island littoral zone and some old artificial reef sites will be made available to us to study. This joint effort with New York will extend our research activity into an area of heavy recreational angling.

LARRY OGREN.

[Progress in Sport Fishery Research, 1967, p. 176]

ARTIFICIAL REEF ECOLOGY

Our artificial reef program which began last year with the construction of a pilot study reef off Monmouth Beach, New Jersey, is designed to determine the effect of artificial fishing reefs on the distribution and abundance of marine game fish. From the data that we have gathered this year, and information available from other sources, there is no doubt that artificial reefs attract fish. However, we believe these reefs may not only congregate available fish, but also serve to increase the size of some populations by providing additional spawning sites for adults and protected areas and food for the young.

We selected five sites between New York and Miami in addition to our Monmouth Beach site, to compare species composition of fish and invertebrates attracted to reefs in different latitudes and environments. In choosing these sites, we considered depth of water, bottom type, ease of access by our survey team and distance to coastal population centers. After selecting sites off Atlantic Beach, Long Island, New York; Kiawah Island, South Carolina (south of the Charleston Harbor entrance); Jacksonville Beach, Florida; Palm Beach, Florida, and in Biscayne Bay, Miami, Florida, we surveyed each area and assembled a list of the marine plants and animals present before placement of the reef materials.

The initial construction phase is now complete on five of our sites and a sixth, off Palm Beach, Florida is in the planning stage.

Part of our study is to determine (1) what type of reef material is best for attracting fish and encrusting organisms, (2) life expectancy of the material and (3) cost, both of material and handling. We are using a number of test materials including scrap metal, mostly in the form of junk car bodies, concrete culvert and old tires. Tires were arranged in units of twelve, spaced on reinforcing rods and weighted with concrete.

We plan to complete construction of our Palm Beach reef and add a number of different materials at the other reef sites. Our direct observational techniques using SCUBA to study the distribution of game fish on the reef sites will be complemented with the use of fish traps for mark and recapture studies and hook and line methods by project personnel and cooperating sport fishermen. Our plan includes close and continual cooperative research efforts with State conservation departments. We are compiling a checklist of artificial and natural reefs along the Atlantic coast from Maine to Florida to aid in future reef site selections, for possible comparisons of new and old artificial reef habitats with natural reefs and for dissemination to interested sport fishermen.

RICHARD B. STONE.

Life history and behavior of reef fishes

We expanded our research diving activities to include the newly constructed artificial reefs in waters from New York to Jacksonville, Florida. On the older, established reefs we saw new and changing faunas. Reef materials have not been scattered or buried by storms or currents.

In New Jersey, the year-old car body reef still afforded considerable relief above the flat surrounding area. Currents scoured the sands out from under chas-

sis, which now rest on bed rock. Early in the year the reef took on a different appearance; the thin barnacle growth that covered the reef the first year was almost completely replaced by a settlement of small mussels. Tautog, cunner and black sea bass replaced the winter-spring fish fauna of ling and ocean pout. We observed breeding behavior and collected ripe specimens of the cunner population occupying the reef. Later in the summer, juvenile cunner appeared on the reef, darting in among the hydroid growth. Such evidence suggests that artificial reefs can increase fish production as well as afford temporary haven and feeding sites to adult fishes.

Preliminary trapping efforts to obtain animals for tagging and recapture data were successful. A non-baited trap (modified lobster pot design) caught tautog, cunner and black sea bass. The range of tautog appeared to be confined to the immediate reef site since only traps placed within the reef caught tautog.

In August we constructed and placed a twenty unit tire reef (12 tires per unit) about a mile south of the existing Monmouth Beach car reef. Black sea bass immediately occupied this reef.

In November, off Jacksonville, Florida, divers observed a large assemblage of fish on the three-month-old-reef. Over twenty species were counted, many prime sport fish. Several hundred large amberjack schooled over the top of the reef. Grouper, snapper, sheepshead, and black sea bass occurred in and around the culverts and cars. Groups of car bodies, cabled together, were completely hidden from view by dense schools of small porgies and grunts. Of the organisms encrusting the reef, barnacles dominated, with lesser numbers of hydroids and tube-building worms present. Although we saw many species of fishes in this area before construction of the reef, such dense concentration had not been observed before. This reef is successfully attracting large numbers of adult animals from other areas.

In Charleston, South Carolina, a similar but much more dramatic change in the local fauna was effected by construction of a car reef on the sand flats off shore. Pre-construction dives revealed a fish fauna of scattered sea robins, razorfish and jawfish. In December, twelve species of fishes were observed on the first inspection dive on the reef. Principal forms were bluefish, black sea bass, filefish and longspine porgies, with several large sheepshead and black drum. Barnacles, an important food item, were the most numerous encruster on the car bodies. The sediments around car bodies in contact with the sand bottom had been scoured out about one foot, exposing a fossil oyster reef, a stratum which should prevent the reef from settling any deeper.

We completed necessary plans for a January survey of our artificial reef in Biscayne Bay, Miami, Florida.

LARRY OGREN.

[Progress in Sport Fishery Research, 1968, p. 17]

ARTIFICIAL REEF DEVELOPMENT AND MANAGEMENT

In 1968, we added a sixth unit to our series of experimental artificial reefs. This one off Palm Bleach, Fla., is made up of three sunken ships—the 185-foot vessel Mizpah, a 165-foot steel Navy patrol craft, and a 485-foot section of the Greek freighter *Amaryllis*. It is in 85 feet of water, about a mile offshore just north of Lake Worth Inlet. Observations on the reef have shown a good population of fishes around the vessels.

During 1968, we also added to existing reefs. In August we put a small tire reef down on the Monmouth Beach, N.J. site. To minimize preparation costs we tried the simple method of stringing tires on scrap anchor chain and put 1,100 tires into a 1,250 square foot area. Our reef off Rockaway Inlet, N.Y. was increased in October when the New York State Conservation Department deposited 200 tons of concrete culvert and approximately 25 three-tire units.

Our experience shows scrap tires make the best reef material in many areas. Tires are easy to obtain because they are a nuisance to dispose of on land but are easy to handle and can be formed into units of almost any size. Techniques for handling the masses of tires necessary to cover acres of bottom are under study with funds supplied by the U.S. Public Health Service. The development of an effective disposal technique will have many benefits: it will produce more favorable habitat for coastal fish, help solve a critical disposal problem, and increase the esthetics of the landscape.

We received reports of excellent catches made by our Miami and Jacksonville test reef sites. Fishermen in the Charleston, S.C. area also reported successful fishing on our small test reef about 9 miles off Kiawah Island. To develop a more stringent test of the utility of artificial reefs, we began planning a quantitative study of angler use and fishing success. Our preliminary studies will incorporate various techniques to determine the most reliable and efficient method of executing a major creel survey. We will expand the study to obtain comparative estimates of total harvest, fishing pressure and catch per unit of angling effort for each reef site and adjacent natural fishing areas.

Our survey of artificial fishing reefs for the Atlantic and Gulf coasts is near completion. When finished it will show the location, history, composition, and fish life for all major Atlantic and Gulf coasts artificial reefs.

RICHARD B. STONE AND CHESTER BUCHANAN.

Monitoring and fish population studies

During 1968, we inspected all the test reef localities except Jacksonville in underwater surveys. We also made a pre-construction survey for the Palm Beach, Fla., site that showed the ocean nearly barren of fish before the reef was built—only a few individual grunts, porgies, and snappers had been observed foraging over the bottom. We also were able to inspect an artificial reef in the Virgin Islands, built 8 years ago from 800 concrete building blocks. Fishes were abundant and diverse, but the low biomass of encrusting organisms was the principal ecological difference between tropical and temperate reefs.

We conducted trapping and tagging experiments at the New Jersey and South Carolina automobile reefs during spring and summer, and estimated catch rates at the New York reef using multiple hook sampling rigs. We received one unusual tag return. A tautog marked and released on our New Jersey car reef in November, 1967, was recaptured one year later in eastern Long Island Sound, about 100 miles from the release point.

Fish stomachs and gonads were collected and preserved since analysis of the prey and forage items can help us describe the degree of reef dependency of each species.

Population estimates of the larger black sea bass on the South Carolina automobile reef showed that 200 adults occupied the 0.1 acre reef in April and May. A related species, the rock sea bass, showed a different behavior which should reduce interspecific competition. Rock sea bass were confined to the lower reaches of the reef and always in contact with the substrate. Black sea bass, the dominant form, were widely distributed, occasionally resting on parts of the reef and bottom but usually swimming in and around the reef. They do not appear to exclude rock sea bass from occupying their restricted lower portion of the reef.

Our Monmouth Beach, N.J., scrap tire reef (.03 acre) was observed to have a five to ten foot profile. Initial occupants included tube-building polychaete worms, small lobsters, and cunner. Our New York reef was inhabitated by hundreds of 2–3 pound squirrel hake last summer. In December we caught codfish as well as tautog, cunner and squirrel hake.

A variety of bottom animals died in considerable numbers along the northern New Jersey coast in September. First reports were received from SCUBA divers visiting wrecks. We investigated and found dead and dying lobsters, cancrid crabs, ocean pout, and cunner on both wrecks and natural reefs. In addition to these species, sport divers reported seeing dead surf clams, sea stars, black sea bass, and flatfish. We recorded such low levels of dissolved oxygen (0.34–0.72 ml/liter) at one wreck where we found distressed fish and dead lobsters that the cause of death here was obviously suffocation. We are not sure what caused the oxygen deficiency. The coastal area affected was extensive, and apparently restricted to depths of less than 100 feet. Die-off of the red tide blooms are implicated.

LARRY OGREN AND JAMES CHESS.

Distribution and ecology of attached marine organisms

We continued investigation of attached marine organisms using the Multiple Disc Sampling Apparatus (MDSA). The third MDSA was placed off Cow and

Calf Reef, St. Thomas, V. I., in February, and a fourth unit was installed at Gloucester, Mass. in May. Cooperating scientists subsequently developed MDSA sites at Mattituck, L.I., N.Y. and Key West, Fla.

Discs from the site near the New Jersey car reef have been collected monthly and analyzed. Attached organisms fluctuated seasonally (fig. 21) with general low levels of reproduction and colonization during winter months. Unattached, motile organisms such as gammarid and caprellid amphipods tend to occur when habitat or cover is provided by hydroids or tube-building polychaete worms.

Severe competition for settling space develops between those epibenthic invertebrate species fed upon by finfish and forms not generally used as food. Several large invertebrate species have been noted to compete directly with finfish for available food species. The seastar, *Asterias forbesii*, is an important predator on mussels and barnacles at the New Jersey site. The sea urchin, *Lytechinus sp.*, is the dominant invertebrate predator on the Charleston, S. C. site and competes with game fish for barnacles, a dominant encrusting food species at this site. A small flatworm, *Stylochus sp.*, is an important predator on barnacles at both the New Jersey and Charleston, S. C. site.

Gut content of fishes associated with car reefs and MDSA sites were analyzed to determine game fish use of epibenthic resources. The diet of many fishes indicates they feed exclusively upon attached and motile epifauna and are in direct competition with each other and invertebrate predators. Other species appear to forage on invertebrate species which live in bottom sediments adjacent to car reefs. These infaunal species are therefore important in the ecology of certain reef dwelling fishes.

During the first 10 months of the study, rubber appeared to be the most desirable substratum for colonization by most epibenthic organisms. After 18 months, however, concrete appeared to be an equally effective or superior substratum. Certain chemical components of raw concrete may have leached out which had inhibited normal settlement or attachment of invertebrate larvae on the concrete discs during the early months of submergence. Steel, the poorest substratum in terms of colonization by epibenthic invertebrates, undergoes rapid corrosion which prevents formation of well developed communities.

Discs from the Virgin Island MDSA site indicated the development of epibenthic associations on artificial habitats proceeds slowly in this tropical environment. Evidently, finfishes grazing removed the fauna as rapidly as it became established.

JACK B. PEARCE AND JAMES R. CHESS.

[Progress in Sport Fishery Research, 1969, p. 185]

ARTIFICIAL REEF DEVELOPMENT AND MANAGEMENT

During the first four years of our artificial reef program we found answers for many of the questions we posed at the inception of this study. Some of the information we can now provide includes: 1) the cost and methods of building reefs with several different materials, 2) life expectancy of car body reefs, 3) techniques to use in building effective tire reefs, 4) which substrate appears to be most effective for colonization by epibenthic organisms, and 5) feeding habits of various fish on artificial habitats.

There are still many questions we are trying to answer. One of the problems that has confronted us throughout our study is highly restricted visibility on our artificial reefs in the New York Bight because of turbid water conditions. We had hoped to obtain quantitative data on fishes and study their behavior on artificial habitats through the use of SCUBA. With poor visibility, however, this has proved impractical.

With the addition of two reefs, one off Sea Girt, N.J., and the other off the coast of southern Georgia, we now have 8 experimental reefs under study. We gave technical assistance to groups creating 8 more reefs along the east coast, two off the coast of New York, one in Chesapeake Bay, three off the coast of South Carolina, and one each in Georgia and Florida. We completed a preconstruction survey and site selection off Chincoteague, Va., in a cooperative experimental reef effort between the Chincoteague National Wildlife Refuge and the Sandy Hook Marine Laboratory.

Our cooperative study with the Environmental Control Administration's Bureau of Solid Waste Management investigating the use of scrap tires as arti-

ficial reefs was highlighted by the installation of 35,000 tires on two reef sites in the New Jersey-New York area. We tested different techniques of incorporating scrap tires as reef-building material in configurations that provided necessary relief, ease of handling, and low cost. These are necessary criteria if the material is to be practical for use by sport fishing groups and conservation agencies. After selecting a combination of rod units and single tire units, we deposited 30,000 tires between June and October on the Atlantic Beach artificial reef off southern Long Island. We then deposited 5,000 tires in November on our new experimental reef site off Sea Girt, N.J.

Our inspection dives on the Jacksonville and Palm Beach, Fla., reefs revealed numerous game fishes of many species and a thick growth of encrusting organisms on the materials at both reefs. The car bodies on the two-year-old Jacksonville reef showed appreciable deterioration. The car frames remained intact and supported a considerable growth of invertebrates but the thin metal of the roof and sides of many cars had disappeared.

To compare the biomass of encrusting organisms on artificial reefs with populations on natural bottom around the reef, we resumed and refined the tabulation of data collected on a benthic survey off southeastern Long Island from February 1966 to January 1967. Two polychaetes were tentatively identified as new to this area. We found three types of invertebrate distribution present in this area, two specific and one ubiquitous.

RICHARD STONE AND CHESTER BUCHANAN.

Creel survey technique

We developed and tested several creel survey methods for estimating fishing pressure, catch per angler hour, and anglers' total harvest around artifical reefs. We defined the angling population in our study area as all sport fishermen fishing beyond the surf zone between Manasquan Inlet, N.J., and Jones Inlet, N.Y. To sample this population, we divided the anglers into two groups: 1) party and charter boat anglers and 2) private boat anglers.

In our first attempts to gather information from party boat anglers, we distributed a limited number of log books to the captains and attempted to interview the anglers when they returned to the docks. The dockside interviews proved impractical. However, we are getting encouraging results from the log book returns.

We designed a mail survey which proved to be the best sampling method for private boat anglers. We identified the owner of a particular boat by recording his registration number as he passed an observation point and then checking with the State Marine Police to see who owned the boat. Then we mailed questionnaires to 196 boat owners. We received completed questionnaires from over 80 percent of the boat owners sampled. Errors introduced from non-response were minimal—a follow-up survey differed by only 0.07 fish per hour in the estimate of fish per angler hour and 4 percent in the number of unsuccessful anglers. We are using aerial surveys to estimate total angling pressure in the test area.

CHESTER BUCHANAN AND RICHARD STONE.

Mr. GOODLING. Are you going to continue to attempt to rid the countryside of these unsightly automobiles? To my way of thinking, they are a pollutant just as much as many other things.

Mr. RUCKELSHAUS. Yes, we are, Mr. Goodling. Under the Resource Recovery Act of 1970, we are specifically authorized and told to look into this problem and come up with some solutions for it.

Mr. GOODLING. You are working on that problem?

Mr. RUCKELSHAUS. Yes, we are.

Mr. GOODLING. That is all, Mr. Chairman.

Mr. DINGELL. Thank you, Mr. Goodling.

Mr. Downing?

Mr. DOWNING. Thank you, Mr. Chairman.

Mr. Ruckelshaus, this bill excludes rivers and harbors, does it not?

Mr. RUCKELSHAUS. It does not exclude harbors from its provisions.

Mr. DOWNING. It excludes rivers?

Mr. RUCKELSHAUS. It would exclude, yes, it excludes rivers. These are covered under Federal Water Pollution Control Act.

Mr. DINGELL. If the gentleman would yield, it doesn't include rivermouths.

Mr. RUCKELSHAUS. No, that is right. Estuaries and harbors and tidal waters are specifically included.

Mr. DOWNING. The Federal Water Pollution Act would cover the rivers, then?

Mr. RUCKELSHAUS. That is right, insofar as they are tidal.

Mr. DOWNING. But this act does include harbors?

Mr. RUCKELSHAUS. That is right.

Mr. DOWNING. What about dumping of ships, dumping into harbors, does it cover that?

Mr. RUCKELSHAUS. You are talking about oil dumping?

Mr. DOWNING. Oil or sewage, either.

Mr. RUCKELSHAUS. Oil is specifically included under section 11 of the Water Pollution Control Act. The vessel regulation for the discharge of sewage is covered under section 12 of the Water Pollution Control Act.

Mr. DOWNING. Does this include ships?

Mr. RUCKELSHAUS. Yes, it does. All vessels. We are in the process of adopting regulations now for the control of discharge of sewage from vessels.

Mr. DOWNING. The Navy discharges sewage while in the harbors?

Mr. RUCKELSHAUS. That is right.

Mr. DOWNING. Would that be in violation of the law?

Mr. RUCKELSHAUS. It is not now in violation of the Federal water pollution control law. We are in the process of adopting standards for regulations to control the discharge of sewage from any vessels.

Mr. DOWNING. A ship won't have to file an impact statement to discharge sewage, would it?

Mr. RUCKELSHAUS. Not that I know of.

Mr. DOWNING. How many people do you have in your office, Mr. Ruckelshaus?

Mr. RUCKELSHAUS. We have 6,000 employees in the agency.

Mr. DOWNING. Do you think that is adequate to handle the new duties under this legislation?

Mr. RUCKELSHAUS. No, we have requested in our fiscal year 1972 submission to Congress a 41-percent increase in our personnel in order to meet the responsibilities, not only of this act, but under other acts that we are requesting Congress pass.

Mr. DOWNING. Thank you very much.

Thank you, Mr. Chairman.

Mr. DINGELL. Mr. du Pont?

Mr. DU PONT. Thank you, Mr. Chairman.

Mr. Ruckelshaus, following up on Mr. Rogers' line of thinking, one of the reasons in my view that we haven't had any effective enforcement yet of the Air Pollution Act of 1970 is because we have a tremendous tangle of jurisdictions. There have been three air pollution standards approved by your agency at different times. We have State jurisdiction. We have Federal jurisdiction. I am not convinced that we are ever going to get out of that bog, but isn't this kind of legislation an opportunity to avoid that bog the second time around? Isn't

this an ideal place to take jurisdiction away from the States? Let's give it all to the Federal Government, let's take AEC out of the business. Let's get one comprehensive statute which you can enforce that won't have multiplicity of jurisdictions, that won't have a lot of different agencies passing paper back and forth, and get the job done a little bit faster.

I wondered if you could comment on the jurisdictional questions.

Mr. RUCKELSHAUS. I think you are asking a number of questions here. No. 1, I do not agree that the reason we haven't enforced the Air Pollution Act of 1970 is because of conflicting standards or because of the fact that there are standards at local, State and Federal level. In the 1970 Clean Air Act, all of our enforcement responsibilities are tied into the adoption of an implementation plan. Implementation plans cannot be adopted until we have published national standards, which we will do at the end of this month. And then every air quality region in the country has to adopt emission control within their region in order to achieve a national ambient air quality standard.

Once these implementation plans are submitted and approved by the EPA, which again under the act is a 17- to 19-month proposition, then that is when the act permits us to start enforcing these implementation plans. We just don't have any power to enforce them at this point. We can utilize emergency provisions of the act, but under that provision you have to find an imminent and substantial endangerment to human health.

Mr. DU PONT. Mr. Ruckelshaus, to avoid 17 to 19 months delay type problem in ocean dumping, can't we get legislation noww hich will give all of the power to you? Why do we need AEC? The AEC man was here yesterday, and I could see nothing that he said that convinced me that you couldn't do his job better than he could do it.

Mr. RUCKELSHAUS. I read part of the testimony yesterday by the representative of the AEC, and I must say I was somewhat confused myself as to the precise reasons for that exclusion in the act, given what he said yesterday. What I think we are going to have to get is a clear understanding of the reasons for the exclusions that were given in the testimony yesterday. Otherwise I must agree with you I don't see why we can't do it as well as they.

Mr. DU PONT. Do you see any reason that we can't take State jurisdictions out of this? There is a clause in here that permits a State to enact a statute that might be stricter than your standards.

Mr. RUCKELSHAUS. This is so throughout the pollution control laws. It presents tremendous problems for us, but the air and water pollution laws both are joint Federal-State statutes. They contain Federal-State enforcement provisions in which the State, being the primary enforcement arm, is called upon to act first and the Federal Government coming in when the State refuses to act. States are given authority to adopt stricter standards, if they so desire. It is my own feeling that, as a general rule, the Federal Government should set a base line of treatment that is necessary across the country. If a State decides in its own wisdom that it would prefer to have a much stricter standard in order to have cleaner air or cleaner water than provided under Federal standards, that State ought to be allowed to do that as long as it knows what its doing.

Its the same in the area of ocean dumping; if we set standards for ocean dumping—and there is bound to be conflict of opinion about these standards—there are going to be people who disagree. If States want to have strict standards so the beaches are absolutely pristine in their purity, it again seems to me within their jurisdictional right they ought to have the power to do that. And it is for that reason that we have not provided for preemption in this bill.

Mr. DU PONT. I am not sure that I agree with you. It seems to me that there is an opportunity here for dumpers to select their jurisdiction. If a barge of sludge and sewage is coming down the Delaware River from Philadelphia, and Delaware has one kind of a law and New Jersey has another one, that guy has an option. You are dealing with navigable waters of the United States and it seems to me here is a clear opportunity to get rid of a whole layer of redtape. I have a lot of confidence that you can set some good standards and enforce them, and I would appreciate if we could get for the record your considered thoughts on whether you really think it would be not in the best interests of preserving our oceans to eliminate the State clause from the bills.

Mr. RUCKELSHAUS. Certainly the State would have no power to be any more lenient than we should be. They can only be stricter and it is not our intention to make these standards lenient. We intend to protect the oceans in the sense that I think the ocean dumping report of the Council on Environmental Quality implies. It is a preventive measure in those cases where we haven't gotten in trouble in the ocean. Although off of Delaware we already have problems, and in many other areas of the country, and we don't want to see that proliferate. It is our intention to set standards that are strict in their application to the prevention of any degredation of the marine environment.

Mr. DU PONT. If we could have some detailed comments from you for the record.

(The information follows:)

FEDERAL PREEMPTION OF STATE CONTROL OF OCEAN DUMPING

We have long opposed complete Federal preemption of water quality control. Section 1(b) of the Federal Water Pollution Control Act expresses a Congressional policy in favor of State action to control pollution, and recognizes the primary responsibilities and rights of the States in this regard.

We recognize that there are areas, such as the control of wastes from watercraft, in which an unnecessary burden on interstate commerce or upon Federal-State relationships would result if the States all exercised independent regulatory powers. However, we believe that the existing partnership between the Federal Government and the States is the most fruitful approach to dealing with most environmental problems.

Under H.R. 4247, for example, the Administrator would be precluded from issuing permits for disposal which would violate water quality standards, which are set by the States. In the event that the Congress enacts S. 1014, the Administration's proposed amendments to section 10 of the Federal Water Pollution Control Act, the States would be required, pursuant to Federal regulations, to develop effluent limitations for discharges into all waters, including ocean waters. These limitations, as well as the other components of water quality standards, would be subject to Federal approval.

As the Administrator testified before this Committee on April 7, 1971:

"It is my own feeling that, as a general rule, the Federal Government should set a base line of treatment that is necessary across the country. If a State decides in its own wisdom that it would prefer to have a much stricter standard in order to have cleaner air or cleaner water than provided under Federal stand-

ards, that State ought to be allowed to do that as long as it knows what it is doing.

"It is the same in the area of ocean dumping; if we set standards for ocean dumping—and there is bound to be conflict of opinion about these standards—there are going to be people who disagree. If States want to have strict standards so the beaches are absolutely pristine in their purity, it again seems to me within their jurisdictional right they ought to have the power to do that. And it is for that reason that we have not provided for preemption in this bill."

Mr. DU PONT. Mr. Chairman, I am over my time. Let me ask one more question.

Do you have an estimate of the number of ocean dumping permits that you think you would have to handle every year under this legislation, and do you think you have adequate provisions for staff to take care of that?

Mr. RUCKELSHAUS. Our present estimate is approximately 3,000 permits would be issued. We have requested, and we will submit for the record our request for increased funding that will be necessary to take care of this permit program. We don't have adequate staff now. We will need more people to handle this program, and we think the funding we have requested will provide us with the additional staff necessary.

Mr. DU PONT. Thank you.

Mr. DINGELL. Thank you, Mr. du Pont.

Mr. Karth?

Mr. KARTH. Thank you, Mr. Chairman.

Mr. Administrator, getting back to deadlines, one of our colleagues testified in opposition to deadlines. His reasoning was, if you set a 5-year limit, everyone affected by the deadline will wait 4 years, 11 months, and 29 days, to comply and they would probably make a greater effort and spend more money to run out the clock than to comply with the act.

Mr. RUCKELSHAUS. I think you are right. That is why I am against the legislatively imposed deadlines. In the case you mention we are talking about one industry, the automotive industry, and the problem is common to everyone in the industry. To set a deadline legislatively makes some sense in that case, but to try to set a deadline legislatively for all dumping in the ocean when we have so many kinds of problems involved in dumping does not make as much sense to me. Because, wherever you set it, there are some people who even though they could stop immediately, would be inhibited from doing this, or at least not encouraged, because of this 12-month deadline.

Mr. KARTH. What do you think is a reasonable deadline so long as you suggest that this committee allow you that authority? What do you think is fair, 6 months or a year?

Mr. RUCKELSHAUS. As I say, the authorization would be for deadlines to be set administratively and you might put it within a certain framework. You might set an upper limit.

Mr. KARTH. That is right, but I think this committee ought to know what you have in mind.

Mr. RUCKELSHAUS. It would depend on the particular dumper. If we are talking about municipal sludge, there may be an available alternative site for them to take care of the sludge problem. There should be no deadline. They should simply put the sludge in a different place.

For another community, there may be incredible problems trying to find an alternative site. It seems to me we, as an agency, through the Solid Waste Office, have to cooperate with them in attempting to find an alternative way to get rid of the sludge, and set a deadline in a reasonable way so they can develop this alternative site. And at the same time we can phase out their ocean dumping.

Mr. KARTH. On page 11 you talk about "Toxic industrial waste should be stopped immediately upon effective date of this act." Is that direct toxic waste disposal into the waterways of the country that would be affected by the bill, or is that also toxic waste that would go through channels of municipal disposal?

Mr. RUCKELSHAUS. No; this has to do with dumping. This doesn't have to do with continuous outfall. We have under Federal-State standards presently in existence regulations against discharge of toxics.

Mr. KARTH. Would it make any difference if they dump it by pipeline in the ocean?

Mr. RUCKELSHAUS. No; it doesn't make any difference.

Mr. KARTH. What about offshore oil, what do you think is a reasonable time to eliminate any pollution from that particular source? Maybe you don't call that dumping, but I do.

Mr. RUCKELSHAUS. That is also covered under regulations issued by the Interior Department and under Section 11 of the Federal Water Pollution Control Act for the control of oil as a pollutant.

Mr. KARTH. Every one of the offshore oils, I assume, has some toxic materials that every minute goes into the water. What are your regulations with respect to offshore oil?

Mr. RUCKELSHAUS. With respect to the dumping of oil from——

Mr. KARTH. No; I am talking about offshore oil wells, the actual drilling operations, and the leaks once the oil wells have been established.

Mr. RUCKELSHAUS. The regulations deal in terms of a visible sheen as being a violation of the regulations any time a dumping or discharge occurs.

Mr. KARTH. Subject to the penalties of this act for a $50,000 fine?

Mr. RUCKELSHAUS. No; they would be subject to penalties under Federal Water Pollution Control Act.

Mr. KARTH. What are those penalties?

Mr. RUCKELSHAUS. Mr. Dominick might be able to give you an answer.

Mr. KARTH. Mr. Dominick said $5,000. Is that sufficient, in your judgment, Mr. Administrator?

Mr. RUCKELSHAUS. I don't believe it is. That is an act we inherited.

Mr. DOMINICK. That is, for failure to report, I believe it is up to $50,000.

Mr. KARTH. How many of these oil rigs or drilling companies have been fined under that act? Do you know? What is their track record?

Mr. DOMINICK. There are none under the act passed last spring. We are in the process of developing regulations under section 11(j) to impose equipment requirements on the offshore facilities in the territorial waters.

Mr. KARTH. Was it because there has been no visible sheen or because they are nice fellows? Which one is it?

Mr. RUCKELSHAUS. I don't think it is an either-or situation. We are trying to develop regulations which can be met in a very short time period by the industry on the many facilities which are located in territorial waters.

Mr. KARTH. But you are constantly pursuing that, are you, Mr. Ruckelshaus?

Mr. RUCKELSHAUS. That is right. Don't think for a minute that where we have had these repeated instances of accidents that we can permit this to continue.

Mr. KARTH. I am glad to hear you say that.

Mr. Chairman, one more question.

I thought yesterday I might be the only one confused by AEC's testimony and apparently both of us, and other members of the committee, have been confused. What is your position on that? Do you feel they really ought to have exclusionary clause in this 4723?

Mr. RUCKELSHAUS. It is my understanding from testimony yesterday that the present permits would run out before this act actually came into existence, and the question in my mind is as to whether there should be a distinction between AEC issuing a permit and any other agency a permit.

Mr. KARTH. That is the same question in my mind. What is your judgment on that?

Mr. RUCKELSHAUS. It depends on the degree of consultation that the act provides and the veto power that we would have over any permit they issued. And if the testimony as I understand it yesterday was correct, I really don't see any reason for the exclusion.

Mr. KARTH. Well, I agree with you that I don't really understand it; but as I understand it, probably that is the conclusion I would have to come to. Basically, you do agree that there should be no exclusion for AEC, irrespective of whether we understand their testimony or not? Do you agree?

Mr. RUCKELSHAUS. I will have to qualify the statement by saying, based on what I understand the testimony to be yesterday, I don't see. There may be some reasons that I am not aware of that I will have to inform myself on.

Mr. KARTH. Whatever the reasons might be, and whatever their testimony said, isn't it fair to treat them the same as all other agencies of the Government?

Mr. RUCKELSHAUS. Certainly. No one can quarrel with that. I don't know that it is a question of equal treatment or fair treatment. If that is the only question, then——

Mr. KARTH. Well, let's say the same treatment, afford them the same treatment.

Mr. RUCKELSHAUS. That is right.

Mr. KARTH. Nothing better and nothing worse.

Mr. RUCKELSHAUS. I can't quarrel with that.

Mr. KARTH. Thank you, Mr. Chairman.

Thank you Mr. Ruckelshaus.

Mr. DINGELL. Mr. Ruppe?

Mr. RUPPE. Thank you, Mr. Chairman.

62-513—71——28

Mr. Ruckelshaus, does your agency have any kind of policy or general attitude toward the dumping today, continued dumping or future dumping of mine tailings or mine waste material in the Great Lakes and particularly Lake Superior?

Mr. RUCKELSHAUS. We have had at least three enforcement conferences regarding the Reserve Mining Co. which I assume you are alluding to in Lake Superior. We have presently the report from a committee that was assigned the responsibility under the last enforcement conference to develop an on-land disposal site for the taconite tailings involved in that situation. We don't find that that report is adequate and we have, and will shortly be announcing, the recommendation of the Environmental Protection Agency as to what further action should be taken relating to that particular incident.

Mr. RUPPE. Without going into that specific case, what are the ranges of recommendations or directives that can come out of your agency in a situation of that kind? What are the possibilities?

Mr. RUCKELSHAUS. There are a number of possibilities. One of the problems we have is that the enforcement conference it is a rather cumbersome technique. In our water pollution control amendments that are presently pending before Congress we have asked for the authority to move much more quickly than we can under these enforcement conferences. We can make recommendations and the recommendations are ignored as they have been in many instances. We then go to an administrative hearing and make findings and further recommendations and then from that hearing we have to go to court. That is a very cumbersome administrative procedure. What we are asking for in the water bill is precisely the same thing that was in the air bill, that is, that the Federal presence come right up behind the States in terms of their enforcement authority. In that instance, if we go to court of equity as opposed to attempting to get a fine, the range of options as to what is done is as broad as the equity power of that court, which is limitless in terms of providing equitable solutions to the problem.

Mr. RUPPE. Thank you.

Thank you, Mr. Chairman.

Mr. DINGELL. Thank you, Mr. Ruppe. Mr. Anderson?

Mr. ANDERSON. Thank you, Mr. Chairman.

Mr. Ruckelshaus, who asked for the exclusion of AEC? Was this asked for by the Commission itself?

Mr. RUCKELSHAUS. I can't give you the specific answer to that, Mr. Anderson. This bill was prepared before our agency really came into existence. We have reviewed the bill and this is the way the bill was drafted in its final form. It was my understanding there were extenuating circumstances as to reasons for the specific exclusion of AEC, and that is why I say that my understanding again of what was testified to yesterday is somewhat different from my understanding again of the reason. For that reason, I will have to consult with AEC to find out.

Mr. ANDERSON. I had understood this was an administration bill, so I assumed it would come from your office.

Mr. RUCKELSHAUS. It, as most of the environmental bills presently pending in Congress, was drafted under sponsorship of CEQ. We didn't come into existence until December 2. We are supporting these

bills. But in answer to your specific question, I can't give you the history and genesis of all of these bills because we weren't there at the time this happened.

Mr. ANDERSON. Municipal and industrial sewage is excluded in this act. Yesterday when we were discussing the dumping of rubbish, it was brought out that the act would apply in cases where rubbish was being transported by trucks, barges and conveyor belt. In my district, we are experimenting with a rubbish disposal project, in which rubbish is ground up and delivered in pipes. If rubbish were delivered in pipes, would this law be applicable?

Mr. RUCKELSHAUS. It would be under the Federal Water Pollution Control law. It would be under the same agency.

Mr. ANDERSON. The fact that it would be conveyed in pipes rather than on a belt would be the difference?

Mr. RUCKELSHAUS. Well, the question is, the distinction is between the continuous discharge and intermittent dumping. The continuous discharge,which is normally through a pipe, is controlled under Federal Water Pollution Control Act. What we need to do is to get control over intermittent dumping, which is what this bill is aimed at.

That doesn't mean that the standards would be any different in terms of what we would do as far as water quality control is concerned as far as what we would permit to be discharged from a pipe into any ocean or river or lake under the Water Pollution Control Act.

Mr. DINGELL. If you would yield, Mr. Anderson.

I am curious, isn't that going to mean that a fellow who puts the same amount of stuff in the water through an outfall or through barge dumping or through a conveyor belt or through a ground-up dry discharge through a pipe is going to get different treatment insofar as the amount that he can put in and insofar as the deadlines that he is going to have to meet? For example, let's say a fellow would be banned absolutely by an order that you would issue with regard to putting toxic industrial wastes or substances of this kind in from a barge, but he would be able to continue, if he were to alter his operation. He would then be able to continue by simply piping it in from an outfall as liquid waste, so long as it didn't impair the water quality standards; or if he were to divert it by a conveyor belt or through a pipe, ground up in dry from, he might be able to get still different treatment.

Now it occurs to me that probably to treat it as dumping he is going to get more stringent treatment than he is going to get under the Water Quality Act, because the Water Quality Act is not going to prohibit against the positive dumping in the waterways; but it is going to deal with the end result of what the deposit has to be.

In other words, you would then be fixing a tolerance as opposed to quite possibly an absolute prohibition. Would you want to comment on that, Mr. Ruckelshaus.

Mr. RUCKELSHAUS. Yes, Mr. Chairman. No. 1, if we are talking about toxic substances, and we were prohibiting the dumping of a toxic substance under the ocean dumping authority, we would likewise prohibit it from being discharged by an industry through the municipal system or directly into a stream.

Mr. DINGELL. This is not so, Mr. Ruckelshaus, and you well know it. The law allows, and you do, I know—for example, up in our coun-

try you are allowing deposit of chemicals under water quality standards. These are toxic substances. You would never allow that under the water quality standards bill. You are allowing mercury to go into water. You have reduced it significantly, and I applaud you, but you are still allowing mercury to go in water. You are allowing cadmium waste to go into water by fixing the amount which may go. But under dumping provisions you would probably ban totally the deposit of those substances into the waters.

What I am asking you is, aren't we going to treat the fellow who runs it in, through outfall or through the kind of device Mr. Anderson is alluding to, differently than we treat the fellow who would casually barge it out and dump it?

Mr. RUCKELSHAUS. To the extent that the discharge now of any substance labeled "toxic" would not violate water quality standards as they are presently established, they are permitted to continue to discharge them.

Mr. DINGELL. If he is dumping in a big waterway, the Mississippi River or Detroit River or Hudson River that has a large flow, that is going into an outflow like the Atlantic that has a heavy stream flow, the probability is he is going to be able to put an awful lot in terms of waste and volume of a particular waste which he would not be able to do were he in a situation where he would try to barge it out or put it in by conveyor belt?

Mr. RUCKELSHAUS. That again depends in part on whether the effluent standard which we have attempted to get Congress to adopt in the bill that we have presently submitted, whether we could set effluent standards to limit very carefully how many of these substances go into water as opposed to setting water quality standards in dealing with similar capacity of the waters that receive them.

If we get this additional authority, I think we can obviate much of the problem you are discussing. That does not mean there may not be some minimal amount of discharge to be permitted of a substance that may normally be called toxic, even under effluent standards, which could not be dumped. But the problem of dumping, it seems to me, is concentration of that material into a certain area where there is no flow going through or no way of dispering it into the waterway.

Mr. DINGELL. My question was not critical of you. I am trespassing on my good friend's time, but I wanted us to have a clear understanding of the anomaly we have here. I hope that you will consider this particular problem. I want to mention I was probably the first fellow around here to come up with the idea of effluent standards on water, and I support your endeavor in that particular direction.

Thank you, Mr. Anderson.

Mr. RUCKELSHAUS. I might say, Mr. Chairman, I did not mention this problem before, but if somebody were prohibited from dumping a particular substance by any prohibition that we issue and they simply put a pipe on and dumped it through the pipe, it seems to me this would be a clear violation of the spirit of this statute, if not in substance.

Mr. DINGELL. I understand the violation of the spirit, but I would like you to carefully address yourself to a violation of the substance so we can understand whether or not we aren't setting up an anomaly

which might justify some kind of rascality that neither this committee or yourself wants to sanctify at this time. I would suggest that you give us suggestions as to how we can meet this particular challenge, and hope that you might be able to give us some legislative suggestions for amendment to this particular bill to prevent that kind of situation.

Mr. RUCKELSHAUS. We will certainly do that.

Mr. DINGELL. Thank you.

Thank you, Mr. Anderson.

Mr. ANDERSON. A last brief question to follow up on Mr. Karth's discussion on the oil well spillage or dumping: You cited the $5,000 penalty. Isn't there a difference on the 3-mile limit application? What happens beyond the 3 miles? Is that area under the Department of Interior's supervision with a different set of penalties, or are the penalties the same?

Mr. RUCKELSHAUS. I think they are, Mr. Anderson.

Mr. DOMININICK. Mr. Anderson, the application of regulations under section 11 to offshore facilities would only apply to territorial waters, and the regulation of offshore facilities in the contiguous zone is by regulation of the Department of the Interior, U.S. Geological Survey. I think the answer to your question is basically "Yes"; as to offshore oil facilities, there is a difference between application of Federal Water Pollution Control Act and application——

Mr. ANDERSON. Are the penalties the same?

Mr. DOMINICK. I am not aware of what penalties are now being employed by the Department of Interior on the contiguous zone.

Mr. ANDERSON. That is the area beyond the 3 miles?

Mr. DOMINICK. That is correct.

Mr. ANDERSON. Thank you.

Mr. DINGELL. Mr. Kyros?

Mr. KYROS. Thank you, Mr. Chairman, I will yield my time to Mr. Rogers.

Mr. ROGERS. Thank you, Mr. Kyros.

Thank you, Mr. Chairman.

Mr. Ruckelshaus, to pursue this question just a minute on setting a deadline, you say you believe it should be done administratively although where there is one industry like oil you had no objection to that. You say it might make some wait until the deadline. Suppose we say that you could ban it on or before a certain date. Would you have any objection to that?

Mr. RUCKELSHAUS. No, I think that would obviate some of the problem, but still when you have an outside date, there is still a tendency for anybody who is discharging to look to that outside date as to time.

Mr. ROGERS. And when there is no date at all, they think they may never have to do it unless you catch up with them?

Mr. RUCKELSHAUS. If we don't set a deadline, that is right.

Mr. ROGERS. Sure. So I think it is better for us to try to set deadlines.

Now, I think it would be helpful to the committee to have some suggested dates from you in the agency and you may not be able to give them now, I realize, but I think we should have them very shortly. For instance, why shouldn't everybody have primary treatment, which is practically nothing, by 1972, this coming year, the end of 1972?

Mr. RUCKELSHAUS. Our goal under the Water Pollution Control Act is secondary treatment for every municipality, and it is for that

reason that we discussed or we introduced the $6 billion, 3-year matching funds program for $12 billion total.

Mr. ROGERS. Give us a date for secondary, where we can skip primary if you don't think we should. Secondary or equivalent.

Mr. RUCKELSHAUS. We anticipate that in the $6 billion figure that we will have—this is a 3-year program of $12 billion—that we will have all of the projects underway and approved in 3 years, to be completed within 5 years. This is our goal and again we have to constantly reassess the amount of money that is involved, because it changes almost monthly as to how much is needed.

Mr. ROGERS. What I am saying is, should it be tertiary by 1976, 1978, or should it be secondary by 1974, 1975? What should be the goal?

Mr. RUCKELSHAUS. Again it differs widely depending on what area you are in and just exactly what the standards themselves provide, if we have water use designation, which we do have in most of the State-Federal standards.

Mr. ROGERS. Of course, you know what this does, it changes the theory of saying you are licensing a certain amount of pollution in every river, which the Water Pollution Act does. It authorizes and licenses pollution. To set a deadline change the whole philosophy and says, "We don't want any waters polluted after a certain date to this degree of treatment." Right?

Mr. RUCKELSHAUS. That is right.

Mr. ROGERS. Is that a good philosophy or isn't it?

Mr. RUCKELSHAUS. Our bill still provides ——

Mr. ROGERS. I know what your bill provides. What I am asking is, is that a good philosophy? We are going to write the bill. We want to consider yours, but we are going to write the bill in the committee. I want to know your thinking, is it an equitable philosophy not to pollute the waters or to license pollution?

Mr. RUCKELSHAUS. If you put it between those two choices, obviously not to pollute is the better philosophy.

Mr. ROGERS. Of course, it is. And I knew that you would agree with that and I think that is what the committee will do to try to be helpful to you, to give you some tools to work with. Because his Water Pollution Act just says you can continue polluting and in certain rivers you let them pollute tremendous amounts, as the chairman brought out, even deadly chemicals.

Now, my concern about allowing administrative decision as to deadlines, when certain things should be done now, is proved by your lack of banning mercury when we know the effects. Yet they are making administrative decisions and saying, "We will let a little go in here and there", and so it is still being done. The Air Force base, that we brought out the other day, putting cyanide into public dumping systems without being treated, and each one thinks that the other is treating it. And so what is happening, they are having a dead sea between Catalina Island and the mainland and Westinghouse has been out there with their submarines to take pictures to show what has happened. So I think it would be helpful if you could furnish to the committee suggested dates or deadlines on or before which primary, secondary, tertiary, or equivalent treatment, or any other designation

that you think would be helpful would be required. Could you furnish that?

Mr. RUCKELSHAUS. I would be glad to furnish you with a statement of my philosophy as to how we go about ——

Mr. ROGERS. I say I would like to have from the agency for the committee the suggested dates.

Mr. RUCKELSHAUS. As to when primary, secondary, and tertiary could be achieved?

Mr. ROGERS. That is right.

(The information follows:)

QUESTION: DEADLINE DATES FOR MUNICIPAL AND INDUSTRIAL WASTES

ANSWER

The postulation of a specific date for the attainment of a particular level of waste treatment by all dischargers has the appeal of simplicity and enforceability. However, it is not advantageous to have such a proposal expressed in the general terms of primary, secondary, and tertiary treatment. These terms relate generally to types of treatment processes which have been historically associated with the clarification of domestic sewage. They are not easily defined or related to the treatment of industrial wastes. As an example of problems associated with their definition, a treatment plant containing a series of "primary" treatment processes (principally settling) with the addition of a phospate removal process designed to control eutrophication in the wastes' receiving waters would be essentially a tertiary treatment plant from the standpoint of nutrient removal and a primary treatment plant from the standpoint of the removal of oxygen demanding wastes.

In addition, these terms relate to the percent removal of pollutants and do not account for the absolute amounts of pollutants being added to the receiving waters.

The Federal Water Pollution Control Act, as amended, and the Administration's proposed legislation, S. 1014, do not relate to the attainment of primary, secondary, or tertiary treatment but instead refer to the treatment required to meet the imposed water quality criteria to insure the full and designated uses of the Nation's navigable waters. It is imperative that all municipal and industrial waste discharges be in compliance with water quality standards.

All wastes both municipal and industrial should be required to provide on a national basis a standard effluent level. Specific treatment requirements should be imposed on those municipalities or industries above the standard effluent level as necessary to insure the meeting and compliance with water quality standards. This approach permits the maximum utilization of available financial resources being applied in the most advantageous and cost effective manner, to insure that the major effort be made in those areas where it is most urgently required.

The Federal Water Pollution Control Act, as amended, and the Administration's proposal, S. 1014, required that each State adopt as part of their water quality standards effluent criteria for its navigable waterways. The achievement of these effluent criteria as discussed in the above paragraph will insure the orderly attainment of water quality standards throughout the Nation. We therefore endorse the concept of effluent guidelines, as called for in S. 1014, and recommend that the approach not be based on simply primary, secondary, or tertiary treatment but on the concept of applying initially a base level of treatment reflecting the best level of technology.

The WQO/EPA is currently developing effluent criteria guidelines, in effect standard effluent limitations, for major industrial categories as well as determining the current state of the art for treatment and control within these industries.

In dealing on an industry-by-industry basis we can specify effluent requirements consistent with available technology and for industries where technology is presently not proven we allow for the scheduling of the necessary research and development.

It must be remembered that municipal-sewered wastes and industrial wastes do not constitute all of the national water quality problem areas. In addition,

there are such national problem areas as agricultural wastes, other urban wastes (including urban runoff), power plant wastes (thermal), mining wastes (including acid mine drainage), and oil and hazardous material discharges. All of these problem areas, not just municipal and industrial wastes, must be corrected in order to meet water quality goals. Consequently, the WQO/EPA is addressing effort in each of these directions to achieve national goals.

Mr. ROGERS. Now, let me ask you this. You have 6,000 employees you say?

Mr. RUCKELSHAUS. That is right.

Mr. ROGERS. How many do you plan to hire in addition to the 6,000?

Mr. RUCKELSHAUS. We have requested an increase of 41 percent so we will go to 9,000 at this time next year, if the budget passes.

Mr. ROGERS. Where will these people be used mainly?

Mr. RUCKELSHAUS. Primarily in the Water Quality Office and in the Air Pollution Control Office, although we are in the process again of reorganizing the Agency so that to strictly say they will be in one or two of these offices may not be true after the reorganization, because it may be we will functionalize in area of standard setting and enforcement so that more people would be in those areas that might be specifically dealing with these problems, but not in those offices.

Mr. ROGERS. What is the number of personnel you have for monitoring in the field what is happening?

Mr. RUCKELSHAUS. We presently have, as best we can determine because some people perform more than just one function, in the neighborhood of 250 to 300 people involved in monitoring. We have an assistant Administrator for research and monitoring. One of his prime functions is monitoring. There are a number of Federal agencies which also do monitoring, NEAA and Interior Department and Corps of Engineers that are involved in this, along with State agencies which we finance and which we match funds for State pollution control agencies which do a lot of monitoring. We do not have, in all honesty, a very good fix on just how much monitoring is going on, how much we need, and we need to get a lot more information about this.

Mr. ROGERS. I agree. I think we are very deficient on efforts in monitoring. I would think one of the primary areas you would look at immediately is the monitoring of outfalls. Is there any program for that specifically?

Mr. RUCKELSHAUS. Under the permit program, there is a provision for monitoring by the industry itself which is discharging into any stream. There has to be a sworn statement by the industry what is in their effluent, and we will in turn monitor those statements to insure that they have told us the truth, and that there is a provision in the permit program itself for self-monitoring by industry.

Mr. ROGERS. When is the effective date of your permit program?

Mr. RUCKELSHAUS. The application has to be in by July 1.

Mr. ROGERS. Is there a cutoff date, when they cannot discharge unless they have a permit?

Mr. RUCKELSHAUS. We don't have any strict cutoff date as of this time. We are going to process these permits as fast as we possibly can.

Mr. ROGERS. I believe you estimated it would be 40,000.

Mr. RUCKELSHAUS. That is right.

Mr. ROGERS. What is the time element you have estimated that you can work through those?

Mr. RUCKELSHAUS. One of the things that we do know is that in traveling around to our regions in the country, we basically know who the people are that are giving us the most problems, giving us the most trouble, so what we want to do is select the permits and get at the permits where we really are having the problems first, and then gradually get down to eliminate all of them, and we had set a deadline approximately 12 months to process all of the permits. Whether we achieve that or not, that is in itself imposed as an internal deadline.

Mr. ROGERS. How many people have you asked to do that specific work?

Mr. RUCKELSHAUS. We have requested in a supplemental budget to Congress 400 people in our agency to do that, and it is my understanding that the Corps of Engineers has something like 300 that they have requested.

Mr. ROGERS. So it will be a joint effort. Is that it?

Mr. RUCKELSHAUS. That is right.

Mr. ROGERS. Do you review all of the permits?

Mr. RUCKELSHAUS. We review them as to whether they meet water quality standards.

Mr. ROGERS. Water quality standards are set by whom?

Mr. RUCKELSHAUS. Joint Federal-State standards in interstate waters, and State in intrastate waters.

Mr. ROGERS. How do you find out what those standards are in intrastate waters?

Mr. RUCKELSHAUS. As far as intrastate standards, they are supplied to us by the State pollution control agency.

Mr. ROGERS. You are going to check to see that they meet those standards intrastate, too?

Mr. RUCKELSHAUS. We are going to do more than that. In some instances they don't have standards, in which case we will see that they are in compliance with purposes of the Federal Water Pollution Control Act, which will be essentially the standards we have set in other areas of the country.

Where standards are so weak that they might as well not be any standards at all, we are also not going to simply rubberstamp those certifications from the States as they come through for our approval.

Mr. ROGERS. Well, what authority do you have to set your standards in intrastate waters? The State does not set any?

Mr. RUCKELSHAUS. To be perfectly frank, the authority is not as clear as we would like to have it.

Mr. ROGERS. Did you ask for such authority?

Mr. RUCKELSHAUS. We certainly have. We have asked in our amendments to the Federal Water Pollution Control Act last year, and this year, for authority to set standards in instrastate waters.

Mr. ROGERS. Has it been granted?

Mr. RUCKELSHAUS. It has not. It did not pass last year, and it is pending before Congress this year.

Mr. ROGERS. Maybe we should include it in here.

Mr. RUCKELSHAUS. The ocean-dumping bill has been included in the Federal Water Pollution Control Act. We had hearings in the Senate Public Works Committee. The problems in determining who is

responsible to do what probably can be cleared up if these bills are treated together.

Mr. ROGERS. What concerns me, Mr. Ruckelshaus, and I know you have not had an opportunity to be in this long, for instance, you tell me we are going to do this, and then I find out that you don't even have authority to do it.

Mr. RUCKELSHAUS. I have not said we don't have authority to do it. Under the Refuse Act of 1899, when read in conjunction with 21(b) of the Water Pollution Control Act, we have arguable authority to do it.

So we believe under that arguable authority we can look at these certifications by the States and pass on those, weher clearly they are deficient in any kind of water pollution control program at all.

Mr. ROGERS. Do you have the authority, or does the Corps of Engineers have authority under the Refuse Act?

Mr. RUCKELSHAUS. Under the Refuse Act, they have the authority to issue permits, and read in conjunction with section 21(b), we believe the authority to pass on water quality is given to the Environmental Protection Agency, and that we advise the Corps on the exercise of that authority.

I admit this is not without some dispute, and that there are those who say we don't have that authority.

Mr. ROGERS. If you had deadlines, you could get at it quickly, could you not?

Mr. RUCKELSHAUS. If we had the amendments that we suggested to Congress, we could get at it quickly.

Mr. ROGERS. Well, if this committee decided, that could really get you going on this problem.

Mr. RUCKELSHAUS. We would hope all of the committees would do that.

Mr. ROGERS. Regarding solid wastes, I just checked, we authorized for fiscal 1972 $152 million. The committee thought the problem was that significant. I notice the budget request was $19 million. Do you think this is a proper request to meet the needs in this area?

Mr. RUCKELSHAUS. This is not the final, total request that we will make, as I explained.

Mr. ROGERS. You said there is $85 million, but you are not sure whether any of that goes to solid waste.

Mr. RUCKELSHAUS. We are requesting that some of it go to solid waste.

Mr. ROGERS. What is the major request for?

Mr. RUCKELSHAUS. For new and innovative demonstration projects.

Mr. ROGERS. Of the $85 million, I mean.

Mr. RUCKELSHAUS. Probably to implement the Clean Air Act of 1970.

Mr. ROGERS. What are the total requests for air pollution?

Mr. RUCKELSHAUS. Something in the neighborhood of $41 million.

No, that is not the total request. That is of the $85 million.

Mr. ROGERS. Then for water pollution it is what?

Mr. RUCKELSHAUS. Very little of the $85 million goes to water pollution.

The reason I am a litte fuzzy on these figures is because we are still in the process of trying to get a final answer from OMB as to just

where these will be allocated, and there is no final answer that I can give you right now.

Mr. ROGERS. I wondered what you had requested. I realized OMB often does not agree with your request.

Mr. RUCKELSHAUS. We requested allocation of $85 million between the problems of air and water pollution, and pesticides, radiation, and solid wastes, and obviously we don't come up with the authorization in the bill, if it is even a portion of the $85 million.

Mr. ROGERS. Very, very short?

Mr. RUCKELSHAUS. That is right.

Mr. ROGERS. Do you agree with that approach?

Mr. RUCKELSHAUS. I believe that in looking at the new and innovative projects which the bill authorizes us to fund as they come in, there are not that many new and innovative projects. We have already been criticized by GAO for funding projects that were not new and innovative at all. In fact, they were redundant as to other projects.

I think we have to be careful to perform what Congress has said we are supposed to perform, which is to put this money into new and innovative demonstration projects.

Mr. ROGERS. No; it is not just demonstration projects. There is a section for demonstration projects. There is also a section to help communities bring about new methods, but it is not just demonstration, which does not mean it has got to be new over what they have out in Seattle, Wash., the very latest there, but it means it is new in that area, an improvement.

Mr. RUCKELSHAUS. I suppose this is an argument that in looking at legislative history was an argument that went on through Congress.

It is our interpretation of the act that it does mean new in terms of the Nation, because if the purpose of the act is for this Federal agency to provide means of the treatment of solid wastes, that can be adopted in communities around the country when they see they work.

Mr. ROGERS. Well, may I say, then, you probably will end up with only one project in the United States a year, or a month.

Mr. RUCKELSHAUS. No; I don't think that is right.

Mr. ROGERS. I thought you said there were not that many new and innovative projects.

Mr. RUCKELSHAUS. Well, there are not, but there are more than one.

Mr. ROGERS. If you will analyze, and I happen to be the author of that section, I would tell you that the intent is that it does not have to be the same in Florida, on the same level as it does in Washington, but it should be new and innovative in that area, an improvement for that grant section for the demonstrations, yes.

I think if you will check that, maybe that will help in getting more funds.

Then finally, let me conclude by saying I believe you do have primary responsibility for enforcement in the Air Pollution Act for new stationary sources.

Mr. RUCKELSHAUS. That is right.

Mr. ROGERS. You don't have to wait for the State.

Mr. RUCKELSHAUS. That is right.

Mr. ROGERS. For airplane pollution?

Mr. RUCKELHAUS. We have a year before we have any authority for airplane.

Mr. ROGERS. You can set standards.

Mr. RUCKELSHAUS. In a year.

Mr. ROGERS. Well, I think that is true all over the act.

Mr. RUCKELSHAUS. You asked why we don't have enforcement standards. We don't have authority to set standards for a year.

Mr. ROGERS. If you are going to get into that, which I was not going to get into because of the time element, but there are a number of procedures that already have taken place as to regional establishments under the prior act.

Mr. RUCKELSHAUS. That is right. We have no implementation plans approved as of this time.

Mr. ROGERS. I don't know why not, because some have been submitted.

Mr. RUCKELSHAUS. That is right. Nineteen have been submitted.

Mr. ROGERS. Sure. They told us we were going to have 52.

Mr. RUCKELSHAUS. They are not in compliance. The implementation will not implement.

Mr. ROGERS. Under the old act, there are areas where you can proceed with enforcements, no question about it. You can have conferences even under the old act.

Mr. RUCKELSHAUS. I agree with that. Under the conference procedure, we could, but under the new act, we have new procedures.

Mr. ROGERS. But we did not stop those procedures under the old act in the new act. If they were on-going, they are still in existence. Now, you know that.

Mr. RUCKELSHAUS. And we are going on with those.

Mr. ROGERS. But not much is going on. That is the point I was making. I will not pursue that with you.

Thank you, Mr. Ruckelshaus.

Thank you, Mr. Chairman.

Mr. DINGELL. Mr. Du Pont.

Mr. DUPONT. I have an additional question, Mr. Chairman.

Mr. Ruckelshaus, you said that you thought there would be about 3,000 permit applications.

Mr. RUCKELSHAUS. That is the best estimate we can come up with. That is a ball park estimate.

Mr. DUPONT. Do you envisage for each of these 3,000 applications a public hearing, or at least an opportunity for public hearing?

Mr. RUCKELSHAUS. I think there should be very similar to the Corps of Engineers dredge and fill permits provisions for public hearing, when a hearing is requested by affected citizens.

Mr. DU PONT. I agree with that. There ought to be an opportunity, but do you foresee another bogging down of procedures here?

It seems to me on every application that comes up that the more militant citizens and conservation groups are going to want to have a hearing; they will want to testify; and they are going to want to string out procedures as long as they can to prevent the dumping.

Do you think if you go through all of this procedure that you are going to issue any permits?

If you request enough permits, you will never get a permit, because it will go on and on.

Mr. RUCKELSHAUS. A lot of hearings go on in the Corps of Engineers dredge and fill permits, and there is sometimes vigorous advo-

cacy on both sides. Sometimes the permits are issued, and sometimes denied.

I don't see that the hearing procedure itself would keep us from issuing any permits. I think if you get the hearing procedure too familiarized, and make it automatic for even a rather minor issuance of a permit, you might well be bogging the agency down.

Mr. DUPONT. You might be better off to provide for notification, and not fit the hearing clause into the law.

Mr. RUCKELSHAUS. That is my present thinking on it. It is not a question without some difficulty, because we are dealing with due process and the right of people to be heard.

I would think when the application was filed, and with all of the information in it that is provided in the act, that application would be made public immediately, and that anybody would have within a certain number of days to comment on the application and request a hearing on the application, if they so desire, and then, if it seemed that the subject was of enough significance, and there was enough controversy about it, we should hold a hearing.

That is essentially what the Corps does under dredge and fill permits, and this procedure has worked very well under their regulation.

In that way, we could provide due process, and people the right to be heard, and at the same time not get the program and issuance of permits bogged down in a lot of endless procedure.

Mr. DUPONT. I would like to ask one more question, Mr. Chairman.

Mr. Ruckelshaus, I wonder if you would consult the legal arm of your organization and get a legal opinion on the question of substantive due process when there are multiple standards approved by the Federal Government or by overlapping Federal and State jurisdictions.

What I am getting at here is under the Air Quality Act, for example, in Delaware, the Federal Government has independently approved three standards. HEW set one under the Federal criterion. Delaware submitted one that your agency approved, and now you are about to issue a third one on your new standards.

There are three. All of the numbers happen to be different in one of these cases. If I were an attorney on the other side, I would argue that this is totally lacking in substantive due process here, because they are irrelevant criteria. There are three criteria, all approved by the Federal Government.

Mr. RUCKELSHAUS. I think clearly the national standard we are about to approve would preempt the other two.

Mr. DUPONT. The reason this is important is if we allow the States to legislate in the area, and you end up with two conflicting criteria on ocean dumping, I suggest that maybe the whole thing could be brought down by one lawsuit.

Mr. RUCKELSHAUS. We will look into it. I am sure the criteria is conflicting. One is more strict, and that one would apply.

Mr. DUPONT. Well, they are overlapping, if you will. But I think this is a chink in the armor that we should not perpetuate in this law.

Mr. RUCKELSHAUS. I agree with you, and I also think that I don't agree that we should not have stricter standards. I am not sure I agree with that.

But one of the problems we do have are sometimes conflicting standards between air and water pollution agencies, and then agencies at various levels of Government, and standards that change very quickly, so it allows two things to happen.

One is an industry that sincerely wants to do something about it does not know what the standard is, and they don't do anything. It also gives the industry which does not want to do anything an excuse to drag their feet and say they will wait until they find out what the standard is going to be.

I see it as a function of our agency to try and make some sense out of these conflicting standards, and try to give some clear signals to people as to what is expected of them.

We have not achieved it yet, but we are still trying.

Mr. DUPONT. Mr. Ruckelshaus, you put it far better than I could have put it, and that is exactly the problem. I think when we get to ocean dumping, maybe we can avoid making a mistake made in the Air Quality Act by removing the State jurisdictions to enact standards at all.

Thank you.

Mr. DINGELL. Mr. Sharood.

Mr. SHAROOD. Mr. Ruckelshaus, I wonder if we could clarify one problem I have with the State preemption requirement.

If a State establishes requirements or standards under the act, will you continue in the role of issuing or denying permits for dumping, or will the total burden be transferred to the State?

Mr. RUCKELSHAUS. Not under the present provision of the act. Anybody who is going to dump any material in the ocean will have to have a permit from, or any of the other areas of water covered under the act, a permit from the Administrator of the EPA.

The fact that a State requires another permit is a burden on the dumper, but that is not a burden that is not duplicated in other areas of our law.

Mr. SHAROOD. Let's assume that the State did not require a permit, but simply established a higher standard of some sort, and I have some difficulty envisioning the kind of conditions the State might impose with respect to ocean dumping.

Would you then be guided by those State standards and deny or approve a permit based upon the higher State standards?

Mr. RUCKELSHAUS. No, we would not have any authority, other than what were provided in our own standards.

If we are going to treat people equally across the country, it seems to me as far as our agency is concerned, you are entitled to a permit if you comply with our standards.

If States want to prohibit you from dumping within their jurisdictions, then that is a problem between the State and the person who wants to dump.

Mr. SHAROOD. If the State adopts a higher standard, the party wishing to dump would simply have to go into a contiguous zone in order to avoid the State requirement?

Mr. RUCKELSHAUS. There is a question whether a State can, from a ship originating in its ports, control beyond the territorial seas, as being one of their citizens of that State.

There is a California State law that apparently calls that into question, but that is not without some ambiquity at this point.

But that is true. If the State did not have any authority outside of the territorial sea, then that is where they would end up going.

Mr. SHAROOD. You would not look to those State standards, if the party came to you with a permit to go out 6 miles, or 4 miles from shore, you would not take into account those higher State standards. Is that true?

Mr. RUCKELSHAUS. Well, I think what our agency has to do a lot more of, and it is difficult for me to promise in the context of this bill that we ought to do it, is a lot closer coordination and cooperation with the States in adopting standards as such.

There is a certain impetus, when a Federal agency adopts a standard, and makes it clear what that standard is, and makes clear the reasons behind the standard, there is a certain preemptive force in this kind of standard setting itself in that States then say, "Well, they are handling it, and therefore there is no reason for me to do it."

This has happened in some areas, particularly with HEW.

Mr. SHAROOD. It seems pointless to provide in this legislation for a provision such as this, if you are then going to ignore the State standards and are not going to take them into account, but issue permits solely on the basis of the Federal standards. It does not seem to serve any useful purpose.

Mr. RUCKELSHAUS. I don't think we can ignore them, but by the same token, I don't think we should be in the business of enforcing State regulations. This could get to be a very confusing problem, if we tried it, and we have not done it in the past.

Mr. SHAROOD. My second question is perhaps a bit far out, but I want to clarify another point for the record.

Let's say the Army decided to transport surplus munitions of some type from Vietnam to the central Pacific and dump them. That would not come under the coverage of this act. Is that correct?

Mr. RUCKELSHAUS. I think it would. I think they would have to have a permit to do so.

Mr. SHAROOD. As I read your permit system, you have to have a permit to transport from the United States out into the ocean, and you have to have a permit to dump within our territorial sea.

I don't read anything in there that requires a permit for the U.S. citizen or entity to transport material from a foreign country out into the ocean for dumping.

Mr. RUCKELSHAUS. I may not be in the act.

Mr. SHAROOD. I am not suggesting that they would do this, but I am posing the question.

Mr. RUCKELSHAUS. We are asking for the authority under the Federal Water Pollution Control Act to set standards beyond the contiguous zone.

Mr. SHAROOD. That relates to material coming out from the United States.

Mr. RUCKELSHAUS. And also affecting the territorial sea of the United States.

It also, I think, might run into a clear problem under the Executive order, or under the National Environmental Policy Act, but arguably, this might be outside of the coverage of any present law.

Mr. SHAROOD. That is the way I read it, and I wanted to get your view on that, to make sure I was not misinterpreting it.

Do you think we should?

Mr. RUCKELSHAUS. I think it ought to be made clear as to the coverage of the act in this kind of situation.

Mr. SHAROOD. Will you submit some language?

Mr. RUCKELSHAUS. Yes, we will.

Mr. SHAROOD. Fine.

(The information follows:)

DUMPING MATERIAL FROM FOREIGN TERRITORY IN WATERS SEAWARD OF THE UNITED STATES

A paragraph could be added after subsection 4(b) as follows:

"This Act does not apply (1) to transportation for dumping carried out by United States citizens when such transportation originates in territory other than United States territory, or (2) to dumping of material by United States citizens when such material is not transported from the United States for the purpose of dumping it and the dumping takes place in ocean, coastal, or other waters other than those described in subsection (b)."

The definitional section could be amended to define "United States citizen" to include natural persons who are citizens of the United States as well as United States corporations and agencies of the Federal or of any State or local government of the United States.

The amendment is not recommended because it is believed that section 4 is already very clear that the activities in question would not be regulated by the bill. Furthermore, without a careful reading, the additional language might be misconstrued to mean that United States citizens would be given more favorable treatment than foreign nationals, clearly an undesirable result.

Mr. SHAROOD. I have another question with regard to the overlap or tie-in between the Dumping Act and the proposed amendments to the Water Quality Act.

As I read the proposal under section 10 of the Water Quality Act, you will be establishing standards for the contiguous zone of the high seas with respect to effluent which flows from the United States into those waters, but until you have in fact established standards, there is no effective prohibition or limitation upon a municipality or private industry to run an effluent pipe, let us say, out into the contiguous zone or the high seas.

Mr. RUCKELSHAUS. There is not now.

Mr. SHAROOD. But even after this act is presumably in force you must first establish standards?

Mr. RUCKELSHAUS. Well, the way we will get at it is through effluent standards, which makes much more sense than water quality standards that distance from the shore.

Mr. SHAROOD. The next question is: viewing this from a nationwide standpoint, effectively how long is it going to take you to establish effluent standards which will encompass all of the seacoasts of the United States, let us say?

Mr. RUCKELSHAUS. We are in the process now of establishing effluent standards for 21 basic classes of industries in the country, and we expect to have the preliminary reports on those standards by the first part of next month, and hopefully, we will have an ability to establish effluent standards prior to July 1 for these 21 basic industries.

As far as effluent standards for municipalities are concerned, where we have pipes outside of the 3-mile zone, they might well be estab-

lished on the basis of secondary treatment, which has a meaning in terms of municipalities that is not nearly as clear in the case of industry.

Mr. SHAROOD. Would your water quality standards say for outfalls that extend far beyond the contiguous zone, differ from your standards for outfalls that extend only 2 or 3 miles out from shore?

Mr. RUCKELSHAUS. I think again it depends on the nature of the ocean, and where the outfall is. I don't know of any outfall that extends beyond the 12-mile zone.

Mr. SHAROOD. Mr. McCloskey yesterday said San Francisco is contemplating building one a 100 miles out in the Pacific. I don't know if this is true or not.

Mr. RUCKELSHAUS. This is why we have asked for rather flexible authority, granted a great deal of authority, into the ocean dumping bill, because there is a lot we don't know, and it may well be that there are places in the ocean in which it would be the most desirable environmental place to either dump or discharge wastes, and as far as examples are concerned, they don't readily come to mind, but I think we need to keep this power and have this ability built into the statute.

Mr. SHAROOD. Do you see any utility in this legislation requiring that after a year your agency will report back to Congress on the implementation and follow-through.

Mr. RUCKELSHAUS. No, we are doing that in all of the bills that we now have. We report up here about once a month.

Mr. SHAROOD. I have two other short questions.

One is on the penalties. You have an exemption there for Federal employees. This is probably more traditional, I suppose, than anything else, from the criminal penalties, and yet it would cover State employees, municipal employees, and other governmental types. Why carve out an exemption for a Federal employee who might willfully violate this act, on a personal liability basis?

Mr. RUCKELSHAUS. I think in stating your question, you stated the reason, that it is a traditional reason for the Government suing itself, and in this case——

Mr. SHAROOD. No, we are talking about a person, an employee, an official of the Government.

Mr. RUCKELSHAUS. Of course, he would be acting outside of the scope of his authority as governmental authority, if he was doing it.

I have some difficulty, myself, in saying exactly why there should be an exemption, except that there are administrative procedures for handling employees of the Federal Government who violate any rules or regulations of their employment, and traditionally it has been thought that these regulations and procedures were sufficient to handle the situation in the case where an employee was involved in some part of civil violation.

Now, governmental employees are subject to criminal penalties, just as are any other citizens. To the extent that this offense is similar to a criminal offense, it becomes more difficult to exclude the Federal employee.

It is a difficult question.

Mr. SHAROOD. Is it logical to exempt a Federal employee and not the State or local employee?

Mr. RUCKELSHAUS. It is more logical, because it is a Federal program, and the Federal program can be administered more carefully by the Federal Government, and there is more authority over the employees of our level of government than there is over the State level.

For instance, if any employee of the Federal Government violated provisions of this act, he could be discharged, and there would be means or ways of forcing his discharge. In the case of the State employee, if the State wanted to completely ignore the fact that he violated it, there would be very little we could do.

Mr. SHAROOD. On the question of emergencies, you have a provision here for the safety of human life, or words to that effect, that requires a report, I believe.

Who determines whether or not there is a situation that endangers human life, the private party who decides to go out and dump? Is it totally their judgment, or must they consult with you, or will you have any handle on this at all?

Mr. RUCKELSHAUS. Clearly, if there was a dumping, it would be a dumping without a permit, so on the basis of the flat basis of the statute itself, it would be a violation of the statute.

Their claim would be that they did this to safeguard human life, as the statute gives them an exception from having a permit.

They make a report to me, the Administrator of this agency, indicating that while they did violate the act on its face, they were exempted from the act because of the need to safeguard human life, and there would be a need for them to prove to me this is what happened.

Mr. SHAROOD. What you are saying, in effect, is that this is a defense.

Mr. RUCKELSHAUS. That is right.

Mr. SHAROOD. But the way it is written in the bill, it seems to me it is more of an exemption than a defense.

I wonder if you will consider rewriting that section to spell out a little more clearly that this is a defense to a civil or criminal penalty, and not an exemption, as it appears to be.

Mr. DINGELL. Would you yield?

Mr. Ruckelshaus, this is a matter that does concern me, too. I have the distinct feeling that, as the bill is presently constituted, anyone would be able to come forward and say, "Well, it was an emergency, and we had to run out and dump the stuff to get rid of it."

And I am not sure precisely what you would do in that event, and I think some great care should be devoted to preventing this exemption, or whatever you want to call it, from becoming virtually a license to evade the bill.

Mr. RUCKELSHAUS. I agree with you, Mr. Chairman. If that is the import of the section, I think that the mere fact that they raised that as an excuse for dumping without a permit would be pretty transparent, unless they had some really good evidence as to why they actually needed to engage in this particular dump in order to safeguard human life.

It seems to me it would be a pretty extreme situation in which this defense would come up.

Mr. DINGELL. Would you take a careful look at that and see whether or not some amendatory language is necessary, and try to assist the committee with that particular provision?

Mr. RUCKELSHAUS. We will.

(The information follows:)

EMERGENCY DUMPING WITHOUT A PERMIT TO SAFEGUARD HUMAN LIFE

To accomplish this purpose we would recommend that subsection 5(h) be renumbered as subsection 6(g) and revised to read as follows:

"No person shall be subject to a civil penalty or to a criminal fine or imprisonment for transportation or dumping without a permit or in violation of a permit if such person can prove that such transportation or dumping was necessary, in an emergency, to safeguard human life. Any such transportation or dumping shall be reported to the Administrator within such times and under such conditions as he may prescribe by regulation."

Mr. SHAROOD. One last question on your recommended dumping sites.

As I read the bill, you can recommend dumping sites, but is there anything in the bill which enables you to require that the dumping of the given material take place in a given site? Or will this be discretionary with the permittee?

Mr. RUCKELSHAUS. I don't think so.

If we found, for instance, a particular site was preferable for that permittee, I think we would simply stipulate in the permit that that is where the dumping was to take place, and that they could not do so otherwise, and that in that manner be able to control very carefully where the material is dumped.

Mr. DINGELL. Would you want to give us your counsel, Mr. Ruckelshaus, as to whether or not you would be able under this to require a time for dumping? For example, when the current might be flowing strongly, or the tide might be moving in a particular direction, or the wind might be moving in a certain way, or the currents might be moving in a particularly desirable direction, or when water temperature might be at a particular level? Do you have the authority to control those particular events with regard to dumping?

Mr. RUCKELSHAUS. I think we clearly do, under the provisions of the act, have the discretion to, in the permit itself, limit very carefully the location and time and manner in which any dumping would occur.

Mr. DINGELL. I don't read the bill as being entirely clear on that point.

Mr. RUCKELSHAUS. We would certainly be glad to agree to any language that would make it more clear, or suggest language.

Mr. DINGELL. I think it would be helpful to the committee if you would suggest language which would enable you to give rather clear direction as to all of the conditions of the permit.

(Suggested language to be furnished follows:)

CONDITIONS OF A DUMPING PERMIT

Section 5(c) of the bill as presently drawn provides that—

"Permits issued under subsection (a) may designate and include (1) the type of material authorized to be transported for dumping or to be dumped; (2) the amount of material authorized to be transported for dumping or to be dumped; (3) the location where such transport for dumping will be terminated or where such dumping will occur; (4) the length of time for which the permits are valid and their expiration date; and (5) *such other matters as the Administrator deems appropriate.*" (Emphasis added)

In view of the underlined language, further specificity as to the matters which may be dealt with in a permit is not considered necessary. Such addi-

tional matters could deal with a great variety of things, such as the route to the dumping site, safety precautions to ensure that the transportation and dumping are carried out safely, the precise times when dumping will be allowed, monitoring and reporting requirements, and the like. Greater specification of the allowable permit provisions might lend support to the argument that the listing is intended to be exclusive. EPA prefers the language of the bill as presently drawn, which enumerates only the *basic* provisions of the typical permit, namely, those relating to type and amount of material, location of dumping, and expiration date.

Mr. DINGELL. Now, it occurs to me, Mr. Ruckelshaus, that you are going to be dealing under this section with persons who will constitute a category of ocean dumpers. Are you going to want licensing authority for those people, as opposed to permit?

Mr. RUCKELSHAUS. You mean a more general license?

Mr. DINGELL. I am talking about contractors who will engage in this business.

That is the way it is done today. Are you going to need or want that, or will that be desirable for you to have?

Mr. RUCKELSHAUS. I really——

Mr. DINGELL. Would you like to reflect on that and give us your guidance on that point, please?

(The information follows:)

EPA AUTHORITY TO LICENSE TRANSPORT CONTRACTORS FOR OCEAN DUMPING

We favor the minimum amount of regulation necessary to control ocean dumping. The provisions of H.R. 4247 requiring a permit for each incident of dumping or transportation for dumping provide all the control that is necessary.

Mr. DINGELL. Mr. Everett.

Mr. EVERETT. Thank you, Mr. Chairman.

Mr. Ruckelshaus, also, when you reflect on the emergency provision, please give some thoughts to a way of expediting a procedure with respect to these type dumpings, and still require a permit or some notification to you or the Department prior to the dumping of such material.

Mr. RUCKELSHAUS. All right.

Mr. DINGELL. If you will yield, the Chair comes to the thought that perhaps we ought at least to require that they do give you notice, in the event of these so-called emergencies, so that if they are going to do something that is hazardous, and it is not a bona fide emergency, then you could bring into play whatever powers you felt necessary, including resort to the courts for equity for appropriate injunctive relief.

Mr. RUCKELSHAUS. It is my understanding, Mr. Chairman, the purpose of that provision is primarily for a distressed ship at sea, where it is necessary to dump over a number of ballasts, or whatever might preserve the ship.

Mr. DINGELL. This was the Coast Guard's interpretation, but I am sure you recognize that the particular section is rather more broadly drawn than that.

Mr. RUCKELSHAUS. Yes, it is.

Again, I would think that other than that specific application, even if you are talking about toxic materials in the question as to whether to dump them on land or in the ocean is safeguarding human life, I cannot conceive of such a sitaution, but it is possible, and there is no reason that could not be worked out as the general permit procedure

itself, with prior notice and a hearing, if necessary, and all of the provisions of the granting of any permit.

Mr. DINGELL. It would be possible, if somebody wanted a very fine device to evade the probability of a hearing over a very unpopular subject.

Mr. RUCKELSHAUS. I suppose that is right.

Mr. DINGELL. Mr. Everett.

Mr. EVERETT. Mr. Ruckelshaus, I am still not clear in my mind as to how this would work with respect to the Corps of Engineers.

The chairman of the full committee is concerned about the plans for the Baltimore harbor project. In a statement issued by Mr. Reynolds yesterday, on behalf of the American Institute of Merchant Shipping, he indicated that the project had already been approved, and that the State of Maryland, the board of public works and State of Maryland have given assurance that disposal areas will be provided in the Chesapeake Bay opposite Kent Island and/or in diked areas off Baltimore Harbor.

If this bill is passed in its present form, what will take place with respect to a permit application that would have to be obtained under this legislation, so far as the dredge and fill permit is concerned?

Mr. RUCKELSHAUS. Well, as it would ordinarily work, if we are talking about a dredge and fill permit from the Corps of Engineers, where under their authority under the Rivers and Harbors Act, there would only be one permit issued, and if the permit is requested of them, any dumping provisions relating to the issuance of that permit would come under the purview of our responsibilities, under this act, and they would have, under the act, as I read it, there is no requirement for a separate permit.

Mr. EVERETT. The State of Maryland said they would like to have——

Mr. RUCKELSHAUS. Excuse me. There has to be certification under section 7(b) (2) to the Corps of Engineers by our agency that there is no violation of the criteria.

Mr. DINGELL. Mr. Everett, if you yield, what you as saying here, if you please, Mr. Ruckelshaus, is that under this particular proposal, you would still have the corps continue to issue dredge-fill permits as they do under existing law, but that the dredge-fill permits would require an additional activity by your agency under lines 18, 19, 20, 21, and 22 of the bill appearing on page 11, which, for the purpose of the record, says:

> And regulations issued hereunder, unless the Administrator has certified that the activity proposed to be conducted is in conformity with provisions of this Act and with regulations issued hereunder.

Am I correct in that?

Mr. RUCKELSHAUS. That is right.

Mr. DINGELL. So essentially, the corps would have to defer to you on environmental matters, even though they would actually issue the permit in that particular instance. Am I correct?

Mr. RUCKELSHAUS. I think the theory of this is one agency ought to have responsibility for assuring that there is uniform treatment for dumping whatever the material is in the ocean, and if you divide this

responsibility up, it would be more difficult to get consistent treatment for dumping of material in the ocean.

Mr. DINGELL. This would refer also to estuaries, bays, salt marshes, and also to the Great Lakes, which is a matter we have not discussed, which I hope we will be able to address ourselves to a little later.

Thank you, Mr. Everett.

Mr. EVERETT. Does the certification requirement in effect give you veto authority over this type of permit that would be issued by the corps?

Mr. RUCKELSHAUS. That is right. They could not issue a permit without the certification from us.

Mr. DINGELL. Mr. Ruckelshaus, for the purposes at this point, I think it would be useful for you to give us, for the record, a statement.

Does this bill in any way amend or alter the Fish and Wildlife Coordination Act?

Mr. RUCKELSHAUS. No, it does not.

Mr. DINGELL. Does the bill in any way amend the requirements of the National Environmental Policy Act, particularly section 102?

Mr. RUCKELSHAUS. No, it does not.

Mr. DINGELL. Does it in any fashion at all change or amend the agreement and understanding between the Corps of Engineers and and the Interior Department, which has just been reviewed by the Supreme Court in *Zabze* v. *Tabb* where they said they would consider questions regarding fish and wildlife in issuing permits of this kind?

Mr. RUCKELSHAUS. I am not familiar with that case. I would have to defer that answer.

Mr. DINGELL. I will see to it that the precise title of the case is made available to you, and you may submit the additional information to us.

Briefly, the Corps and Interior Department made an agreement which said that the corps would condition dredge and fill permits on consideration of 50-mile values.

This was challenged in the courts and was reviewed up in the Supreme Court, and the agreement was upheld, it was held that the corps agreement was proper, rather than Interior Department, and that in light of the Coordination Act and in light of the National Environmental Policy Act, these matters could be appropriate conditioning devices to dredge and fill permits issued by the corps.

After you have had a chance to review that more carefully, we would like your guidance on that.

(The information follows:)

H.R. 4247 EFFECT ON MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding deals with consultations between the Department of the Interior and the Department of the Army on fish and wildlife, recreation, and water pollution problems associated with dredging, filling and excavation operations conducted under permits issued under the Rivers and Harbors Act of 1899. H.R. 4247 would have no effect on this Memorandum of Understanding (although it might be pointed out that Reorganization Plan No. 3 of 1970, by transferring responsibility for water pollution control from the Department of the Interior to EPA, has narrowed the scope of application of the

Memorandum). Subsection 7(c)(2) of H.R. 4247 would require consultations between the Department of the Army and EPA *in addition to* the consultations between the Department of the Army and the Department of the Interior required by the Memorandum of Understanding.

Mr. EVERETT. Mr. Ruckelshaus, how will this act affect applications and permits that have already been approved?

I notice the act takes effect 6 months after its effective date. How will this affect projects underway, or applications that have been approved by previous agencies?

Mr. RUCKELSHAUS. It would not affect them at all, unless there were some dumping that was going to occur after the effective date of the act. So if you had a dredge and fill permit that had been issued, unless there was some violation of the act itself, it would not affect that particular permit, although it is conceivable to me that there may have been a dredge and fill permit authorized in which we were dumping polluted dredges in some sections of the ocean which seemed to be inadvisable, where we would ask them to get a permit to do that, or ask them to go through this procedure.

I think once the act took effect, that it would impact any dumping that occurred after that, and, if a permit were issued for a dredge and fill that covered several months, or even years, then at that point, when the act took effect, there would have to be some control over that continued dumping.

Mr. EVERETT. Mr. Ruckelshaus, there has been some concern expressed by port authorities that maybe industrial and economic development considerations would not be taken into account as much so as they would under the National Estuarine Act and the National Environmental Policy Act.

I don't find too much language in the bill that relates to that. Are you going to take all of these considerations in mind when you consider where a dumping should take place, or if it should take place at all?

Mr. RUCKELSHAUS. What specific kinds of considerations?

Mr. EVERETT. Under the National Environmental Policy Act, all Federal agencies shall carry out their responsibilities in such way as to achieve a balance between population growth, urbanization, industrialization, and resource use, in order to attain the widest range of beneficial uses of the environment without degradation to health, safety, or other consequences.

Mr. RUCKELSHAUS. Well, of course, we will carry out the provisions of the National Environmental Policy Act, and any other act of Congress.

Mr. EVERETT. And to create or maintain conditions under which man can exist in harmony and fulfill social and economic requirements of present and future generations.

Under the National Estuarine Act, it likewise requires similar consideration, that the estuaries will be utilized in such a manner that balance will be maintained between the national need to protect such areas in the interest of conservation and the need to develop these estuaries to further growth and development.

Now, the concern expressed is that these concepts and requirements might not be kept in mind under the administration of this act as they would be under the administration of the National Environmental Policy Act and National Estuarine Act.

Mr. RUCKELSHAUS. I think we are clearly mandated to keep those considerations in mind, and I think, given the present state of the law, we have no ability to keep those considerations in mind in our ocean policy, and we certainly would keep them in mind in the administration of this act.

Mr. DINGELL. Mr. Ruckelshaus, in the Great Lakes area you have generally a freeze on open water dumping of polluted dredge spoil. These spoils are deposited now, and must be deposited in closed, diked areas.

Is it your intention to continue that practice with regard to the Great Lakes area?

Mr. RUCKELSHAUS. Mr. Dominick may be able to give you an answer. He has been involved in this directly, and he may be able to give you a better answer.

Mr. DINGELL. I would like your comments, if you please, Mr. Dominick.

Mr. DOMINICK. Mr. Chairman, I think the important legislation that has directed activity in this area is the Rivers and Harbors Act of 1970, section 123 of that act which refers to alternate disposal sites in the Great Lakes for the dumping of polluted dredge spoils.

We are in the process of identifying now, with the Corps of Engineers, those harbors where polluted dredge spoils are a significant problem, and we have identified up to 40 or more at the present time.

Mr. DINGELL. In fact, you have not got a single Great Lakes harbor that does not have polluted dredge spoil in it. Is that not a fact?

Mr. DOMINICK. I think most of them very definitely will have some degree of pollution in them. We also want to evaluate whether additional dredging is going to be required in order to keep navigational channels open.

As that evaluation is completed, we will be making determinations and referring these determinations to the Administrator on the availability of on-land disposal sites, and on the Federal and State or local funding required to implement those alternative sites.

Mr. DINGELL. Mr. Ruckelshaus, on page 11, you mentioned toxic industrial wastes. You may not wish to do so at this particular time, but would you give this committee a definition of what those are, not necessarily the exclusive definition, but one which would give us an understanding of how you interpret that particular word?

Mr. RUCKELSHAUS. Yes, we will.

(The definition follows:)

"TOXIC INDUSTRIAL WASTES" DEFINITION

"Toxic industrial waste" is a general term used to describe various materials having the ability to produce harmful effects in living organisms. These materials are dumped by industry either because there are no straight forward or economi-

cal treatment methods or because the materials cannot be technically or economical recovered. These materials may be in liquid, solid or semi-solid form. When discharged into the marine environment, the materials may be (1) deposited on the ocean floor, (2) dissolved and transported by ocean diffusion, dispersion and currents, (3) suspended in colloidal form and transported by currents, (4) float and be transported by currents. The position that the discharged materials occupy in the ocean determine what life forms may be damaged. The toxicity of the wastes is dependent upon several ocean factors, such as pH, salinity, turbidity, temperature and mixing.

Examples of the types of industries that can produce toxic wastes are petrochemical facilities, steel mills, paper mills, metal plating plants and others. Very simply, much of these toxic industrial wastes are the residual materials from "still bottoms", settling basins, lagoon storage systems or concentrated precipitates and sludges from solid-liquid industrial processing streams. Elements and compounds that may be regarded as hazardous substances are common in toxic industrial wastes. These materials would include elements in their elemental form or as ions, compounds, or in any combination or mixture such as antimony, arsenic, beryllium, boron, cadmium, chromium, lead, mercury, nickel, selenium, silver, thallium and zinc. In addition, organic materials, includuing certain pesticides and residues that have been classified by Department of Transportation as Class B poisons in 46 CFR 146.25 are also toxic. A major threat to the marine environment from toxic industrial wastes is the complexity of these mixtures and the high potential for synergism once discharged.

Mr. DINGELL. Are you satisfied that oil may be safely excluded from the purview of this act because it is adequately covered elsewhere in the statutes?

Mr. RUCKELSHAUS. I think under section 11 of the Federal Water Pollution Control Act, Mr. Chairman, there has been a very recent effort by this Congress to cover comprehensively the problems of oil pollution, and we are in the process of attempting to implement that act, and maybe after a little more experience with our efforts to implement it, we can give you a clearer answer, but it is a comprehensive effort to treat the problem of oil, and certainly we have by no means got it completely under control, but we are in the process of trying.

Mr. DINGELL. You have here a question of existing legislation and the question is whether bilge and hold pumping anywhere by American ships is adequately handled, out of the 20-mile limit, or possibly 50 miles out.

Could you give us a comment on that particular problem?

Mr. DOMINICK. We feel that the role of the United States in handling the question of ballast dumping and bilge pumping beyond our territorial waters or the contiguous zone must be undertaken in the international convention areas, and, as you know, Secretary Volpe has taken a very strong role with the NATO countries in seeking international agreements to totally ban the discharge of ballast waters on the high seas. I believe the date was by 1975 or 1976.

Mr. DINGELL. This brings to mind the question regarding matters of some importance to the Chair.

Legislation pending elsewhere in the Congress would instruct the administration, if it is the wish of Congress, that they should at an early time enter into endeavors to achieve international controls on ocean dumping through treaties and similar devices.

Would you have any feeling as to the relative usefulness of a direc-

tion of this kind from Congress, and whether or not it would be necessary, or would it conflict with any administration policy?

Mr. RUCKELSHAUS. Well, it does not conflict with any policy, because we are attempting to do this right now. I am going to Brussels next week for a meeting of the Committee on Challenges to Modern Society, in an effort to get some international cooperation with this problem.

There is in section 10 of this bill, of course, a provision relating to international cooperation, and I think that a direction like this, indicating Congress is concerned that we make these international efforts, is very beneficial.

Mr. DINGELL. Now, there are, if you please, gentlemen, in the last two pages of the bill, pages 13 and 14, section 11, entitled "Repeal and Supersession," there are a whole series of statutes, sections, and so forth, which are referred to at that point.

Would you gentlemen please inform the committee, would you, please, gentlemen, give the committee at your convenience some statement of precisely what the meaning of this particular section happens to be?

Mr. RUCKELSHAUS. Yes; we will.

Mr. DINGELL. It will be very helpful to the committee.

(The statement follows:)

"REPEAL AND SUPERSESSION" DEFINITION

We understand that this statement will be provided by the Council on Environmental Quality.

Mr. DINGELL. Now, in your statement, Mr. Ruckelshaus, page 5, you state the Administrator in issuing permits to dump materials, to transport them for dumping, will be required to determine that such activity will not, and so forth.

On whom would be the burden of proof in that matter? Would it be upon you, or would it be on the would-be dumper?

Mr. RUCKELSHAUS. I think it would be clearly on the dumper.

Mr. DINGELL. Is there amendatory language needed to make that crystal clear?

Mr. RUCKELSHAUS. I think it is clear from the present statute, but I certainly would have no objection to making it clearer if the committee felt it was necessary.

Mr. DINGELL. I must tell you that I am not satisfied that it is as clear as I personally would like.

Your words at this time have great impact on me, and I am satisfied under the legislative history, but it would be appreciated if you would review that point and let the committee have the benefit of your views.

(The information follows:)

BURDEN OF PROOF FOR PROPOSED DUMPING PERMIT

In our view subsection 5(a) is sufficiently clear that such burden of proof is upon the permit applicant.

Of course the Administrator must exercise his judgment as to whether such

burden has been met in determining whether, and on what conditions, a permit will be issued.

It is the applicant, however, who must provide all the necessary information upon which the Administrator makes his determination.

Mr. DINGELL. Now, at page 6 you mention that the Administrator will be permitted to impose restrictions, and a little later you say he would be authorized to deny the issuance of a permit, and then at the last paragraph, he would be authorized to require applicants with permits to provide information. And then, on down, you say he would be authorized to prescribe reporting requirements.

I wonder if we ought not simply require you to do that, Mr. Ruckelshaus. Do you have any feelings on that matter?

Mr. RUCKELSHAUS. I think the whole question involved is a question as to whether it is better to permit Administrator flexibility in the administration of a statute of this nature, or to put more mandatory language in from the legislative branch, and the one reason I think we have opted for the more flexible administrative approach in this statute is that there are so many unknowables in the area of ocean dumping.

While we may feel today that one particular kind of activity is terribly harmful to the environment, further research may show us this is the most beneficial we could be doing.

And to attempt to lock too many specifics into the statute in an area where there are so many unknowns may have some hazards.

Where we are dealing with specific problems that everybody agrees are known in terms of, for instance, high degree of radioactive waste, I see no reason not to get more specific in the statute, but I also can see in trying to implement this kind of statute, in reading the report of the Council on Environmental Quality, that there are a number of areas that we simply don't have the knowledge we should have, and for that reason there is a need for flexibility.

Mr. DINGELL. You are coming to a matter that is of considerable concern.

H.R. 6332, which is authored by Mr. Rogers and the present occupant of the Chair, and a number of our colleagues, generally sets out a research program at a level of $1 million per year. You and every other witness have indicated the great plausibility of knowledge, and great need for research.

I am satisfied that you are carrying out research down there at your agency, but I am troubled, since we really do not have any program which has been here in a unified form, which the Congress may scrutinize and understand precisely what you folks in the administration propose to do in this area, and I am wondering, would it be possible for you to list for this committee the research requirements which you would need to conduct a good research program in this area, so that we could have before us, when we go into this statute, a very clear understanding of what you are doing, and how it conforms with the requirement of law to carry out a carefully thought out and integrated program of research?

Mr. RUCKELSHAUS. We will certainly supply that to the committee.

Mr. DINGELL. Would you do that for us, please?

(The information follows:)

FISCAL YEAR 1972 PROGRAM PLAN FOR OCEAN DISPOSAL RESEARCH

[Dollar amounts in thousands]

Project	Program office	Positions (12K/year, at lapsed rate)	Grants	Contracts
Objective No. 1—Determine the size and nature of the ocean and Great Lake disposal problem:				
(1) Identify sources and amounts of municipal and industrial sludges, dredge spoils, and other wastes.[1]	SWO/WQO			
(2) Characterize disposed materials for each disposal site (physical, chemical, biological, and bacteriological characteristics).	WQO:			
	1607	1	$100	
	6112	1	75	
Objective No. 2—Establish scientific criteria for disposal site selection:				
(A) Determine natural ecology:[2]				
(1) Establish natural marine preserves and sanctuaries.	NOAA, Interior, Smithsonian Institution, WQO			
(2) Determine natural ecology-food web systems.	WQO, NSF, AEC, Smithsonian Institution.			
(3) Delineate biologically critical areas	WQO, Interior, NOAA			
(B) Determine effects in existing disposal sites:				
(1) Study the physical and geochemical character and extent of deposits (continue studies of New York Bight, initiate studies in Pacific, Guld of Mexico, and Great Lakes.	WQO:			
	1607	1		$200
	1612	1		75
(2) Characterize water circulation at disposal sites (initiate multilayer circulation model of coastal waters and plan field measurements).	WQO:			
	1607	1	150	
	1612			50
(3) Characterize and chemically analyze the benthic biota in disposal sites.	WQO:			
	1602	2		
	1607	1	182	
	1805	1		
	1808	1		
	1612		75	
(4) Determine the time/space distribution of bacteria and viruses.	WQO:			
	1602	1		
	1607		50	
Objective No. 3—Establish marine water quality criteria for disposal sites:				
(1) Determine toxicity effects of sludges and their constituents—organic and inorganic (marine and freshwater).	WQO:			
	1607			
	1805	2	75	
	1808	3	75	
(2) Develop testing protocol for use by waste disposers in permit applications.	WQO:			
	1607	1		50
	1 1808	1		
Objective No. 4—Establish monitoring systems for ocean disposal:[2]				
(1) Develop site monitoring techniques	WQO, USCG, NASA, NOAA, NOIC&NODC			
(2) Develop water quality sampling procedures and sensors for estuaries, coastal waters, open ocean, and Great Lakes.				
(3) Establish and maintain ocean pollution data management system.				
Objective No. 5—Establish environmentally optimum dumping methods:				
(A) Characterize methods:				
(1) Survey and study existing operational technology and effects.	WQO-1607		25	
(2) Scale model proposed methods				
(3) Conduct full-scale demonstrations				
Objective No. 6—Establish optimum waste management procedures relative to ocean dumping.				
(1) Develop and demonstrate alternatives to ocean dumping.	WQO, SWO			
	WQO-1707	1		100
(2) Study beneficial uses of waste[3]	WQO-1607			
(3) Develop marine restoration techniques	WQO:			
	1607			
	1707			
Objective No. 7—Program coordination and management: Coordinate, Plan and Manage Ocean Disposal R. & D.[4]	WQO Headquarters	3		

[1] This may have already been done.
[2] During the 1st year, headquarters will plan the program with other agencies.
[3] During the 1st year, a program plan will be developed by headquarters.
[4] Includes 1 secretary.

Mr. DINGELL. One of the reasons I ask this is I happen to have read some articles in the paper; for example, one mentioned that it is possible perhaps to properly encase and package these substances and put them into places between the plates in the earth crust, where there is a downward movement into the crust, and dispose of waste that way with minimum hazard to the environment.

Then I observed another comment about utilization of pumps to bring cold water up to create nutrient, and I wonder if we ought not perhaps consider giving you the authority to engage in a program of converting municipal sewage into useful nutrients. We have done that in the Great Lakes with great success.

It occurs we might not have the putrification problem in the ocean, if we treat sewage in the proper way and deposit it in the right place to create a significant benefit.

Mr. RUCKELSHAUS. I agree, Mr. Chairman, there are those who believe that this can happen, and I think it may well be right. I think we need more research to determine whether this would be a proper way to dispose of sewage sludge.

Mr. DINGELL. Perhaps a device of this kind might be highly desirable to include in the research authorization in the direction we are discussing at this time.

Mr. RUCKELSHAUS. We have had this same problem come up, the same question, in virtually every bill which we presently have before Congress, and in our general appropriations bill we have included a considerable sum of money for research across the agency, and we have attempted to deal with the problem of research money in our general appropriation bill rather than trying to deal with it in each individual bill that comes across.

We are trying to in the agency centralize the general research overview, and the effort to coordinate all of our research into areas where it would seem to bear the most fruit for the environment.

Mr. DINGELL. I can see the desirability from your viewpoint, but from the standpoint of congressional review, we have the other problem, and that is comparing what you are doing as opposed to congressional direction, and that is the reason I seek your assistance in this.

Mr. Ruckelshaus, the Chair is a little bit concerned here about the language at page 12. You mentioned that no new sources of ocean disposal of sewage sludge would be permitted, and then you went on to say you would not allow an increase in volume of dumping over current levels, that is a very strong statement, for what existing barging facilities can accommodate.

How do you propose to carry out that particular policy statement?

Mr. RUCKELSHAUS. How do I propose to carry out that statement?

Mr. DINGDELL. To carry out that statement.

I happen to be in entire agreement with it. I want to be sure we have before us your proposal.

Mr. RUCKELSHAUS. There may be some specific problems with this statement in sections of the country, in particular New York City, but with the 6-month period in which we have to implement the act, I think we can develop alternatives sites that will allow us to carry out this pledge, at least not to have any increase.

Mr. DINGELL. You have indicated here again at pages 13 and 14 that a great deal of effort and investment is necessary, and research is needed in recycling wastes.

Could you give us and idea of the dollar amount of research that you actually feel is needed in this particular area, in connection with the questions that I asked earlier that you said you would furnish?

Mr. RUCKELSHAUS. We have a submission in our 1972 budget of $1,100,000 for ocean disposal research.

Mr. DINGELL. That level will rise to what figure over a 5-year period?

Mr. RUCKELSHAUS. The level for the bill itself, for the implementation of the act, which would not necessarily include research, because we don't have that built into these figures in fiscal year 1972, starts at $2 million, and then by 1977 we are down to 3.9, because I believe the phasing out of much of ocean dumping that we now know, it might not necessitate as grave an expenditure of money.

Mr. DINGELL. You have mentioned—at the bottom of page 15, top of page 16, you said as follows:

> Several of the bills pending before this committee would require designated levels of treatment for municipal sewage and industrial wastes by specified dates. This approach does not take into account variations in water use designations, the quality or characteristics of the receiving waters, or other factors which bear on the appropriate level of treatment in a given instance.

That statement does not change or alter or indicate an intention by your agency to change the no degradation requirement, over which a monumental fight took place some time back, does it?

Mr. RUCKELSHAUS. No, it does not.

It might imply a certain qualification of the statement by Mr. Rogers a little earlier, when we discussed deadlines in terms of secondary and tertiary treatment, as to how we would go about insuring clean water in the country.

Mr. DINGELL. Now, the reason I asked that is, I am apprehensive in looking over my shoulder at some of the industrial and municipal folks who have ideas we should utilize the streams and lakes and oceans up to their assimilative capacity. The understanding I have had with your agency previous to your taking office was that was not going to be the policy of the Public Health Service, and then the Interior Department, and I think that is still not the policy, to allow the utilization of these waters up to that capacity.

Mr. RUCKELSHAUS. No, that is not the policy.

Mr. DINGELL. There is a requirement that you consult with the Department of the Interior with regard to achievement with the levels, or, rather with regard to criteria and so forth with regard to ocean dumping, but there is no similar requirement with regard to the issuance of permits.

Can you explain the difference there?

Mr. RUCKELSHAUS. I think the difference is mainly a difference between substance and procedure, and that on the substantive matters, which we would hope to cover in the criteria, upon which the issuance of the permits would be based, we would want to insure that we had complete concurrence in these other affected agencies with substantive requests that we were going to be making from the permittees, but as far as actual administrative process of issuing the permits themselves, there did not seem to be as great a need for coordination between the agencies.

That does not mean that in given instances, where clearly another agency is involved, and policy and statutory duty of another agency is involved, we would not consult with them even on the issuance of a permit.

Mr. DINGELL. Would you have any objection to requiring that you should consult with them on the issuance of these permits? It is done under the Coordination Act in every instance.

Mr. RUCKELSHAUS. The thing that disturbs me, as apparently disturbed Mr. duPont and some of the witnesses yesterday, is administrative difficulty of issuing permits where you have multiagency responsibility, and the time lag between the request and ultimate issuance of the permit can bog the program and destroy its effectiveness.

Certainly we have no objection to inclusion of language that we should consult in every case where a problem arises, or where responsibility with another agency occurs.

Mr. DINGELL. Perhaps maybe to assist you and assist this committee, you can submit the language that you would deem appropriate to carry that particular purpose out.

(The proposed language follows:)

CONSULTATION PROVISIONS PRIOR TO ISSUING PERMITS

This matter could be dealt with by amending subsection 5(a) to include immediately prior to the last sentence of that subsection, the following:

"Such provision shall require consultation with Federal agencies with respect to factors specified in paragraphs (1) and (2) of this subsection for which such agencies have responsibilities."

Mr. DINGELL. With regard to the question of notice of hearing on these matters, there is no clear statutory requirements for notice of hearings.

You mentioned in response to questions from others of our colleagues that there are both constitutional and due process, and also Administrative Procedures Act requirements would come into play.

As I recall it, and I don't want you to give me a specific answer at this particular moment, but I would like to have you reflect and give us your answer after you have had a chance to consider the matter soberly, it is more or less standard legislative boilerplate that says that after notice and opportunity for hearing.

Would this be objectionable? Obviously, some permit requests are going to be highly controversial, and it occurs to me the courts are going to probably require you to give both notice and hearing in any event, and probably statutory language of this kind would not do too much mischief.

Mr. RUCKELSHAUS. Let me, as you stated, upon sober reflection give you a detailed answer on that, because notice of hearing can mean so many different things, and I want to be sure that our position is crystal clear on how we can provide due process and at the same time provide an expedited administrative process, if possible.

(The information follows:)

NOTICES AND/OR HEARINGS PRIOR TO THE ISSUING OF DENIAL PERMITS

We would not be opposed to the addition of the following paragraph as a new subsection of section 5 of the bill:

"The Administrator shall issue a public notice of each application for a permit, which shall provide a reasonable period of time within which inter-

ested persons may express their views concerning the application. The Administrator shall hold a public hearing on an application whenever he determines that there is substantial public interest in the application or that a hearing will be of assistance to him in reaching a determination as to whether a permit should be issued, and if so, the terms of the permit."

Mr. DINGELL. It is also my intention to be fair, and give you the opportunity to have you give us your best judgment, because we intend to lean heavily on this matter.

Mr. Everett.

Mr. EVERETT. Mr. Ruckelshaus, when you have an opportunity, also, section 5(f) and 6(f) of the bill are not clear to me, and I wondered if they are duplicative. If not, would you provide a brief explanation of what you are trying to get at with these two different sections?

Mr. RUCKELSHAUS. Yes, we will.

(The information follows:)

INTENTIONS OF SECTIONS 5(f) AND 6(f)

Section 5(f) authorizes the Administrator to establish, by regulation, categories of dumping or transportation for dumping for which permits will not be granted because of inability to comply with the criteria established under section 5(a). Section 5(f) also authorizes the Administrator to alter or revoke permits where he determines that the materials in question cannot be dumped consistently with such criteria. Section 6(f) authorizes the Administrator to revoke or suspend a permit which has been violated.

The sections are not duplicative. They both deal with revocation of permits, but in different circumstances: 5(f) applies where the Administrator determines that the material cannot be dumped consistently with the criteria (even though there has been no violation of the permit), whereas 6(f) applies where there has been a violation (even though the dumping authorized by the permit could be carried out consistently with the criteria).

Mr. EVERETT. Section 12 of the bill pertains to delegation of your responsibility to other agencies, including the issuance of permits. Do you contemplate that you will transfer or delegate this responsibility to some other agency?

Mr. RUCKELSHAUS. We have no present contemplation of doing that. It just may be that in the administration of the act itself there would be some area where dual permits or dual administration of the act would not seem to be wise, that we would want to make such a delegation.

We have no present intention, nor do I foresee any in the near future, of making such a delegation.

Mr. EVERETT. As Mr. Dingell mentioned a while ago, it is broad language, and it opens the door.

One problem we have with respect to AEC is that they already are exempted; but if this provision should be dropped from the legislation, you could still turn around and delegate the same responsibility to AEC with respect to dumping of their own waste materials.

This is something that gives the committee some concern.

Mr. DINGELL. Mr. Everett, if you will yield, as a matter of fact it has been interpreted by some of the members of the committee as affording a complete exemption to AEC from EPA regulation in certain instances of ocean dumping, and I would like it very much if you would please to direct your attention to the responsibility as to whether or not some amendatory language is not necessary for the bill, so that

AEC will not be able to escape entirely your permit and regulatory requirements.

Mr. RUCKELSHAUS. That is not the intention, and so we will direct our attention to amendatory language of that nature.

Mr. DINGELL. I think it would be very helpful.

(The proposed language follows:)

AEC PERMIT AND REGULATORY REQUIREMENTS

One way of accomplishing this would be to delete section 7(b) of the bill altogether, so that the AEC would be subject to the requirements of the Act just like other Federal agencies.

As section 7(b) is now written, the AEC would be required to consult with the Administrator prior to issuing permits for dumping, but would not, however, be required to consult with the Administrator prior to carrying out the dumping itself. Thus, another way of tightening regulatory control with respect to the AEC would be to require consultation with the Administrator in the latter case as well as in the former. The first two sentences of the proviso in section 7(b) could be amended to read as follows:

> "*Provided*, The Atomic Energy Commission shall consult with the Administrator prior to conducting any activity or issuing a permit to conduct any activity which would otherwise be regulated by this Act. In conducting any such activity or in issuing any such permit, the Atomic Energy Commission shall comply with standards set by the Administrator respecting limits on radiation exposures or levels, or concentrations or quantities of radioactive material."

Mr. EVERETT. One final question, Mr. Ruckelshaus, with respect to finder's fee. I wondered what your thinking would be on including a provision in the bill that would provide for an informer's fee.

Mr. RUCKELSHAUS. The informer's fee has worked in some instances, and has not in others.

The question I suppose really is whether you want to proceed with the fine or through injunctive process. An informer's fee is of no particular benefit through the injunctive process, and here, where you have a specific act that is violated, maybe an informer's fee would be a good way to insure that the statute was complied with.

Mr. EVERETT. Would you have any particular objection to including a provision of this sort?

Mr. RUCKELSHAUS. I have not thought about it, but offhand I cannot think of any.

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

Mr. DINGELL. Mr. Sharood had a question he would like to direct at you, please, Mr. Ruckelshaus.

Mr. SHAROOD. In the penalty provision, dealing with actions against the vessel, you have an exception for public vessels, and then it goes on to say "as defined in the Water Quality Act or Water Pollution Control Act or other public property of a similar nature."

Could you tell us what you are referring to there, "other public property of a similar nature"?

Mr. RUCKELSHAUS. I am not sure what they do have in mind, although an action against a public vessel would again be taking out of one pocket and putting it into another.

Mr. SHAROOD. I want to know how far this exemption goes. There may be some optional aspect to this. I cannot visualize what you mean by "other public property."

Mr. RUCKELSHAUS. It apparently refers to channels and pipelines and things of that nature.

We will supply for the committee the specific thing we have in mind.

(The information follows:)

Upon further consideration, we believe that this phrase is unnecessary and may appropriately be deleted from the bill.

Mr. DINGELL. Mr. Ruckelshaus, this is probably a question that should have been asked earlier. It relates to just what authority and which particular statute will apply where.

Dealing with the different kinds of permits, the Water Pollution Control Office will apply out to 3 miles, or 12 miles, under existing statute?

Mr. RUCKELSHAUS. Under existing statute, they apply out to the edge of the territorial sea, 3 miles.

Mr. DINGELL. From 3 miles out, if somebody puts a sewage outfall or something of that kind, they are exempt from the water pollution control law?

Mr. RUCKELSHAUS. We have no authority now, except possibly under the dredge and fill permit, the navigational permit of the Corps of Engineers, if they put an outfall out that far, they have to get a permit to do so from the corps, and at the beginning of that process we may be able to insure under section 21(b) of the Water Pollution Control Act that they meet pollution standards as well, water quality standards as well, but once it is there, we cannot do anything about it.

Mr. DINGELL. The corps' permitting authority goes to 3 miles, as I understand it, or do they go out?

Mr. RUCKELSHAUS. It is a navigational permit, and I think under the control of the navigational aspects of anything in the water, we could control what goes out at the end of that pipe.

Mr. DINGELL. Providing it had an impact on navigation, or would you go under the guidelines of the Executive order that has been issued by the President?

Mr. RUCKELSHAUS. We cannot go any further, under the permit program, than the 3-mile limit, unless we can try and get hold of it prior to construction of any outfall through the corps' other permit authority under the dredge and fill.

It is not at all clear that we can. I don't want to put too much emphasis on this, because I am not sure we can.

Mr. DINGELL. This bill exempts outfalls, which would mean that it would exempt sewage emissions between 3 and 12 miles. Am I correct?

Mr. RUCKELSHAUS. That is right.

Mr. DINGELL. If we were to strike outfalls, what problems would that create for you or the administration with regard to the projected legislation which you are going to submit, or which has been submitted, to cover underwater quality standards the areas between 3 and 12 miles?

Mr. RUCKELSHAUS. It would present problems, because we would have two separate permit programs going on for discharges into waters, and in the case of the Great Lakes, or in the case of estuarine areas, or the ocean.

We have one permit program under ocean dumping provisions, and another program under the Water Pollution Control Act.

Mr. DINGELL. You don't have permits under the Water Pollution Control Act, and the new legislation does not apply to permits, does it?

Mr. RUCKELSHAUS. That is right, except we do have for the discharge of industrial wastes not going through municipal systems. We have a permit program including that.

Mr. DINGELL. All right. Now, would it be possible for you through administrative action to control, or rather to merge the two programs? For example, Secretary Volpe has merged the reporting requirements under section 4(f) of the Transportation Act and 102(2)(C) of the National Environmental Policy Act. Could you merge the two without any difficulties?

Mr. RUCKELSHAUS. Assuming we had the statutory framework to do so, I am sure we could, and I think that is what we have got to be very careful about, and I think the passage of this act has got to be looked at carefully in terms of passage of the Water Pollution Control Act, so we don't have an overlap and so that the two programs can clearly be merged under the two statutes.

Mr. DINGELL. We would be giving the same agency the authority to issue two permits. That should not create too much problem, if you would administer it wisely and well, would it?

Mr. RUCHELSHAUS. It would not, except we would be issuing one permit under the Refuse Act, if industry was involved, and then another permit under the Ocean Dumping Act, so they would have to get two permits for doing essentially the same thing.

Mr. DINGELL. It would not create problems with water pollution activity, would it?

Mr. RUCKELSHAUS. Other than the dual permit, which is not a very administratively neat way to do it, I don't see that it would affect our effort to clean up the water.

Mr. DINGELL. Actually, you are effectively, in some areas, doing away with the Refuse Act permit, anyway, in other parts of the bill, are you not?

Mr. RUCKELSHAUS. Yes, but that is by distinguishing between intermittent dumping and continuous outfall.

If you put outfalls into this act, we would be treating outfalls differently, depending on where they are located.

Mr. DINGELL. I am talking outside of the 3 miles. Does the corps' Refuse Act apply to the running of these outfalls beyond the 3-mile limit?

Mr. RUCKELSHAUS. No.

Mr. DINGELL. That would not be a major problem, except insofar as construction is concerned?

Mr. RUCKELSHAUS. As far as we know now, it is no problem because I don't know of any industrial outfall that goes out that far.

Mr. DINGELL. There are some long lines that are contemplated in some parts of the country very shortly, and is it your view that these are being done in part to avoid the requirements of the water pollution control laws?

Mr. RUCKELSHAUS. I don't think that they are being done to avoid the requirements as much as they are to maybe take advantage of what

their engineers say is a better mechanism for dispersing the waste in the environment.

I am not prepared to say they are trying to avoid the law. If they are, I think they are going to be included very quickly.

Mr. DINGELL. That is one of the things I propose to try to do.

Let me ask you this other question. Outside 12 miles, what would be the requirements for permits, under this legislation, under the other proposed legislation that you have been addressing yourself to, and under existing law, if you please?

Mr. RUCKELSHAUS. Outside of the 12 miles, under existing law we have no authority to do anything about either outfalls or dumping.

Under our proposed legislation, we would control the dumping of any material from ships originating in our ports outside the 12-mile limit. We would attempt to control the dumping from ships not orginating on our shores only in the contiguous zone as it affected the territorial sea, and not outside the contiguous zone.

In terms of the Water Pollution Control Act, which we have submitted to Congress under the other provisions, we would control outfalls originating in the United States, wherever they ended up in the ocean, whether it was in the contiguous zone or in the high seas.

Mr. DINGELL. I see.

Mr. Ruckelshaus, you and Mr. Dominick have been very patient with the committee, and very helpful. We thank you for your kindness and great assistance for the committee this morning. It has been a privilege to have you before us.

If there is no further business to come before us at this time, the committee will stand adjourned until the hour of 2 o'clock.

(Whereupon, at 12:50 p.m. the joint subcommittees recessed, to reconvene at 2 p.m., the same day.)

AFTERNOON SESSION

Mr. DINGELL. The subcommittee will come to order.

This is a continuation of the hearings commenced this morning on the general subject of ocean dumping, and a number of pieces of legislation related to that matter.

Our first witness is Mr. John R. Stevenson, legal advisor, Department of State.

Mr. Stevenson, we are pleased that you could be with us, and we will be happy to recognize you for such statement as you choose to give.

Do you have any members of your staff or associates you would like to have with you at the witness table?

Mr. STEVENSON. I have several with me, Mr. Chairman, but I don't think it is necessary for them to come forward.

Mr. DINGELL. It is entirely appropriate if you want to have them at your side.

Mr. STEVENSON. It may be that on some of the questions, I will need to ask them to join me.

Mr. DINGELL. We will accede to your wishes.

If you will identify yourself fully for purpose of the record, the chair will recognize you for your statement, Mr. Stevenson.

STATEMENT OF JOHN R. STEVENSON, LEGAL ADVISER, DEPARTMENT OF STATE

Mr. STEVENSON. Thank you very much, Mr. Chairman. I am John Stevenson, the legal adviser of the State Department.

Mr. Chairman, committee members: I appreciate this opportunity to meet with you to testify in support of the President's proposal to control ocean dumping. I would like to discuss with the committee the jurisdictional aspects of the Marine Protection Act of 1971, H.R. 4247 and H.R. 4723, and the international efforts of the administration to protect the marine environment.

The proposed Marine Protection Act of 1971 has been carefully drafted to maximize U.S. control over ocean dumping activities consistent with accepted principles of international law. In this connection, I wish to note the fact that to our knowledge all dumping off our coasts at present originates from the United States and that we have no reason to believe the situation will change. I would like to briefly discuss the relevant principles of international law on which the President's ocean dumping proposal is based.

Traditionally, the law of the sea has been faced with two fundamental problems—defining the extent of coastal state jurisdiction over the ocean and accommodating conflicting uses of the high seas. Although we continue to work on several aspects of these problems, great advances were made in 1958 with the adoption of the four Geneva Law of the Sea Conventions. These conventions codified the existing international law of the sea and established several important new international legal principles. These conventions, to which we and many other nations are parties, establish the present legal basis for coastal state control of ocean activities.

The Convention on the Territorial Sea and the Contiguous Zone provides in its first article that the sovereignty of a coastal state extends beyond its land territory to its territorial sea. With the exception of the right of innocent passage through the territorial sea, the United States under this convention and customary international law enjoys complete control over all activities in our 3-mile territorial sea.

Furthermore, this convention provides that a coastal state in a zone of the high seas contiguous to its territorial sea may exercise control necessary to prevent the infringement of its customs, fiscal, immigration, or sanitary regulations within its territory or territorial sea. The convention specifies that this contiguous zone may not extend beyond 12 miles from the coast. Thus, within the contiguous zone, the United States can enact measures to prevent unlawful pollution of its territory or territorial sea. It is important to bear in mind that the U.S. authority under the convention does not derive from a right to prevent pollution of the contiguous zone as such, but from a right to prevent pollution of our territory or territorial sea.

A State, of course, has jurisdiction over vessels flying its flag on the high seas irrespective of their location. A state may also determine the conditions under which materials may be removed from its territory, and specifically has the power to prohibit such removal by its own or foreign nationals and vessels. But, beyond 12 miles, a state has

no rights under international law to regulate the activities of foreign vessels on the high seas in the absence of an international agreement. The convention on the high seas is most explicit on this point; article 2 provides in relevant part that:

"The high seas being open to all nations, no state may validly purport to subject any part of them to its sovereignty."

Article 6, in part, provides:

> Ships shall sail under the flag of one state only and, save in exceptional cases expressly provided for in international treaties or in these articles, shall be subject to its exclusive jurisdiction on the high seas.

The Administration's proposed Marine Protection Act of 1971 establishes control over the transportation of material by any person from the United States for dumping on the high seas. It also establishes control over the dumping of material by any person from any source in the 3-mile territorial sea of the United States and in the additional 9-mile contiguous zone adjacent to its territorial sea. Both provisions would apply to American and foreign nationals and vessels. We believe this is the proper exercise of our jurisdiction under international law, and that it fully meets all cases of dumping arising now or likely to arise.

As there is legislation before this committee to control ocean dumping on the basis of our jurisdiction over the continental shelf, I would like to briefly discuss the legal problems inherent in this approach. Under the convention on the continental shelf, the United States has exclusive sovereign right for the purpose of exploring the continental shelf and exploiting its natural resources. The convention does not give the United States sovereignty over the continental shelf for all purposes, and it explicitly preserves the status of the superjacent waters as high seas. The drafters of the convention carefully considered what rights and obligations necessarily flowed from the general right of the coastal state over exploration and exploitation, and they were quite explicit. The coastal state, for example, has a right to erect installations and exercise jurisdiction over them for the exploration or exploitation of natural resources, as well as to establish safety zones around the installations. It has certain rights over research undertaken on the shelf and has an obligation to prevent unjustifiable interference with other uses of the sea. Nowhere does the convention authorize the coastal state to regulate dumping. Indeed, it is the convention on the high seas, not the Continental Shelf Convention, which specifically refers to the dumping of radioactive wastes. It is clear that the Geneva conventions consider that dumping should be treated under the high seas regume, that is by regulation of one's nationals and by international agreement.

In this connection, we must also consider the question of enforcement. The basic principle regarding vessels on the high seas is that they are subject to the exclusive jurisdiction of the flag state except as otherwise agreed. There is no treaty giving the United States authority to arrest a foreign vessel on the high seas for dumping.

Thus, legislation regarding dumping activities on the high seas above the continental shelf would amount to a unilateral assertion of jurisdiction by the United States without a firm basis in international

law, and in detogation of certain general principles of international law. Such an assertion would be contrary to our established policy of opposing unilateral claims as a means of solving high seas problems, could result in protests by other states, is unnecessary in the light of the fact that the prospects for effective international action under this country's leadership are quite good.

The accommodation of various uses of the high seas, as I mentioned earlier, has been a fundamental issue in the development of the law of the sea. Article 2 of the Tigh Seas Convention provides *inter alia:*

"The freedoms that is navigation, fishing, laying submarine cables and pipelines, flying over the high seas, and others which are recognized by the general principles of international law, shall be exercised by all states with reasonable regard to the interests of other states in their exercise of the freedom of the high seas."

It is thus clear that dumping must be conducted with reasonable for the interests of other states in their exercise of the various freedoms of the high seas. This obviously includes the protection of the high seas environment and its fisheries and living resources. Moreover, it can be anticipated that a future international treaty on dumping would be likely to place very heavy emphasis on the need to protect the common interests states have in preservation of the marine environment.

What I would like to emphasize is that we cannot unilaterally resolve these marine pollution problems by extending our jurisdiction in violation of accepted principles of international law. We must resolve these problems multilaterally and we are presently working to do so in several different forums.

The Preparatory Committee for the 1973 Law of the Sea Conference has charged one of its three subcommittees to work on the problem of marine pollution. I expect this committee to produce treaty provisions for the 1973 Law of the Sea Conference establishing international protection for the marine environment. In this connection, I had the honor to serve as U.S. representative to the Preparatory Committee for the Law of the Sea Conference which met in Geneva last month, and I there specifically suggested ocean dumping as one aspect of the marine pollution problem that required international action. I am certain the committee will be pleased to note that the United States was the first country to present such proposals to the preparatory committee for specific action to combat marine pollution. With your permission, I would like to make copies of our recent statement in the preparatory committee available to this committee.

Mr. DINGELL. Without objection, they will be received and inserted in the record at this point.

(The document follows:)

[Press release from Enlarged United Nations Committee on the Peaceful Uses of the Seabed and the Ocean Floor Beyond the Limits of National Jurisdiction, Subcommittee III, Mar. 25, 1971]

STATEMENT BY THE HONORABLE JOHN R. STEVENSON, U.S. REPRESENTATIVE

Mr. CHAIRMAN: The two principal subjects assigned to Subcommittee III are "preservation of marine environment (including, inter alia, the prevention of pollution) and scientific research."

The United States believes strongly that preservation of the marine environment and marine pollution are appropriate subjects for international action, and has supported various activities in this area for many years.

On May 23, 1970, President Nixon announced a new U.S. Oceans Policy in which he pointed out that States are becoming apprehensive about the ecological hazards of unregulated use of the oceans and seabeds. He urged that a new international seabed regime should, inter alia, protect the ocean from pollution. He stated that if new international agreements with respect to Law of the Sea can be obtained, over two-thirds of the earth's surface can be saved from national conflict and rivalry be protected from pollution, and put to use for the benefit of all.

The problems of pollution are no longer restricted to our cities nor to the streams, rivers and estuaries of our land masses. Residuals of some pollutants can now be found in all the seas and oceans of the world. Such pollutants have their origin in both maritime and land-based activities. Pollution from the latter is carried to the oceans by air currents, by fresh water run-off or is the result from deliberate disposal of materials into the oceans.

Growth in the world population and advances in technology have produced rapid increase in waste products and the long held view that the oceans have infinite ability to accommodate the consequences of human activity has been proven false. We now recognize that pollutants reaching the seas and ocean are a threat to the health and general welfare of mankind, as well as to the productivity of living resources of the oceans.

Pollution affects the maritime environment, its living resources and ultimately human beings in a variety of ways. Toxic substances can kill animals or plants which come in contact with them. Still other pollutants may alter the oceans' environment making it unsuitable for animal life. Finally, pollutants can be concentrated into living resources of the ocean and as consequence these resources may become unsuitable as human food.

The impact of some pollutants on the ocean and its inhabitants and its consequence to human beings is not yet clear. It is, however, obvious that increased understanding of the amount, distribution and effects of pollution in the marine environment will be required to implement effective measures for pollution control and that a variety of actions will be required depending on the nature and origin of the pollutant.

The complexity of the problem is further evidenced by the growing number of international organizations dealing with some aspect of the marine pollution problem. At the same time we have to recognize that the marine pollution problem and the need to preserve the marine environment are an important part, but only a part, of the global environment problems to be discussed at the 1972 Stockholm Conference on the Human Environment. The measures we decide to take here in the marine area must take into account the wider problems of human environment and should in no way conflict with measures which might be taken in that wider area.

To be effective, action must be taken in concert among states to prevent pollution and they must be prepared to implement agreed actions. If only a few states should take the needed anti-pollution measures, any resultant improvement might prove to be temporary only. In the absence of cooperative international action, competitive economic pressures will severely limit national abilities to take or require the costly measures needed to protect the marine environment. Only a broad international approach can provide sufficient incentives for all states concerned to do their part.

The Seabed Committee, of course, has been assigned the responsibility for dealing with seabed pollution. The Declaration of Principles regarding the seabed adopted by the General Assembly in December 1970 contemplates that the international seabed regime will include such provision. Accordingly, this aspect of the marine pollution problem must necessarily have an important relationship to the work of Subcommittee I on the international seabed regime and machinery as well as to the work of this Subcommittee. It is our view that the regime should provide that all activities in the international seabed area shall be conducted with strict and adequate safeguards for the protection of human life and safety and of the marine environment. Moreover, the safe development of seabed resources necessarily requires appropriate provisions in the regime treaty itself as well as a major environmental protection role for the international machinery to be established under the regime.

In his second Foreign Policy Report, issued on February 25, 1971, the President of the United States suggested that the following essential measures be taken by the international community in the near future:

Identification of pollutants and other ecological hazards which are dangerous on a global scale.

Establishment of an effective world monitoring network to keep track of these environmental dangers.

Initiation of a global information system to facilitate exchange of experience and knowledge about environment problems.

Establishment of internationally accepted air and water quality criteria and standards.

Development of international guidelines for the protection of the environment.

Achievement of comprehensive international action programs to prevent further environmetal deterioration and to repair the damage already done.

Development and improvement of training and education programs to provide the skilled capability to meet the environmental challenge.

Almost all of these suggestions apply with special urgency to the marine environment. In particular we need to focus our attention on drafting articles on major problems relating to marine pollution.

In identifying such problems, we should acknowledge work accomplished by IMCO concerning oil spills from ships, FAO and its technical conference of December 1970 dealing with issues of marine pollution on living resources of seas and expected contributions of the 1972 Stockholm Conference. Examples of major areas of concern might include the following:

A. Such international machinery as may be required for determining marine pollution research priorities, for coordinating research efforts, and for collecting research infromation and arranging for its exchange.

B. Regulation of deliberate disposal of materials into the ocean.

We recommend that drafting of articles begin promptly. In the preparation of draft articles we should seek assistance as required from the appropriate specialized agencies and other public and private international organizations active in the field. Experts from these organizations should participate in a consultative capacity. Similarly, we believe that our preparatory work should be closely coordinated with the related work for the Stockholm Conference. We should avoid duplication. In particular, should some parallel working group be established by the committees engaged in the preparatory work for the two conferences, a member of the bureau of each group should be invited to participate in the other group.

I would like to emphasize again the complexity of the issues before us, the need to take into account other efforts in this area, and the importance of tailoring each solution to the special requirements of each particular problem.

I turn now to the second of the two subjects assigned to Subcommittee III, scientific research.

The United States has long identified itself with the need to expand world efforts in scientific research of the oceans. Our initiative calling for an International Decade of Ocean Exploration exemplifies that posture. We consider that scientific research should not be interferred with and should be conducted with the view to open publication for the benefit of all. We whole-heartedly support the applicable principle stated in the Declaration of Principles (Resolution 2749) which states in relevant part: "States shall promote international cooperation in scientific research exclusively for peaceful purposes . . . through effective publication of research programs and dissemination of the results of research through international channels". I have discussed already some forms of cooperation we favor in connection with preservation of the marine environment and marine pollution. In general, it is our belief that cooperation in scientific research in the marine environment will help ensure that the oceans will be developed and used in ways which will benefit mankind. Through increased knowledge we can all better understand the oceans and make optimum use of their resources.

We recognize the particular interest of developing countries in learning how the seas may help solve such problems as chronic shortfalls of protein for their populations; how fresh water may be obtained from the sea; how weather may be modified to improve crop porduction and to avoid such catastrophes as rampaging hurricanes; and how new, inexpensive energy sources might be tapped. Answers to such questions will require further scientific activity and cooperation in the period ahead.

Scientists have in fact a long tradition of sharing information, although the vast quantities of data accumulated and the limitations on their processing and interpretations often delay their dissemination and use. The best means of insuring that there is a flow of scientific information is actual participation in scientific projects and continued support for existing scientific mechanisms for the exchange of data, such as the World Data Center System and the World Weather Watch. New means of data acquisition, such as Earth Resource Survey Satellites, may offer new opportunities for international cooperation and sharing of benefits as they fulfill their promise.

In our view this Subcommittee should draw upon the experience and knowledge of other bodies, such as the specialized agencies and intergovernmental organizations, in performing its work. Resolution 2750 (C) invites inter alia, the IOC to cooperate fully with the Seabed Committee, in particular by preparing such scientific and technical documentation as the Committee may request. We favor taking full advantage of this suggestion. Similarly, the Committee may well wish to draw upon the FAO, IMCO, and the Human Environmental Secretariats for support.

In this connection, it would be most helpful to our work if the Secretariat would provide each of the members of this Committee with copies of treaties and other basic documents produced by other international and intergovernmental organizations concerned with marine pollution and scientific research.

Thank you, Mr. Chairman.

Mr. STEVENSON. Thank you, Mr. Chairman.

President Nixon's proposals regarding the seabeds beyond the limits of national jurisdiction are also relevant. The Draft Convention on the International Seabed Area submitted by the United States as a working paper last August to the U.N. Seabeds Committee provides that "all activities in the International Seabed Area shall be conducted with strict and adequate safeguards for the protection of human life and safety and of the marine environment." The draft contains regulatory provisions to further these ends and contains provisions for compulsory settlement of disputes. Accordingly, international means would be available to insure that all seabed activities, including dumping, are conducted in agreement with the requirement that there be strict and adequate safeguards for the protection of the marine environment.

An International Working Group on Marine Pollution has been established by the Preparatory Committee for the 1972 United Nations Conference on the Human Environment. The Working Group will prepare a marine pollution agenda submission for the Conference. This will probably include proposals that nations ban the dumping of certain harmful substances in the ocean and adopt systems for the regulation of ocean dumping.

Work is also under way in the NATO Committee on the Challenges of Modern Society and the Intergovernmental Maritime Consultative Organization. The latter is preparing for a 1973 Conference to ban all intentional discharges into the seas by ships of oil, oily wastes, and other noxious substances.

Accordingly, I am confident that in the next few years we will see major international developments banning the ocean disposal of toxic industrial wastes, highly radioactive materials, heavy metals, chemical warfare agents, as well as the setting of international standards to prevent damage to the marine environment from exploration and exploitation of the seabed.

I strongly urge the adoption of this comprehensive ocean dumping bill—the Marine Protection Act of 1971—as an important domestic

first step which should lead to international control of the universal problem of marine pollution.

Thank you very much, Mr. Chairman.

I would be pleased to answer any questions that you or other members of the committee might have.

Mr. DINGELL. Thank you very much, Mr. Stevenson. Your testimony is most helpful to the committee, and the committee is grateful to you.

Mr. DuPont?

Mr. DUPONT. Just one question, I think, Mr. Chairman.

On page 3 of your testimony, Mr. Stevenson, you commented that our authority to regulate the 9-mile contiguous zone, as far as antipollution activities are concerned, really derives only from our right to protect the 3-mile coastal zone. Does that imply any jurisdictional weakness, as far as the United States is concerned?

Mr. STEVENSON. No, sir; this just reflects the provisions of the 1958 Geneva Convention with respect to the contiguous zone. The concept of the contiguous zone is that you are able to do certain additional things in that zone of the high seas, in order to protect our territorial sea or our own territory. I think for present purposes, that this is entirely adequate, because most of the dumping in the contiquous zone we are talking about, would have an effect in the waters within 3 miles of our coast, so we could take the necessary action between 3 and 12 miles, to prevent that sort of activity.

Mr. DUPONT. I have been proceeding on the assumption that we could pass a piece of legislation that would have full and complete jurisdiction now for 12 miles. There is nothing, in your view, nothing in international law that prevents us from passing antidumping legislation of the type being considered, that would be effective fully out to the 12-mile limit?

Mr. STEVENSON. The actual wording of the Geneva Convention gives you the authority to exercise the control within the zone between 3 and 12 miles necessary to implement certain national policies with respect to sanitation, among other things. It seems to me that the power provided to control certain actions in the contiguous zone would probably justify most of the type of regulatory activity that is involved here. This is not the same thing as saying we have a 12-mile territorial sea. Our position still is that the United States has a 3-mile territorial sea, with an additional contiguous zone between 3 and 12 miles. While we have agreed that we would be willing to accept a 12-mile territorial sea, by international agreement, until there is international agreement, our position remains at a 3-mile territorial sea. You could not equate the legal situation in the contiguous zone with the situation in the territorial sea. There are differences.

Mr. DUPONT. Can you give me a practical example of something we could do within the 3-mile limit in regard to limiting dumping that we could not do in the 3- to 12-mile zone?

Mr. STEVENSON. Well, basically, with respect to the sort of dumping that we are talking about here, the only problems we have had have been with the ocean dumping of materials originating on the U.S. mainland. So that basically, everything that we need to control is dealt with satisfactorily by the provision which controls the transporting of materials from U.S. territory for ocean dumping purposes.

Now the main difference between the territorial sea and the contiguous zone would have to do with regulation of vessels. As far as I can see, we contemplate taking the most effective type of action that the contiguous zone provision enables us to take.

Now the only possible difficulty that I could see would be where there was some dumping of materials that clearly would not affect the area within 3 miles. Something that clearly wouldn't move shoreward. Perhaps some type of nonliquid type of dumping. There might be a problem with respect to that. I don't think as a practical matter we are talking about anything that is a serious problem.

Mr. DUPONT. I was with you until you said that last phrase, but now you have got me concerned about dumping construction debris. Are you saying if we have a prohibition against dumping cinder blocks, broken cinder blocks, outside of 3 miles, that under international law we are perhaps not able to prohibit that?

Mr. STEVENSON. Well, I am not an ocean pollution specialist, so I am not sure that there wouldn't be a problem even with materials such as cinder blocks, even though dumped within the contiguous zone. It might very well come landward, and interfere with our territorial sea. So that I think even in that area, I am not sure that we couldn't act if we wanted to.

Mr. DINGELL. Would the gentleman yield?

We have got several concepts involved here. First of all, there is a question of the relationship of the United States to other nations and citizens of other nations, and the concept of the United States with regard to its relationship with its own citizens. Then you have the question of the area in the territorial sea which is 3 miles from our shoreline. Then you have the question of the contiguous zone, which is from 3 to 12 miles out.

We can clearly control the activity of anybody within 3 miles—our own citizens or citizens of other nations. As between the 9 and the 12, or even 12 all over the high seas, we can control the actions of our own citizens.

Between the 3 and the 12 mile limits, we may only engage in certain acts which would control the activities, rather than we can control certain activities of citizens of other nations. Is that a kind of simplification of the question which you are discussing with Mr. duPont at this time?

Mr. STEVENSON. Yes, I think that is accurate.

Mr. DINGELL. And so as to the dumping of cinder blocks, there would be no problem of dumping cinder blocks out anywhere out to 12 miles, if it was an American citizen; if it was between 3 and 12 miles, as to the nationals of other nations, we might have a problem, you are saying, if we couldn't demonstrate clearly that this would involve some effect which would adversely affect the U.S. territorial sea or the shoreline or its nationals. Is that correct?

Mr. STEVENSON. That is correct. I think the most important point here, and I think it is the same point that Judge Train made before, is that at the present time, there is no dumping off our shores that

doesn't originate from our territory. So that the provision in this act that regulates transporting of material for dumping covers at the present time all dumping that is involved, wherever that dumping takes place. It is regulated by the provision that affects transportation from our shores.

Now as far as we know, there is no foreign dumping at all involved off our shores. So that the question of what you do about foreign dumping has not arisen as a practical problem. Though I think, basically, as you pointed out, with respect to regulating our own nationals there is no problem in any event. We can do what we wish. In the contiguous zone or beyond would only be a problem with respect to foreign nationals, and that just isn't a problem at the present time.

Mr. DUPONT. No further questions.

Mr. DINGELL. Mr. Everett.

Mr. EVERETT. Thank you, Mr. Chairman.

At the bottom of page 3, Mr. Stevenson, you said that a state, of course, has jurisdiction over vessels flying its flag on the high seas, irrespective of their location. The question arose this morning as to whether the language in the bill would cover a situation where an American-flag vessel brought material in from a foreign country to be dumped, beyond the 12-mile zone, shall we say. Would we have the authority under your statement to regulate an American-flag vessel bringing this material back to the U.S. waters and dumping it beyond 12 miles from our shores?

Mr. STEVENSON. As far as U.S. vessels are concerned, there is no international law problem. The only problem is the practical problem of Coast Guard or other enforcement action against U.S. vessels.

Mr. EVERETT. The bill itself just says, "No person can transport material from the United States", and it doesn't say about American-flag vessels bringing material into these waters.

Mr. STEVENSON. I think that is more a policy than an international law question. Because once you do start to regulate the U.S. vessels generally, you have the problem of effectively administering those provisions. The other consideration is that since we are dealing not only with U.S.-flag vessels, but with others, it would be better to handle this worldwide problem by international agreement, so you have uniform standards and people know what to expect, in terms of regulation.

Mr. EVERETT. At the top of page 4 of your statement you say:

> "A state may also determine the conditions under which materials may be removed from its territory, and specifically has the power to prohibit such removal by its own or foreign nations and vessels."

Now, this does not extend to the dumping of it, does it?

Mr. STEVENSON. No. This is just the initial act of removing the material.

Mr. EVERETT. Well, under this bill, though, if a foreign-flag vessel picks up material at a U.S. port then EPA can control the dumping anywhere in the world, supposedly. Is that correct?

Mr. STEVENSON. I am sorry?

Mr. EVERETT. Under the legislation you could control the dumping by a foreign-flag vessel that picks up material in a U.S. port, as far as a hundred miles off the coast of the United States. That is what I have been led to believe. And I was wondering if this statement you have at the top of page 4 covers that?

Mr. STEVENSON. Well, it was intended to cover that.

Mr. EVERETT. So, actually, you can control the removal as well as the dumping, if it is picked up at a U.S. port—even though it is a foreign-flag vessel.

Mr. STEVENSON. Yes.

When you are talking about the question of transporting material from the United States for the purpose of dumping it, we could regulate that—it wouldn't matter where they were intending to dump, in terms of the regulation that we imposed, in terms of not letting them do it or accepting whatever conditions we were talking about—but that does not mean that we would have enforcement jurisdiction, or could, on the basis of this, set forth some sort of a general code regulating dumping beyond our jurisdiction. What we are regulating is the removal of the materials from our shores for the purpose of dumping.

Mr. EVERETT. Now with respect to these international conventions you mentioned, they are only binding as to those nations that are signatory to the Convention. Is that correct?

Mr. STEVENSON. In all cases we would only be talking about countries that became parties to the Convention.

Mr. EVERETT. Now, with respect to the Continental Shelf Convention, you indicated in the statement that, normally, controls over the exercise of jurisdiction over the resources of the Continental Shelf were primarily for the purpose of exploitability, I believe, and exploration. One of the bills before us today has a provision that would try to control the dumping of materials out to the 200-meter depth contour by foreign-flag vessels irrespective of whether the material was received on board the vessel at a U.S. port or foreign port.

Do you think a coastal nation has the right to protect its resources of the Continental Shelf from pollution as it has in its 3- to 9-mile zone?

Mr. STEVENSON. Well, the Continental Shelf Convention does not deal with the question of dumping. It deals with the coastal states' rights to explore and exploit the Continental Shelf's resources. The clear intention of the Geneva Conventions is to make dumping beyond the territorial sea and the contiguous zone governed by the High Seas Convention. Therefore, the rules for the area beyond the territorial sea and contiguous zone are based on the high-seas conception of regulating our own flag vessels, or reaching international agreement as to the appropriate regulatory rules. There is no right on the basis of your jurisdiction over the Continental Shelf to regulate what happens on the seas above with respect to dumping.

Now, this does not mean that you have no rights. Even under existing law, in the absence of international agreement with respect to dumping, the high-seas regime requires that you exercise the freedoms

of the high seas with reasonable regard for the interests of other States in their exercising the freedoms of the sea. So that if another country's flag vessel were to dump in an area of the high seas, which adversely affected the rights of our Nation—for example, to carry on fishing or another of the high-seas rights—we would have a right to complain to that the country, and have a valid international claim under the High Seas Convention, because they would be unduly interfering with our interests.

Mr. EVERETT. Mr. Chairman, that is all the questions I have, thank you.

Mr. DINGELL. Thank you very much, sir. The committee is grateful to you for your very helpful testimony. We appreciate your kindness.

Our next witness is Mr. Henry Douglas, chief of planning, Maryland Port Authority.

Mr. Douglas, we are happy to welcome you for such statement as you choose to give, and if you will identify yourself in full for purpose of the record, identifying the associates with you at the main table, you may proceed to give your statement.

STATEMENT OF HENRY T. DOUGLAS, CHIEF OF PLANNING, MARYLAND PORT AUTHORITY

Mr. DOUGLAS. Thank you, Mr. Chairman.

My name is Henry Douglas, chief of planning for the Maryland Port Authority.

The Maryland Port Authority is an agency of the State of Maryland, charged with the responsibility for promoting the waterborne commerce of that State.

I am here to address myself to House bill 4723, the Marine Protection Act of 1971, and I have given Mr. Everett copies of my prepared statement. However, I would like to follow your wishes, Mr. Chairman, as to whether I simply give a brief summary of the position set forth in that statement, or read the entire statement.

Mr. DINGELL. As far as the Chair is concerned, it is a matter of choice to you. If you were asking the counsel of the Chair in this matter, I would make the statement to you we will be happy to have your entire statement in the record; and you may then choose to highlight such sections as you may wish.

Mr. DOUGLAS. Mr. Chairman, we are fully in accord with the intent of the bill to prevent or limit dumping into the ocean, coastal or Great Lakes waters, of hazardous, noxious, or environmentally detrimental substances.

However, we think that it would be a mistake to include dredging spoil in the same category as "solid waste, garbage, sewage sludge, munitions, chemical, biological and radiological warfare agents, radioactive materials, etc.". Also, we do not think that waters for which the States have been authorized to establish water quality standards by the Water Quality Act of 1965 should be included with ocean and

coastal waters. And finally, we believe it would be desirable to leave the permit authority for disposal of dredging spoil within the U.S. Army Corps of Engineers.

Consequently, we urge that the bill be amended to exclude from its coverage the deposit of dredging spoil in waters to which State or Federal-State water quality standards apply.

The reasons for our position are that we believe that:

(1) Dredging spoil disposal is already adequately regulated by the States and the Army Corps of Engineers.

(2) Transferring the Federal permit authority for dredging spoil disposal from the Corps of Engineers to the Environmental Protection Agency will increase the time involved in processing applications for such permits, and thereby impede navigation channel projects.

With respect to the adequacy of the present regulatory setup:

(1) At the State level, deposit of dredging spoil requires compliance with the water quality standards which have been established by the States, or where a State has not established such standards, compliance with standards established by the Environmental Protection Agency.

(2) At the Federal level, dumping of dredging spoil requires a permit from the Corps of Engineers which, under current Federal statutes and regulations, requires:

(a) Certification that State water quality standards are complied with.

(b) Compliance with the Corps of Engineers "section 403" criteria regarding environmental and ecological effects as required by:

The Fish and Wildlife Coordination Acts, 16 U.S.C. 661 and 16 U.S.C. 742–A; The National Environmental Policy Act, Public Law 91–90; The Water Quality Improvement Act, Public Law 91–224.

The reason we fear delay in the processing of applications for permits as a result of shifting the permit authority from the Corps of Engineers to the Environmental Protection Agency is that the Corps of Engineers is equipped for the job with personnel experienced in this field and 40 district offices, whereas the Environmental Protection Agency does not have a comparable staff and, as we understand it, envisions only 10 field offices. We believe there is a significant advantage in the more decentralized organization of the Corps of Engineers which brings the application and permit process much closer to the applicant.

Since we are recommending changes in the bill involving dredging spoil and the Corps of Engineers, we would like to offer some comments on these two subjects.

First, as to dredging spoil. This is not necessarily the ogre that it is frequently considered to be, in spite of the unpleasant connotation of the word "spoil." There is "good" spoil and "bad" spoil. Typical of the former is natural uncontaminated bay or river bottom. Moving it from one location on the bottom to another nearby location on the bottom can hardly be considered as polluting the body of water involved.

"Bad" spoil is typified by bottom material which has been subjected to industrial or municipal wastes and become contaminated as a consequence. Such "bad" spoil can be a pollutant and should be disposed of so that it does not degrade water quality. To this end, Maryland is constructing at its own expense a $13 million disposal area to receive and confine such "bad" spoil.

In Maryland we are confronted with the problem of simultaneously advancing our most important economic asset, the port of Baltimore, with its port-oriented heavy industry, and also preserving the environmental and ecological quality of our highly cherished Chesapeake Bay. This has caused us to give a great deal of attention to reconciling the requirements of the two assets, with particular attention to the handling of dredging spoil, and as a consequence we have learned some interesting things:

(1) Since 1924 a deep, natural trough in the bottom of the Bay, known as the dumping ground has received most of the dredging spoil from Baltimore Harbor and channels. However, this same "Dumping Ground" is the most popular sport fishing location on the bay, particularly for striped bass; and on any summer weekend, hundreds of sport fishing boats can be seen there.

(2) Last year's oyster harvest from the Chesapeake Bay was the largest on record. The dumping ground lies near the center of the relatively small area of the bay which was the most productive.

(3) A $268,000 study of an actual case of overboard disposal of dredging spoil conducted by the Natural Resources Institute of the University of Maryland in 1966 concluded that there were no observable detrimental effects from such spoil disposal. See exhibit A.

(4) In the opinion of knowledgeable people concerned with natural resources conservation, it is recognized that not all dredging spoil is harmful, and that uncontaminated spoil need not be kept out of the bay. See exhibit B.

With respect to the Corps of Engineers, we would like to call attention to the changes in their permit criteria resulting from the passage of the National Environmental Policy Act of 1969 (Public Law 91–190, Jan. 1, 1970), and the Water Quality Improvement Act of 1970 (Public Law 91–224, Apr. 3, 1970), and promulgated by the Secretary of the Army. These are succinctly expressed in press release 70–8 of May 15, 1970, by the Baltimore District, Corps of Engineers, concerning evaluation of permit applications, to the effect that:

"The decision . . . will be based . . . on an evaluation of the proposed work on the public interest." "Public interest" is described as including factors such as: "navigation, fish and wildlife, water quality, economics, conservation, aesthetics, recreation, water supply, flood damage prevention, ecosystems, and, in general, the needs and welfare of the people." This change clarifies the standard against which permit applications are to be judged and reemphasizes that the Corps is no longer concerned only with the impact which a proposed project may have on navigation."

We respectfully request that the committees give due consideration to the above points in their deliberations on H.R. 4723.

62–513—71——31

(Attachments to Mr. Douglas' statement follow:)

NRI
SPECIAL
REPORT
No. 3
JULY 1970

GROSS PHYSICAL AND BIOLOGICAL EFFECTS OF OVERBOARD SPOIL DISPOSAL IN UPPER CHESAPEAKE BAY

FINAL REPORT
to the
Bureau of Sport Fisheries and Wildlife
United States Department of the Interior
Under Contract 14-16-0005-2096

NATURAL
RESOURCES
INSTITUTE

UNIVERSITY OF MARYLAND

From: Gross Physical and Biological Effects of Overboard Spoil Disposal in Upper Chesapeake Bay

Fish and Wildlife Service, Maryland Department of Natural Resources, Maryland Board of Public Works and other agencies concerned with optimal management of estuarine areas.

These papers also make a major contribution to understanding of an important estuarine area which is becoming subject to growing and sometimes conflicting demands and uses. It is highly probable that the results will serve many uses in the solution of important practical and fundamental questions.

The publications and reports are listed in the Appendix.

Effects of Dredging and Spoil Disposal in 1966

The following summaries of effects draw freely from data and conclusions in subsequent detailed final reports by Biggs, Flemer, Pfitzenmeyer, Goodwyn, Dovel and Ritchie. Supporting evidence and discussion appear in those reports. Suggestions of guidelines for dredging projects and of certain recommendations have involved all of the scientists of the program.

1. Fine sediments from the channel were released in shoal water over similar sediments, as a semi-liquid mixture.
2. Turbidity increased over an area of 1.5-1.9 square miles (4-5 square kilometers) around the disposal site (Fig. S-3). Over most of the area, the suspended sediment load was within the range of natural variation observed, but at a different season from observed natural maxima (see Biggs).

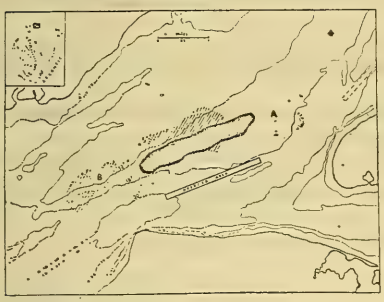

Fig. S-3. The area studied during the 1966 hydraulic dredging from the DREDGED AREA and pipe-line disposal into the DISPOSAL AREA. "A" illustrates the spread of water-borne sediments observed on flood tide, and "B" is the spread seen on ebb tide. The dark hatched area of bottom was covered by at least 1 foot of sediment.

3. Suspended sediments (in the top of 10 feet of water) were carried in a tide-related plume to a maximum distance of about 3.1 miles (5000 meters), and virtually disappeared within two hours when pumping ceased (see Biggs).
4. Total phosphate and nitrogen were increased in the immediate vicinity of the discharge by factors of about 50 and 1000, respectively, over ambient levels (see Biggs), but limited field experiments did not show any detectable effects on photosynthesis by phytoplankton (see Flemer).
5. The spoil material deposited on the bottom covered to at least 1 foot (.3 meter) an area at least 5 times as large as that of the defined disposal site (see Biggs and Fig. S-3).
6. Approximately 12% of the deposited sediment disappeared from the spoil "pile" in 150 days after deposition (see Biggs).
7. No gross effect of dredging or spoil disposal was observed on phytoplankton primary productivity, zooplankton, fish eggs and larvae, or fish (see Flemer, Goodwyn, Dovel and Ritchie).
8. There was a reduction of about 70% in the average number of benthic individuals per square yard and of about 65% in the benthic biomass in the spoil disposal area, accompanied by a marked reduction in the number of species present. After one and a half years, numerical abundance, biomass, and species diversity had recovered to approximately the pre-disposal levels. Individual species varied greatly in susceptibility to damage and in recovery patterns (see Pfitzenmeyer).
9. At the site of dredging in the channel, an erratic series of species fluctuations occurred. After one year, the channel had about the same number of individuals as during the pre-dredging period, but not as many species were present (see Pfitzenmeyer).

Guidelines for Dredging and Spoil Disposal

The environment of this project must be considered in applying the results to other dredging and disposal sites. This is the variable low salinity area of a large estuary. A sediment trap is in effect, natural turbidities are often high, and wind and wave effects on sediments are considerable. The sediments involved do not, so far as we know, contain any highly toxic metals, oils, or other deleterious materials. The sediments of the channel and the disposal area are both of fine grain size, similar to the sediments of many upper estuarine areas. Wherever comparable conditions exist, the following guidelines are probably useful.

1. In estuarine areas like the Upper Chesapeake, which is of high value as a fish nursery and supports populations of plankton, benthic animals and useful fish, proposed large-scale environmental modifications should be thoroughly analyzed, with special concern to avoid or rigorously minimize damage to aquatic resources.
2. Disposal of fine sediments on flat bottom areas from hydraulic pumping will affect a wide area because of the spread of semi-liquid spoil and movement of sediment after original deposition (see Biggs). Since the

DEPARTMENT OF NATURAL RESOURCES.
Annapolis, Md., February 2, 1971.

Mr. ANDREW HEUBECK, Jr.,
Secretary, Board of Public Works,
State Office Building, Annapolis, Md.

DEAR MR. HEUBECK: By letter dated November 17, 1970, I sent you comments of the Department of Natural Resources concerning the proposed dredging project in the approach area to the C. & D. Canal as outlined in the Corps proposal dated September 11, 1970.

In my letter of November 17th I stated that this department recommends that overboard disposal not be allowed. I went on to point out that "Since the Confined Disposal Area for the Upper Bay should be in operation by the time this dredging project is to be initiated (winter of 71–72), the Department recommends that the spoil be placed in this disposal area."

Since writing to you, I have determined that it is quite unlikely that the Confined Disposal Area will be completed in time to accommodate the proposed maintenance dredging in the approach to the C. & D. Canal. Furthermore, it now seems prudent to reserve, during the initial years at least, the capacity of the Confined Disposal Area for the contaminated dredging that will be removed from Baltimore Harbor. Thus, it might be unwise to use the high cost Confined Disposal Area for the type of spoil that will result from the C. & D. maintenance dredging.

I have corresponded with Dr. Cronin of the Natural Resources Institute and he confirms the conclusion of their special report number 3, July, 1970, which indicated that there was no gross effect of the overboard disposal in Upper Chesapeake Bay from the deepening of the C & D approach channel in 1965–67.

In view of these considerations, the Department of Natural Resources with-Corps of Engineers proposal dated September 11, 1970 provided that:

(1) a safety zone of 500 feet for each foot of expected disposition be provided between the receiving area and any shellfish beds or other areas of special significance;

(2) to protect fish eggs and larvae as well as other biological activities in the Bay, the dredging should be conducted during the months of February-March or September-October; and

(3) that the Corps obtain and provide to the State, accurate information on the deposition and movement of the spoil.

If the aforementioned three conditions are acceptable to the Corps of Engineers, the Department of Natural Resources withdraws its opposition to the overboard disposal of spoil in the Upper Chesapeake Bay near the site of the C & D Canal approach channel.

Please let me know if we can be of further assistance in this matter.

Sincerely yours,

JAMES B. COULTER,
Deputy Secretary.

Mr. DINGELL. Perhaps we could address ourselves to one particular point. The comments I have heard from port authorities, so far, would tend to indicate the particular areas of your apprehension. Yesterday, we heard from the American Institute of Merchant Shipping, and also from the American Association of Port Authorities, who indicated their apprehension was the transfer projected by the legislation before this committee of the authority over dumping from the Corps of Engineers to the——

Mr. DOUGLAS. Environmental Protection Agency, sir.

Mr. DINGELL. Yes, to the Environmental Protection Agency.

The chair notes, in the bill before us that their objection may well have been met, and I think the greatest help you could afford this committee at this particular time would be to comment with regard to that particular point.

The chair notes that under the bill before us, as interpreted this morning, the Corps of Engineers will continue to issue the permits, as they have in times past, but will do so in conformity with the

provisions of the act and regulations issued thereunder by the Environmental Protection Agency.

I would refer you to page 11, to subsection 7(c)(2), in suggesting that you give particular attention to line 15 of page 11, down through line 22. The language to which I refer is as follows: That after the effective date of this Act—

> No Federal license or permit shall be issued under the authority of the Rivers and Harbors Act of 1899 to conduct any activity otherwise regulated by section 4 of this Act, and regulations issued thereunder, unless the Administrator has certified that the activity proposed to be conducted is in conformity with the provisions of this Act, and with regulations issued hereunder.

Now Mr. Ruckelshaus this morning testified that that language indicated that the Corps would continue to issue regulations for dredging, filling, and dumping, as they have in the past, in conformity with the statutes that you have cited in your statement. And that those actions would be simply done in conformity with regulations and so forth, and subject to certification by the Environmental Protection Agency. I think this may change somewhat the understanding that the port authorities have with regard to the impact of this particular legislation. Am I correct?

Mr. DOUGLAS. Yes. I would say that you are correct. We were concerned at the prospect of the permit issuance procedure being transferred from the Corps of Engineers to the EPA, because we felt——

Mr. DINGELL. Excuse me, Mr. Douglas. This is a new problem that we have here. I apologize to you. The Chair notes that we have at this moment a teller vote with clerks on the floor of the House, which gives us exactly 12 minutes to get over there and cast our vote on a very important question, and for that reason, with due apologies to you, I must recess the committee briefly. We should be back within the next 15 minutes.

Mr. DOUGLAS. Certainly, sir.

Mr. DINGELL. If there is no further business at this time, the subcommittee will stand in recess for a period of approximately 15 minutes.

(Brief recess.)

Mr. DINGELL. The subcommittee will come to order.

At the time when the subcommittee was constrained to recess, we were hearing from Mr. Henry Douglas, Chief of Planning of the Maryland Port Authority.

Mr. Douglas, I am sure you recall my question. Perhaps you would want to comment on the point raised.

Mr. DOUGLAS. Yes, Mr. Chairman. I have had an opportunity now to consider the implications of the paragraph you referred me to. And frankly, sir, as I understand it, with all due respect to Mr. Ruckelshaus, whose possible interpretation is to the contrary, I would read this as meaning that although the Corps of Engineers would issue the permit, it would have to obtain certification from the EPA that it was in order so to do. So that for all practical purposes, we would have imposed an additional layer of regulatory procedure on top of that already existing. And in all candor, this is one of the things that we are concerned about, the addition of additional layers of permanent processing procedure, which in this particular instance with which we are concerning ourselves, we think is superfluous.

Please understand that we have no disagreement whatsoever with the major thrust of the bill, but that we believe that it might very well, and should, exclude from its coverage the deposit of dredging spoil in waters to which State or Federal-State water quality standards apply.

This doesn't mean offshore waters. This is not ocean waters. There are no State or Federal-State water quality standards applicable there. We are referring to disposal in waters which come under the jurisdiction of the State, if they have issued water quality standards, and of course, if they have not, why, then, the EPA has the authority to issue water quality standards.

So perhaps I have been unduly roundabout, but as an answer to your question, we would deplore the addition of another step in the process of obtaining a permit, after the applicant has complied with the requirements of the water quality standards of his State, and has complied with the requirements of the Corps of Engineers, as their new criteria have been established, since the passage of the acts of January 1 and last April, which have made the Corps of Engineers very much more sensitive to environmental and ecological standards.

Mr. DINGELL. Thank you very much, sir.

Mr. Everett.

Mr. EVERETT. Thank you, Mr. Chairman. No questions.

Mr. DINGELL. Mr. Rogers?

Mr. ROGERS. I have no questions, Mr. Chairman. Thank you very much.

Mr. DINGELL. Mr. Douglas, the committee is grateful to you for your presence and for your very helpful statement. It is a pleasure indeed to have you with us and we appreciate it very much.

Mr. DOUGLAS. Thank you, Mr. Chairman.

Mr. DINGELL. Our next witness is Mr. James Wakelin, Assistant Secretary for Science and Technology of the Department of Commerce, accompanied by an old friend, Mr. Howard Pollock, Deputy Administrator of National Oceanic and Atmospheric Administration.

Gentlemen, we are happy to welcome you both to the committee for such statements as you choose to give, and if you will see to it that the other gentlemen at the table with you are identified for the record, we will be more than happy to recognize you for such statements as you may wish to give.

You may proceed.

STATEMENT OF JAMES H. WAKELIN, JR., ASSISTANT SECRETARY FOR SCIENCE AND TECHNOLOGY, ACCOMPANIED BY HOWARD POLLOCK, DEPUTY ADMINISTRATOR FOR NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND JAMES BRENNAN, ACTING ASSISTANT GENERAL COUNSEL, DEPARTMENT OF COMMERCE

Mr. WAKELIN. Thank you, Mr. Chairman.

Before I engage in the statement, with your permission I would like to again reintroduce an old colleague of ours, Dr. Howard Pollock, who is my associate in the National Oceanic and Atmospheric Admin-

istration, a member of these two committees for the past 4 years; Mr. James Brennan, who is Acting Assistant General Counsel for the Department of Commerce. Mr. Howard Eckles of NOAA, Dr. Donald Martineau of NOAA, and Dr. Robert Hanks, also of NOAA, helping us to support answers, possibly, to questions of your interest.

Mr. DINGELL. Thank you very much, sir.

Mr. Wakelin, you are certainly welcome. This committee recalls your presence before us on other days, and it is always a pleasure to welcome you back, as it is our old friend, Mr. Pollock, for whom I have great personal affection.

Mr. WAKELIN. Thank you, Mr. Chairman. I am delighted to be here. It is a privilege to be before this distinguished committee to testify in support of H.R. 4723, and also H.R. 4247. These identical bills would enable the Administration to proceed with its plan to regulate all types of ocean dumping and to prevent or vigorously limit dumping of any material which could adversely affect human health, welfare, or amenities, the marine ecology, or economic potential.

In April 1970 President Nixon indicated his concern about the dumping of waste into the ocean. The Chairman of the Council on Environmental Quality was asked to work with other Federal agencies and with State and local governments on a comprehensive study of ocean dumping that would result in appropriate recommendations for research, legislation, and policy. A report of the Council released in October of last year stated that serious information deficiencies exist and that research is required to understand the pathway of waste material in marine ecosystems.

While we can point to examples where continued unregulated dumping over a long period of time have led to ecological damage to waters adjoining our coastlines, we still have insufficient detailed knowledge to state accurately what is happening to our ocean environment or to set fully adequate regulations.

To more accurately predict the present and future impact of ocean dumping on the marine environment and set the most desirable standards for regulating it, we must identify materials potentially harmful to the marine ecosystem and conduct oceanographic surveys to establish baseline conditions and variations as a consequence of dumping.

I am not suggesting that efforts to establish regulations or standards in the environmental field must await our complete mastery of the ecological sciences. The time to act is now. Regulation of ocean dumping should be based upon evaluation of the criteria stated in section 5(a) of H.R. 4723.

However, recognizing that the ecological knowledge available upon which to develop such regulations is far from complete we believe that regulations governing ocean dumping will be refined and adjusted as our knowledge grows.

H.R. 4723 provides the essential criteria for developing appropriate regulations but does not specify the regulations in detail. This, we believe, is appropriate in view of the current state of our knowledge.

You have under your consideration several bills which would control ocean dumping in a variety of ways and would place responsibility for the control of ocean dumping in one of several departments. The

Department of Commerce believes that the approach of H.R. 4723 which places the regulatory authority in the Environmental Protection Agency is most appropriate since EPA is an agency which has as its chief purpose the protection of the environment and which possesses the necessary regulatory capability to develop and carry out a comprehensive ocean dumping policy.

We see the Department of Commerce as a logical agency to support EPA in the development of appropriate regulations.

This conforms with the intention of the President expressed in his message of July 9, 1970, where, in speaking of the role of NOAA, he stated:

> I expect it to maintain continuing and close liaison with the new Environmental Protection Agency and the Council on Environmental Quality as part of an effort to insure that environmental questions are dealt with in their totality and that they benefit from the full range of the Government's technical and human resources.

I see NOAA as playing an important role in support of the Environmental Protection Agency especially in the areas of marine research and monitoring.

NOAA and other organizations in the Department can contribute in the following areas:

1. Ecological research and determination of the processes controlling the dispersion and concentration of pollutants in the marine environment;
2. Engineering and economic analysis of alternatives to ocean dumping as presently practiced involving both field and laboratory tests and analysis;
3. Development of more reliable and adequate instrumentation as well as precise measurement techniques; and, finally,
4. Assisting with improved information exchange to shorten the timelag between acquisition of information and application for pollution control.

I would like to discuss the special capabilities of the Department of Commerce as they relate to the ocean-dumping problem.

NOAA has already begun research in the following problem areas:

1. Broad-based ecological research to understand the pathways of wastes in marine ecosystems.
2. Oceanographic studies of basic physical and chemical processes, with special emphasis on estuaries and coastal areas.
3. Identification of toxic materials and their lethal, sublethal, and chronic effects on marine life.
4. Development of effective monitoring systems.

NOAA's 1972 budget request provides for expansion in these four areas.

NOAA resources that could be used in ocean dumping research include some 43 research vessels and 25 laboratories. At the present time we are also working on the development of ocean monitoring buoys which would contribute to our understanding of the marine environment and which may provide information useful in dealing with ocean-dumping problems.

In addition, as part of the Environmental Data Service, NOAA has the National Oceanographic Data Center, and I should also add, for the record, the National Oceanographic Instrumentation Center,

which now have extensive data, records, and information which can be used to help predict the effects of ocean dumping.

We have available in the Department hundreds of scientists, engineers, and economists who working together can provide knowledge and understanding of the processes of the marine environment which can assist EPA in the formulation of policies and development of effective regulations on ocean dumping.

We feel it is the role of the Department, particularly through NOAA, to perform ocean monitoring and to provide information which will be useful to EPA in evaluating requests for permits.

Section 5(a) of H.R. 4723 identifies the two primary considerations that would be considered in reviewing and evaluating permit applications. These are (1) consideration of the likely ecosystem, human health, and economic impact of the proposed dumping and (2) alternative locations and methods of disposal including land-based alternatives.

These criteria provide a proper basis for issuance of permits. A rational investigation of the benefits and costs associated with alternatives, including land-based alternatives, will help identify least-cost solutions within overall environmental protection objectives.

The Department of Commerce has a wide range of resources capable of participating in the assessment of alternatives to ocean dumping.

The National Bureau of Standards, for example, has for many years maintained programs of research on corrosion of metals in soils and in marine environment, and on degradation of a wide variety of materials, including plastics, under unfavorable conditions of temperature and pressure.

The capabilities of NOAA which I mentioned a moment ago would also be valuable in assisting to design and to carry out suitable experiments.

It is widely recognized that there is a need to improve measurement techniques and instrumentation which are used today to measure concentrations of pollutants in our waters. Especially needed are reliable and cheap field tests which can be rapidly performed to give precise results.

The NBS has the capability to respond to the need for better measurement techniques and calibration standards. There is now work underway at NBS on new methods of detection and measurement of low-level pollutants in water, and a survey of needs is being made to determine how NBS research can best contribute to the solution of the more pressing measurement problems that other agencies such as EPA now face.

The capability of EPA to effectively apply the criteria of dumping impacts and consideration of alternatives as required under section 5(a) of H.R. 4723 can be enhanced by full utilization of existing information exchange capabilities within the Department of Commerce.

The National Technical Information Service (NTIS) of the Department is a potential vehicle for the needed information exchange. NTIS now handles about 45,000 new technical reports each year. The reports cover mainly research and engineering work done with Federal funds. They are cataloged, abstracted, indexed, placed on microfiche, and sold to the public.

The public learns about the reports on a biweekly basis. NTIS is already publishing special bulletins announcing new reports and other documents in the air pollution and water resources fields. This type of information exchange could be extended to include reports on pollution control devices and techniques.

The capabilities of the Department of Commerce in assisting in the implementation of ocean dumping legislation are impressive. Of particular significance is the initiative of Secretary Stans in placing departmentwide responsibility for environmental quality matters, including implementation of the Environmental Policy Act of 1969, in my office.

I have been directed to provide coordination and guidance in bringing about maximum contribution by Commerce programs to the solution of national problems of environmental quality of concern to the Department as a whole; and to serve as the Department's principal point of contact with the Council on Environmental Quality, and with organizations, both public and private, on environmental matters of concern to the Department as a whole.

Already, an environmental work group has been established under my Deputy for Environmental Affairs. The Department is in a position to function as a member of the administration's team in protecting and preserving our environment.

I will do my best to assure that Commerce is an effective member.

Following this, sir, I would be happy to attempt to answer questions of your interest.

Thank you, sir.

Mr. DINGELL. Thank you very much, Mr. Wakelin.

Mr. Rogers?

Mr. ROGERS. Thank you, Mr. Chairman.

First of all, I want to join with the chairman in welcoming you distinguished witnesses and old friends. Jim Wakelin, who has done an outstanding job of service to the Nation, and is known to this committee, and to others, for his work in the Navy as Assistant Secretary for Research and Development, an outstanding job, and his preeminence in the field of the environment, particularly as it affects the oceans.

And of course our colleague and good friend, Mr. Howard Pollock, who is now contributing in a significant way to the executive branch in the same manner, I am sure, as he did here, so we welcome you.

Mr. WAKELIN. Thank you, Mr. Rogers.

Mr. ROGERS. I am interested just a little bit in the detail of your research programs, your budget, and personnel involved in these programs that you have discussed with us. Perhaps you could just give us a quick rundown, and I don't want to take too long. Perhaps you could furnish some for the record.

Mr. WAKELIN. Yes, Mr. Rogers.

Mr. ROGERS. Just give us a summary of the main things.

Mr. WAKELIN. I would think that Mr. Pollock could talk to those research efforts and programs that are going on within our principal activity in the oceans, and that is in NOAA, if I might defer to him, sir.

Mr. ROGERS. That would be fine, and the budget that you have allocated, and foresee as being applied to those.

Mr. POLLOCK. Well, in the particular areas that Dr. Wakelin talked about, we have already begun research, they are stated on page 4 and page 5 at the top of our testimony. I think I could state very briefly, Mr. Rogers, that No. 1 is an area that is accomplished by our National Marine Fisheries Service. The current fiscal year figure is $3,170,000, and for the next fiscal year it is $4,170,000.

In No. 2, the oceanographic studies of basic physical and chemical processes, our Environmental Research Laboratories for the current fiscal year are spending $1,471,000, and for the next fiscal year $2,437,000. And the National Marine Fisheries Service is also engaged in this work at a level of $100,000.

In paragraph 3, the identification of toxic materials and their lethal, sublethal, and chronic effects on marine life and No. 4 being the development of effective monitoring systems, our National Marine Fisheries Service is spending $500,000 in the current fiscal year, and we have budgeted $1,060,000 for the next fiscal year.

Now you will note that on the middle of page 5 of our testimony we talk about NOAA's National Oceanographic Data Center, and Dr. Wakelin included also the National Oceanographic Instrumentation Center. The figures for the current fiscal year, I believe, are $1.8 million for the Instrumentation Center, and I believe it is $2.015 million for the Data Center.

Mr. WAKELIN. If I might just go on to complete, Mr. Rogers, the work at the Bureau of Standards on the pollution problem of detection and measurement, their particular budget in NBS is $613 million for fiscal year 1971, and $884 million for fiscal year 1972. That is, the request for 1972.

Our National Technical Information Service has a budget, but not an appropriation—a budget of $5 million, of which I believe the budget request is $1.477 million for fiscal year 1972.

Other funds coming into NTIS come either from the Department of Defense or from public sale of our technical reports.

Mr. ROGERS. I see. I was particularly concerned about the little amount budgeted for toxic materials, lethal, sublethal and chronic effects on marine life and human life, I would presume, too, that you get into. Don't you think this figure is rather insufficient, with the state of the knowledge?

Mr. POLLOCK. Well, I think the answer to the question is that we would certainly like to go a lot further than we have. As we have indicated, we have more than doubled the budget for next year, over what we presently have. I think this is an extremely important subject. Most of the work here, as you might imagine, is being done in the area of heavy metals in fish, and we are moving along with it. There is a lot more we could do, but we have to live at the present time within the budget we have for doing the job. And I think we are doing an effective job.

Mr. ROGERS. Also, we are somewhat concerned about the budget limitations on the sea grant college programs. It is my understanding that they are not able to really go into any new programs, but simply to fund those that are ongoing, really because of the inflationary factor. Is that about correct?

Mr. POLLOCK. Yes, sir. We have a problem; I think all of us that are concerned with the whole marine environment would certainly

like to move further than we have now, but obviously, this is just one of many, many problems in the national economy, and we are trying to live within that framework. But your statement is correct, that we are fairly well limited to the existing programs, because we are in the position of having certain studies and programs started at certain universities, and we don't want to curtail those, in order to start new ones.

Mr. ROGERS. We are going to try to get some more money this year.

Mr. POLLOCK. We would be very happy.

Mr. ROGERS. Thank you very much.

Thank you, Mr. Chairman.

Mr. DINGELL. Thank you, Mr. Rogers.

Mr. Everett?

Mr. EVERETT. Thank you, Mr. Chairman.

Mr. Wakelin, several times throughout your statement, you mentioned monitoring, and I noticed the Coast Guard under the bill has the responsibility of surveillance and enforcement. And I was wondering if there has been any thought given to extending this monitoring requirement to the Coast Guard, or to NOAA, or just to whom?

It is not clear under the bill as to who would do the monitoring.

Mr. WAKELIN. I would suggest that the word "surveillance" there refers to the surveillance of surface activities and surface vessels. Our point here, I think, in the NOAA capabilities, presents a fairly strong case for the functions, at least at first, being done by NOAA, in the monitoring operations.

These are pretty sophisticated programs, and while I am sure the Coast Guard has the capability, I don't think it is a broad as NOAA. We are talking about monitoring in the physical, chemical, and biological areas.

Mr. EVERETT. I see, sir.

Now on page 5, Mr. Wakelin, you mention that you have 43 research vessels and 25 laboratories available. Do these numbers include the four vessels that were tied up last year by the BCF and also the four research laboratories that were either closed or phased down considerably in their activities?

Mr. WAKELIN. Well, let me answer first the question about the vessels, and then I think our supporting people can answer about the laboratories.

There are 43 vessels in active service.

Now with respect to the laboratories, I would like to call on Howard Eckles, if I may.

Mr. EVERETT. Yes, sir.

Mr. POLLOCK. I believe the answer to your question is that all of the vessels that are listed here are the number of operational vessels and we would be happy to provide for the committee, if they would like, a list of those vessels and indeed, a list of the laboratories and facilities that we have which are capable of working in the general area of dumping as distinct from other aspects of our responsibility.

Mr. EVERETT. If you would, provide for the record a list of those research services, as well as laboratories, in total, and indicate those which are not operational at this time.

Mr. POLLOCK. We will be pleased to do that.
(The information follows:)

NOAA RESEARCH VESSELS

I. Vessels Equipped for Oceanographic Research

National Marine Fisheries Service	
Albatross IV	Woods Hole, Mass.
David Star Jordon	San Diego, Calif.
Charles H. Gilbert	Honolulu, Hawaii
Delaware II	Woods Hole, Mass.
George B. Kelez	Seattle, Wash.
John N. Cobb	Do.
Miller Freeman	Do.
Oregon	Juneau, Alaska
Oregon II	Pascagoula, Miss.
Townsend Cromwell	Honolulu, Hawaii
Undaunted	Wilmington, N.C.
National Ocean Survey	
Discoverer	Miami, Fla.
Oceanographer	Seattle, Wash.
Researcher	Miami, Fla.
Surveyor	Seattle, Wash.

II. Vessels Equipped for Limited Oceanographic Research

National Ocean Survey (Hydrographic vessels)	
Fairweather	Seattle, Wash.
Mt. Mitchell	Norfolk, Va.
Pathfinder	Seattle, Wash.
Rainer	Do.

III. Vessels Equipped for Fisheries Research

National Marine Fisheries Service	
Alosa	Oxford, Md.
Blueback	Woods Hole, Mass.
Challenger	Highlands, N.J.
Dolphin	Do.
George M. Bowers	Panama City, Fla.
Kingfish	St. Petersburg, Fla.
Martha E	Highlands, N.J.
Murre II	Juneau, Alaska
Phalarope II	Booth Bay Harbor, Me.
Point of Marsh	Beaufort, N.C.
Rorqual	Booth Bay Harbor, Me.
Sablefish	Juneau, Alaska
Shang Wheeler	Milford, Conn.
Sockeye	King Salmon, Alaska
Tommy Box	Galveston, Tex.
Cripple Creek	Juneau, Alaska

IV. Vessels Utilized in Nautical Charting that Have Secondary Oceanographic Capabilities

National Ocean Survey	
Davidson	Seattle, Wash.
Heck	Norfolk, Va.
McArthur	Seattle, Wash.
Pierce	Norfolk, Va.
Rude	Do.
Whiting	Do.
Launch #1255	Do.
Launch #1257	Do.
Schenahon	Detroit, Mich. (going to Fla.)

V. Vessels Equipped for Unique Estuarine Water Circulation Studies

National Ocean Survey
Ferrel ..... Norfolk, Va.

NOAA LABORATORIES CAPABLE OF ASSISTING WITH OCEAN DUMPING PROBLEMS

	Budget fiscal year 1971 (K)
National Marine Fisheries Service	
Eastern Gulf Marine Laboratory—Panama City, Fla	75
Tiburon Marine Laboratory—Tiburon, Calif	225
Sandy Hook Marine Laboratory—Highlands, N.J	631
Narragansett Marine Gamefish Research Laboratory—Narragansett, R.I	190
Biological Laboratory—Seattle, Wash	3285
Biological Laboratory—St. Petersburg Beach, Fla	228
Biological Laboratory—Galveston, Tex	1013
Tropical Atlantic Biological Laboratory—Miami, Fla	752
Center for Estuarine and Menhaden Research—Beaufort, N.C	989
Biological Laboratory—West Booth Bay Harbor, Maine	528
Biological Laboratory—Woods Hole, Mass	1023
Biological Laboratory—Milford, Conn	392
Biological Laboratory—Oxford, Md	497
Fishery Oceanography Center—La Jolla, Calif	1416
Hawaii Area Fisheries Research Center—Honolulu, Hawaii	995
Biological Laboratory—Auke Bay, Alaska	1647
Environmental Research Laboratories	
Geophysical Fluid Dynamics Laboratory—Princeton, N.J	2192
Atlantic Oceanographic and Meteorological Laboratories—Miami, Fla	2127
Pacific Oceanographic Laboratories—Seattle, Wash	423
Marine Mineral Technology Center	
Marine Mineral Technology Center—Tiburon, Calif	1000
National Oceanographic Instrumentation Center	
National Oceanographic Instrumentation Center—Washington, D.C	1800
NOAA Facilities	
Research Flight Facility—Miami, Fla	1664
Pacific Marine Center—Seattle, Wash	974
Atlantic Marine Center—Norfolk, Va	914
Mississippi Test Facility (Aerospace Remote Sensing Program)—Bay St. Louis, Miss	

Mr. EVERETT. I might ask if any of your staff would know, with respect to the Ann Arbor and Milford Conn. laboratories if there are any requests in your 1972 budget for these laboratories?

Mr. ECKLES. Howard Eckles, Mr. Chairman.

Concerning the Ann Arbor Laboratory, I think you may know that that laboratory rests now with the Department of the Interior, underneath the Reorganization Plan No. 4. There were funds for the operation of that laboratory requested in the budget. Funds have also been requested for the Milford, Conn. Laboratory. We do have plans to continue the operation of this laboratory, and to concentrate there work on ocean contamination.

There are some personnel being adjusted between Ann Arbor and Milford, to concentrate on this problem. So the answer to your question is that both of them are operating and there have been funds requested for both of them. The dollar figure for the Milford Laboratory is $392,000.

Mr. EVERETT. I was going to ask. I think that there is around $400,000 for fiscal 1971.

That is all the questions I have, Mr. Chairman.

Mr. DINGELL. Gentlemen, the committee is grateful to you for your presence today, and for your very helpful statement.

We thank you very much.

Mr. WAKELIN. Thank you, Mr. Chairman.

Mr. DINGELL. Our next witness is Brig. Gen. George Hayes, Deputy Assistant Secretary of Defense for Health and Environment, accompanied by Brig. Gen. Richard H. Groves, and Rear Adm. E. R. Crawford, U.S. Navy.

Gentlemen, you are certainly welcome here to the committee. If you will identify yourselves by name and duty, for our reporter for the purpose of the record, we will be happy to recognize you for such statements as you may give.

Is there anyone else among your staff associates you would like to have at the witness table with you?

General HAYES. Not at this time.

Mr. DINGELL. All right, you may feel free to call on such members of your staff as you wish, and if you will identify yourselves for our reporter here, we would be most happy to recognize you.

STATEMENT OF BRIG. GEN. GEORGE J. HAYES, M.C., U.S. ARMY PRINCIPAL DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR HEALTH AND ENVIRONMENT; REAR ADM. E. R. CRAWFORD, U.S. NAVY ASSISTANT DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS), AND BRIG. GEN. RICHARD H. GROVES, DEPUTY DIRECTOR OF CIVIL WORKS, OFFICE, CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY

General HAYES. Mr. Chairman, members of the committee, I am Brig. Gen. George J. Hayes, Principal Deputy Assistant Secretary of Defense, Health and Environment.

With me are Rear Adm. Earl R. Crawford, Assistant Deputy Chief of Naval Operations, and Brig. Gen. Richard H. Groves, Deputy Director, Civil Works, Office of the Chief of Engineers.

I welcome the opportunity to appear before you today to discuss the views of the Department of Defense on H.R. 4723, a bill to regulate the dumping of materials in the oceans, coastal, and other waters and for other purposes. I propose to limit my testimony to the environmental issues of the bill. Admiral Crawford will subsequently provide testimony concerning military operational issues and General Groves will testify on civil works functions of the Corps of Engineers.

The Department of Defense is deeply concerned about the adverse ecological and environmental effects associated with the unregulated discharge of wastes and other materials into the navigable, coastal, and ocean waters of the United States. We believe that legislation to regulate such activities is desirable.

The Department of Defense has already taken action to initiate and implement comparable policy guidance which was first promulgated in the Report of the Council on Environmental Quality on Ocean Dumping—a National Policy and transmitted to Congress by President Nixon on October 7, 1970.

It is clear that some of the provisions of the proposed legislation will have a significant influence on some of the functions of the Department of Defense but actions are already underway by the military departments to exert leadership in cleaning up the oceans.

On February 24, 1971, Secretary Laird approved the U.S. Navy order to suspend deepwater dumping of obsolete, unserviceable munitions until all alternative methods of disposal have been completely studied. An intensive research and development program has also been directed with the aim of seeking alternative methods of disposal which will have minimal impact on the environment. In effect, Secretary Laird's announcement put a freeze on ocean dumping of all military munitions by the United States, since the U.S. Navy provides deepwater dump services of obsolete munitions for all the armed services. All chemical munitions disposal at sea has been terminated, and biological warfare agents or munitions have never been disposed of at sea.

The Department of the Army has assessed in detail its proposed biological warfare agents and munitions demilitarization program and its currently staffing and coordinating with other Federal, State, and local authorities, its environmental statement in accordance with Public Law 91–190 "The National Environmental Policy Act of 1969." The Department of the Army also has draft environmental statements under preparation which address the disposal of chemical munitions by demilitarization on land. These programs are intended to protect the environment during disposition of these materials.

The Department of Defense believes that H.R. 4723 embodies a realistic approach by establishing a regulatory authority rather than by prohibiting all ocean disposal or establishing unreasonable deadlines for such termination. It is possible that future research and study may reveal that some waste materials would contribute to the rehabilitation or enhancement of the marine environment. Absolute prohibition of all ocean disposal could result in disposal techniques which pose greater hazards to man and his environment than those which currently exist. In some cases there may be no current technologically acceptable alternative. These facts weigh heavily against any proposal which would prohibit all such ocean disposal operations. H.R. 4723 avoids these difficulties by providing for a balancing of interests that would integrate technological or scientific knowledge with operational requirements. It also envisions and accepts current standards which have proven to be effective in protecting human health and the marine environment. It does so by excluding the regulation of routine discharge of effluents from facilities, discharges which are already effectively regulated by existing laws.

In summary, the Department of Defense supports H.R. 4723 in lieu of the other bills related to marine protection which we have reviewed. This proposal takes a giant stride forward in the ever expanding effort to enhance the quality of our environment, a goal with which the Department of Defense is vitally concerned in our everyday actions, wherever we may be located.

If enacted, we believe that the implementing regulations of the Department of Defense would be a valuable addition to the more general rules that are currently in effect under the National Environmental Policy Act.

Mr. Chairman, this concludes my testimony on behalf of the Department of Defense. If there are questions related to the environmental aspects of the Department of Defense program, I would be pleased to answer them. Should you have questions concerning the operational aspects of the legislation, the military department witnesses to follow will be pleased to answer those questions.

Mr. DINGELL. General, the committee thanks you for a very helpful statement.

Which of your associates would you like to follow?

General HAYES. Admiral Crawford.

Mr. DINGELL. Admiral?

Admiral CRAWFORD. I will follow, Mr. Chairman.

I am happy to have the opportunity to appear before this committee to present the Navy's views on the proposed Marine Protection Act of 1971.

At the outset I want to point out, to the committee, the overall concern the Navy has in regard to all of the environmental aspects of our operations. The need to improve and enhance the quality of life in all of its forms is receiving a great deal of attention within the Navy—from the Secretary's office down through the commands to the local activities.

We are making every effort to cooperate with the President's Council of Environmental Quality, the Environmental Protection Agency and the National Oceanic and Atmospheric Administration. Also, our pollution abatement programs and projects are prepared to meet evolving local, State and Federal standards and regulations.

When it comes to the environment, the Navy is confronted with a many-faceted problem. Our efforts to date in such areas as smoke elimination at powerplants, incinerators and firefighting schools, our program to convert ships to cleaner burning distillate fuel together with the expanded effort in the construction of sewage and industrial waste treatment plants are positive examples of our desire to seek a cleaner and more healthful environment. We are hard at work on developing acceptable methods to handle sewage, trash, garbage, oil, and other wastes from our ships. Smoke and noise abatement from our planes are also areas that we are concentrating on. These problems are receiving appropriate priority within the Navy and we are increasing our effort to develop the technology and the equipment required to do the job.

In recent months, Secretary Chafee has taken a number of initiatives with regard to ocean dumping. In December 1970, the Secretary prohibited the transporting and dumping, at sea, of wastes generated in-port, or ashore, such as trash, refuse, oily wastes, and industrial sludges. In February of this year, Secretary Laird approved Secretary Chafee's proposal to suspend the deepwater dumping of obsolete and unserviceable conventional ammunition until the Navy is able to determine the precise environmental effects of these dumps, as well as possible environmentally acceptably alternative methods of disposal. The deepwater disposal of chemical and biological munitions has been specifically prohibited by Secretary Laird.

We have been asked, by your committee's counsel, to focus in our statements today, on several areas of the ocean dumping question that are of particular interest to members of your committee.

MUNITIONS DISPOSAL

Each year the Navy must dispose of a significant amount of Conventional ammunition that becomes unserviceable, unsafe, or obsolete. In recent years we have accomplished this through a number of means which have included demilitarization (that is, by taking the ammunition apart), by controlled burning, by exploding, and by ocean dumping.

For many years, the Navy has used deepwater dumping extensively for ammunition disposal and we have experienced no major safety problems with this method. Since 1964, 19 deepwater dump operations have taken place in which shiploads of ammunition were scuttled. As I mentioned, in February we suspended all deepwater dumping of ammunition. While the present evidence indicates that the environmental impact of deepwater dumping is minimal, some environmental questions remain unanswered. Consequently, plans for ocean dumping have been postponed while a reassessment of all alternative methods of disposal is carried out.

The Assistant Secretary of the Navy for Research and Development has established a select high level working group from the Navy laboratories and systems commands to examine the disposal problem and to develop a plan which will minimize or, hopefully, eliminate the need for ocean dumping. This is being done in consultation with the Army and the Air Force. In addition, the Navy is investigating the redesign of ammunition with the objective of easier, safer demilitarization.

NAVY CONTRACTOR OPERATIONS

There are few requirements for the Navy or Navy contractors to dispose of Navy generated materials into the ocean.

Perhaps the most significant situation would involve the disposal, at sea, of dredge material resulting from maintenance dredging of naval port facilities to insure adequate draft for ships. These dredging operations are now conducted under the direction and approval of the U.S. Army Corps of Engineers.

Under the proposed bill, a permit issued by the Environmental Protection Agency would be required for the regulated disposal of Navy dredgings, whether performed by Navy in-house capability or by civilian contractor. Certainly, all such disposal will be performed in accordance with the standards and criteria to be developed by the Environmental Protection Agency. In any event, obtaining an EPA permit for the relatively small amount of dredging in Navy ports should not impose a hardship on the Navy or on Navy contractors.

CONCLUSION

It is the Navy's contention that an ocean dumping act should provide a rational means of controlling ocean dumping which is based on the effect of the material to be dumped on the ocean environment—present and future—as well as the effect of alternative means of disposal of the materials on man's environment. In other words, discussion of legislation regarding regulating ocean dumping should include consideration for man's total environment, not only the ocean en-

vironment. We feel that the proposed act, calling for a permit system administered by the Environmental Protection Agency, which is charged with overall protection of the environment, meets this criteria. We also feel that a good ocean dumping act should clearly exclude waste waters discharged from shore facilities through sewers into coastal waters, because the mechanisms for controlling these discharges are included in the Clean Waters Act, as amended. The proposed act is clear in this regard.

Finally, a good ocean dumping act should exclude the day to day operational discharges from ships, such as sewage, and oily bilge, which are properly subject to regulation by other laws. In this connection, it is our understanding that "dumping" as defined in the proposed act would not include the incidental discharge of some debris or other material in the water from an activity provided that disposition is not the primary objective of the activity. For example, wastes incidental to the operation of ships, the material and debris from missiles, spent bombs, and other projectiles would be excluded from this act.

In summation, the Navy supports the proposed act as a rational, effective means of protecting the ocean environment while, at the same time, providing for consideration of man's total environment.

Mr. Chairman, this concludes my statement.

Mr. DINGELL. Thank you very much, Admiral Crawford.

General Groves.

General GROVES. Mr. Chairman and members of the committee, I am Brig. Gen. Richard H. Groves, Deputy Director of Civil Works, Office, Chief of Engineers, Department of the Army.

I am accompanied by members of the staff of that office, Mr. Mark S. Gurnee chief of our operations division, and Mr. Errol Tyler from the general counsel's office.

I appreciate having this opportunity to testify on the numerous bills before your committee concerned with the subject of ocean dumping.

Mr. Chairman, the bills before your committee embody a variety of approaches to the problems associated with the dumping of waste materials in the oceans. Rather than discuss each of them in detail, I shall confine myself to discussing the administration bill and attempting to answer any questions you may have concerning the other bills.

Last year, at the request of the President, the Council on Environmental Quality investigated the problem of ocean pollution and concluded that there is a critical need for a national policy on ocean dumping. The recommendations of the Council were incorporated in the proposed Marine Protection Act of 1971, submitted to the Congress by the President and introduced as H.R. 4247, 4723, 5239, 5268, and 5477.

The administration bill provides that, except as may be authorized in a permit issued by the Administrator of EPA, no person may transport material from the United States for the purpose of dumping it into ocean or other waters covered by the bill, or dump any materials into any such waters which are within the territorial jurisdiction of the United States, or dump any materials into the waters of the con-

tiguous zone to the extent that such dumping may affect the territorial sea or the territory of the United States. The bill would apply to all Federal, State and foreign governmental organizations, employees and agents, as well as to private persons and entities. The waters to which the bill applies would include the Great Lakes. It would apply to all kinds of matter including dredge spoil, solid waste, sewage sludge, industrial wastes, radioactive materials, munitions, and chemical, biological and radiological warfare agents.

The Administrator would be authorized to issue permits to dump materials or to transport them for dumping where in his judgment such activity will not unreasonably degrade or endanger human health, welfare or amenities, or the marine environment, ecological systems or economic potentialities. He would be required to establish criteria for evaluating permit applications, taking into account the likely environmental effects of the proposed dumping, as well as alternative locations and methods of disposal and the impact on the public interest of issuing or denying permits or of requiring such alternative disposal. The Administrator would be authorized to impose restrictions relating to the type and amount of materials to be dumped, and the time and place of dumping. He would be authorized to limit, deny, alter, or revoke permits where he finds that materials cannot be dumped consistently with the criteria established for the issuance of permits. Civil and criminal penalties of up to $50,000 per violation would be provided for violations of the act or of any regulations or permit issued thereunder. The Attorney General would be authorized to bring actions for equitable relief to redress such violations. Surveillance and enforcement authority would be given to the Coast Guard.

This legislation would provide a means of regulating the dumping of material in the oceans so as to prevent or seriously limit the dumping of material which could adversely affect human health or welfare or the environment. We urge its enactment.

Mr. Chairman, that concludes my statement. I will be pleased to answer any questions that the committee may have.

Mr. DINGELL. General, thank you very much.

Mr. Rogers?

Mr. ROGERS. Thank you, Mr. Chairman.

Gentlemen, thank you for these statements.

Let me ask General Groves: Now I presume, you just announced, I think, today, haven't you, a program for issuing permits?

General GROVES. A program for issuing industrial effluent permits under the Refuse Act was announced April 7, sir.

Mr. ROGERS. UPI——

General GROVES. Which is today, yes, sir.

Mr. ROGERS (continuing). Said you announced something else today.

General GROVES. That is correct.

Mr. ROGERS. It is in the Federal Register today.

General GROVES. Yes.

Mr. ROGERS. Now who issues a permit to the Corps of Engineers, when you do the dredging?

General GROVES. No one, sir. We issue it to ourselves, in effect.

Mr. ROGERS. Is that a good system, do you think?

General GROVES. We think, sir, all things considered, it probably is.

Mr. ROGERS. Do you have to have any approval? Do you file any impact statements?

General GROVES. Yes, sir, we do, under certain conditions.

Mr. ROGERS. To do your projects?

General GROVES. Oh, yes.

Mr. ROGERS. So that Environmental Council and EPA would comment on it?

General GROVES. Yes, sir.

Mr. ROGERS. And you would take their comments into consideration before you issued yourself a permit?

General GROVES. We would have to, yes, sir.

Mr. ROGERS. But you wouldn't have to necessarily abide by what they suggest. The final authority to issue it is yourself, I believe. Is that correct?

General GROVES. Yes, sir, our understanding of the section 102(c) of the Environmental Policy Act is that it provides us with the information, those of us who have to make the decision, the information we need in order to reach a good and valid decision.

Mr. ROGERS. And you are going to have, I believe it is estimated, between 40,000 and 100,000 permits?

General GROVES. That is our present estimate, yes, sir.

Mr. ROGERS. What is going to be the time limit? How are you going to handle it? Have you got sufficient manpower?

General GROVES. We are talking, sir, now, in this matter about the Refuse Act, the section 13 permits.

Mr. ROGERS. Yes.

General GROVES. This is going to require a considerable effort, of an administrative nature, of course.

Mr. ROGERS. Yes.

General GROVES. The appropriation request this year, the budget request this year, provides the necessary funding for it. As a matter of fact, we have some 1971 funds for it.

Mr. ROGERS. How much?

General GROVES. $1 million in 1971, sir. $4 million in 1972.

Mr. ROGERS. How many people will this provide?

General GROVES. We have asked for 200 spaces. However, when you consider other losses, it comes out about even. There will be about 200 spaces earmarked for this.

Mr. ROGERS. But you say you have lost other personnel, so it would even up?

General GROVES. Our total strength doesn't change, particularly, sir.

Mr. ROGERS. So you are really not getting any increase in manpower, as I understand it.

General GROVES. No, sir, but we are in one way of looking at it, because we are getting the spaces required to do this job, which we otherwise would have lost.

Mr. DINGELL. Mr. Rogers, would you yield? Where are these other spaces coming from, and what were the functions of the personnel who are being removed from the corps' roster engaged in at the time of their departure from service?

General GROVES. Sir, essentially, we have had a steady drain or a steady decrease in our overall strength, due primarily to productivity increases, increased efficiency of our operations, and planning.

Mr. DINGELL. Is it due to that, or to costs in appropriations?

General GROVES. No, sir; our appropriations are running fairly constant.

Mr. DINGELL. Are they running up to the increase in the costs of labor and salaries and wages and so forth?

General GROVES. Not entirely; no, sir.

Mr. DINGELL. So actually, this is just a cutback forced in part by budgetary strings. Am I correct?

General GROVES. No, sir; I wouldn't really say so.

Mr. DINGELL. Well, in any event, what I am trying to find out is what were the functions of these people who have vanished from the corps' rolls.

In other words, what activities were they engaged in? Were they engaged, for example, in the issuance of permits? Were they engaged in writing 102(2) (c) statements? What were they doing? I am curious to know whether or not maybe this gain that appears is not really a gain, but a shifting of personnel from one place to another.

General GROVES. Essentially, sir, it is shifting around to meet our changing missions. If you care to, I could elaborate for the record and be very specific. I am unable to right now.

Mr. DINGELL. I think that would be fine.

General GROVES. We are prepared to do so.

(The information follows:)

ESTABLISHMENT OF THE ISSUANCE OF PERMITS PROGRAM

The President's budget for FY 1971 contained an increase of 365 civilian positions to meet the requirements for the FY 1971 program. In view of the uncertainties of the FY 1971 program pending a resolution by the President of the FY 1972 budget, the increased spaces were not allocated to our field installations as early as they normally would be. It was against this increase personnel hire ceiling that the Corps temporarily borrowed the 200 positions required to implement the permit program in view of the high priority of that program. The 200 positions are included in the personnel ceiling in our FY 1972 budget now being considered by the Congress. Since the necessary permit spaces (200) are included in the FY 1972 figure, the borrowed spaces will be reallocated for program support.

Mr. ROGERS Well, it is interesting you can handle this in 200, and EPA, I think, said they added 300 or 400. I wonder why.

General GROVES. I am unable to comment, sir. We have evaluated our position very carefully, and——

Mr. ROGERS. Have you estimated the time it will take to approve these permits?

General GROVES. Yes, sir.

Mr. ROGERS. What is that time?

General GROVES. It depends on how controversial it becomes, but I would guess that on the average, one that is not controversial could be processed within 6 months.

Mr. ROGERS. It will take 6 months?

General GROVES. I would think so, yes, sir. By the time it is fully coordinated that is so. And in an extreme, where there is a total lack of controversy, it should move much faster. For the ones that are more controversial, it will take considerably longer.

Mr. ROGERS. Would you have hearings on these permits, is that it?

General GROVES. Where they become contentious, yes, sir.

Mr. ROGERS. Public hearings or written comments?

General GROVES. The first step will be to issue a public notice. If the public notice or the coordination——

Mr. ROGERS. Basically the way you handle it now?

General GROVES. Yes, sir; the same way we handle it now, except that in some conditions the hearings could become adversary hearings.

Mr. ROGERS. Yes, under the Administrative Procedures Act.

General GROVES. Yes, sir.

Mr. ROGERS. I think it might be well for you to get this for the record, on your——

General GROVES. On the section 13 permits?

Mr. ROGERS. Yes.

General GROVES. All right, sir.

Mr. ROGERS. All right, sir.

(The information follows:)

REFUSE ACT PERMIT PROGRAM

The Refuse Act permit program is specified in regulations appearing in the 7 April edition of the Federal Register. The program involves coordination among Corps, State, and officials from other Federal agencies as well as applicants. I shall briefly outline the usual procedure for processing applications for Department of the Army permits.

Processing of a permit application begins with the State in which the proposed activity is to occur certifying that it has reasonable assurance that the activity will not result in violation of applicable water quality Standards. Once the certified application is in order, the District Engineer issues publc notices announcng the proposal. Public notices are distributed to the EPA, other appropriate Federal and State agencies, media and other interested parties. Based on the response to the public notice and on the requirements of Sections 21, (b) (2) and 21(b) (4) of the Federal Water Pollution Control Act, as amended, the District Engineer decides whether a public hearing is necessary. At this time, a decision is also made regarding the necessity for an Environmental Impact Statement (EIS) in accordance with Section 102 (2) (c) of the National Environmental Policy Act of 1969. If a hearing is deemed necessary, notices are sent out to all known interested parties announcing a hearing to be scheduled at least 30 days hence.

After the hearing, if EPA objects for water quality reasons, the application must be denied unless the District Engineer disagrees with the EPA's evaluation. In this case, the application is forwarded through channels to the Secretary of the Army. The Secretary may then coordinate the matter with the Administrator of the EPA, but must, in the end abide by the Administrator's recommendations. of the EPA does not object, but the Regional Director of the Bureau of Fish and Wildlife or NOAA object, the District Engineer may deny the permit. If the District Engineer disagrees with these objections and intends to issue the permit, he must inform NOAA and Interior. These agencies then have 30 days in which to contact their superiors in Washington who in turn contact Secretary of the Army. If the Secretary of the Army requests a review, the District Engineer will forward the case through channels to Washington. Otherwise the application will be approved. If the District Engineer believes the proposed activity would be detrimental to anchorage or navigation interests, the application may be denied immediately.

Mr. ROGERS. General Hayes, I recall your testimony before. How many impact statements have been filed by the Department of Defense?

General HAYES. We have at the present time seven environmental statements that have been submitted to CEQ. We have, including those seven, a total of 26, which are in the process of internal review within the DOD.

Mr. ROGERS. They have not been forwarded?

General HAYES. They have not been forwarded to CEQ.

Mr. ROGERS. I see. These are being worked on within the Department?

General HAYES. Or in coordination with other agencies.

Mr. ROGERS. They have not gone to CEQ yet?

General HAYES. Not gone to CEQ yet.

Mr. ROGERS. So you have five to go?

General HAYES. That'rs right.

Mr. ROGERS. What are the actions on those seven? Have they been acted on?

General HAYES. We have three environmental statements that are final. We have not had any adverse response to these as yet. Four are in process, in CEQ. We have no report on these yet.

Mr. ROGERS. Yes. Would you list for us those—for the record, not now—but those impact statements and the significant projects?

General HAYES. We will be glad to, sir.

Mr. ROGERS. I think that would be helpful.

(Supplemental report follows:)

DOD ENVIRONMENTAL STATEMENTS

FINAL

1. Operation Chase
2. Luke Training Mission Change
3. Operation Red Hat

DRAFT TO CEQ

1. Demilitarization of Biological Weapons
2. Underwater Demolition of Ordnance near the Island of Culebra
3. Project Eagle
4. SAFEGUARD

DRAFT—INTERNAL DOD PROCESSING

1. Western Med. Institute of Research Phase II
2. Airfield Complex—Fort Campbell
3. Relocation of Harry Diamond Laboratory
4. New Walter Reed Hospital
5. Land Acquisition, Lemoore, Calif.
6. Mark 48 Torpedo Shop, Keyport, Washington
7. Land Acquisition Naval Sub Base-New London, Connecticut
8. Land Acquisition, Norfolk, Va.
9. DoD Building, Bowling AFB
10. Exercises using Target—Ship Hulls
11. Land Acquisition, Homestead, Fla.
12. SANGUINE
13. Culebra
14. B–1
15. F–15
16. Laser Program
17. AF Decontamination Study
18. Projectile Test
19. Fate on Soil and Vegetation

Mr. ROGERS. Now I notice you don't think it is a very good idea to put any deadlines. Am I correct in my understanding of your statements?

General HAYES. Where is that?

Mr. ROGERS. I may not have observed it.

General HAYES. Is it page 2, the bottom paragraph?

Mr. ROGERS. Yes, I believe that is right.

General HAYES. The statement is realistic by establishing a regulatory authority rather than by prohibiting all ocean disposal.

Mr. ROGERS. That——

General HAYES. Or establishing unreasonable deadlines for such determination.

Mr. ROGERS. Yes.

General HAYES. Well, the key word is "reasonable," Congressman Rogers.

Mr. ROGERS. Yes.

General HAYES. Because technologically we can't meet some things at certain deadlines too close in the future.

Mr. ROGERS. Yes. Would you let the committee have your thinking on deadlines? Now we have incorporated one bill, deadlines for sewage and industrial wastes.

General HAYES. Right.

Mr. ROGERS. Saying they should have primary, secondary, and tertiary treatment by certain dates. I believe that is the only proposal on dates in the legislation.

General HAYES. That is my understanding.

Mr. ROGERS. And I presume you would have no objection to that.

General HAYES. Well, again, I think a certain latitude, not an unreasonable latitude, but a certain latitude of industry and the technological capability to accomplish the end point, on the concept of priorities to each of these, and the effort put forward, we have no argument with that.

Mr. ROGERS. Well, would you let us have your thinking on these dates, for the record?

General HAYES. We will be glad to, sir.

(The information follows:)

Several of the bills on Marine protection would establish a rigid timetable for the installation of primary, secondary and tertiary waste treatment. The DoD has identified all requirements to meet existing water quality standards as we know them and intends to be in full compliance with Executive Order 11507, "Prevention, Control and Abatement of Air and Water Pollution at Federal Facilities," by 31 December 1972. To impose a deadline where neither standards have been developed nor technological know how exists does not seem prudent. In any case the degree of treatment provided should be based upon that required for the protection and enhancement of the receiving body of water.

Mr. ROGERS. Now also, you say absolute prohibition of all ocean disposal could result in techniques which pose greater hazards, and also you thought some dumping might even help the ocean. Is that my understanding?

General HAYES. This is thought of some people in the technological area. There are things which might be either indifferent or helpful. Some of them are rather technical in this aspect. If you would like that explored a little further, I can do it for the record.

Mr. ROGERS. I think you should.

General HAYES. Fine.

(The information follows:)

Existing information on the environmental effects of a variety of materials which find their way to the ocean are at present inconclusive. Current and future research may conclusively prove that ocean dumping of some materials does not damage the marine environment. The placement of discarded auto-

mobiles in certain waters has seemed to create artificial reefs and provided shelter and protection for spawning and young marine life. Some forms of construction of demolition debris composed of dense and inert materials may be similarly used without threat to the ocean.

Mr. ROGERS. As I recall, the only prohibition goes to about three items, don't they? I think they would prohibit radioactive wastes, toxic industrial wastes, and chemical and biological warfare materials. Have you seen in any provisions of the bill any other absolute prohibitions?

General HAYES. Well, that is the point. We feel that there aren't really absolute prohibition provisions in H.R. 4723, and that does allow some latitude for accommodation to what further knowledge may indicate to us.

Mr. ROGERS. Well, I thought the Secretary had already ruled out most of these, hasn't he?

General HAYES. We have done that. That is correct.

Mr. ROGERS. But you said an absolute prohibition.

General HAYES. For the time being.

Mr. ROGERS. You mean the Secretary is now going to change his mind?

General HAYES. It may be found that technologically, and this is a supposition, that some of the old ammunition, and I am thinking primarily of conventional explosive ammunition, that we may not be able to demilitarize it safely on land. We may have to, after due consideration and effort, request an ocean dump. But, we don't know at the present time. Now our goal is not to dump.

Mr. ROGERS. Well, it seems to me the Secretary has already made a determination that this is not a wise procedure, and I think it might be well to strengthen his hand in termination in the law. Then if you need a specific exemption, you could come to ask for a specific act, you know, if it got to that point.

General HAYES. I can assure you Mr. Rogers, that the Secretary and his advisers do not intend to act in any capricious manner.

Mr. ROGERS. Well, it is difficult sometimes even to get all the commands to carry out some of the directives. For instance, the Air Force, we just have an example where they have been dumping, as you are probably aware, toxic materials into the California water.

General HAYES. Well, we have had a preliminary investigation into that already, and from our current information, it appears that the Air Force is complying with the applicable laws and regulations. So I would like to—again for the record—give you a detailed report on that.

Mr. ROGERS. Well, we have checked pretty thoroughly, and we don't agree with your preliminary finding, because the Air Force says they are paying local agencies to do the detoxification, and the local agencies say nobody can dump in there until they do the detoxification. But they are not doing it.

So somebody is not pretty well squared away.

General HAYES. As I said, our preliminary indication is such, but we will have a report for you for the record.

(The information follows:)

AIR FORCE DISPOSAL OF PHOTOGRAPHIC WASTES

The Department of the Air Force began operation of the Aerospace Audio Visual Service at Norton Air Force Base, California, in May 1969. The processing of film at the facility results in liquid wastes which contain a number of chemical materials.

The Air Force determined that, for environmental and economic reasons, it would be better to contract with a responsible party for the disposal of the photographic wastes rather than to alter existing industrial waste processing facilities at the Air Force Base to accommodate these wastes. Prior to beginning operations, the Air Force entered into a contract with the Chino Basin Municipal Water District for the disposal of photographic wastes. The contract cites the significant components of the wastes as well as certain maximum concentrations and the pH at the time of delivery to the contractor. It provides that the contractor shall furnish ". . . an acceptance and disposal service as required by the Government, and shall receive, carry, treat, and dispose of all chemical waste originating at the reception locations in such amounts as the Government desires to release into contractor's system, and in a manner and by such means as will constitute no hazard to the public health. Contractor shall operate its disposal and treatment facilities in conformity with applicable laws, rules, and regulations promulgated by the State and Federal Government authorities." The contract specifically states that "Contractor acceptance and disposal service shall include all necessary treatment."

Since May 1969 the Air Force has disposed of approximately 1.86 million gallons of photographic wastes by transporting them to the Chino Basin Collection Point in Fontana, California. The Chino Basin Municipal Water District pipes the wastes from the collection point to the Los Angeles Sewage Treatment Plant located in Carson City, California, where the wastes are treated and the resulting effluent piped from that plant to a point in the ocean two and one-half miles from shore. The outflow at that point is diffused two hundred feet below the surface.

The wastes delivered by the Air Force to the Chino Basin Collection Point have met the standards specied in the contract, and this fact was confirmed in writing by the General Manager of the Chino Basin Municipal Water District on April 8, 1971. All operations from the time of delivery of the wastes by the Air Force to the final disposition in the ocean are monitored by the California State Water Resources Control Board.

In an effort to reduce operational costs, the Air Force changed its processing procedures in September 1970 so that a large portion of the photographic wastes are recycled through an oxidation process, thereby permitting reuse of some of the liquids prior to disposal. As a result of these changes the concentration of certain chemicals in the resulting wastes has been greatly reduced.

Mr. ROGERS. Now while you are getting us that report, could you also get us a report on the Navy dumping, or maybe Admiral Crawford could, in Jacksonville. I have still not seen a report after our hearings on that, of what happened there and who actually gave the order of dumping.

Admiral CRAWFORD. Mr. Rogers, before I answer that question, I would like to clarify a point.

Mr. ROGERS. Surely.

Admiral CRAWFORD. You said that the Secretary prohibited dumping. Were you speaking of the deepwater dumps of conventional munitions?

Mr. ROGERS. Well, I thought I read in the statement——

Admiral CRAWFORD. He suspended them, while this study goes on seeking alternative methods. There is no positive prohibition.

Mr. ROGERS. Oh, all chemical munition disposal at sea has been terminated?

Admiral CRAWFORD. Yes, sir.

Mr. ROGERS. That's what General Hayes said on biological warfare agents or munitions have never been disposed.

Admiral CRAWFORD. But not conventional munitions, is my point. Those are the ones we are investigating alternatives at this time.

Mr. ROGERS. Yes. I understand that category, but there is an absolute prohibition against chemical munitions disposal at sea. Isn't it?

Admiral CRAWFORD. Yes, sir. I just wanted to make sure that you weren't including conventional munitions in that.

Mr. ROGERS. No. I understood this has been held up, but you know final determination has been made, whether you would come back to ask that that be done. I presume that there would be an impact statement filed if you decide.

Admiral CRAWFORD. Yes, sir.

Mr. ROGERS. Yes. Well, maybe you could go now to the question of Jacksonville, where they dumped the acid into St. Johns. I understood, when General Hayes testified before, I think, that they were going to—the Navy was doing an investigation, and was going to report and going to let us know.

I have never seen that. Maybe you filed it with the committee, but I don't recall it.

Admiral CRAWFORD. I think I can satisfy you very shortly.

Mr. ROGERS. Yes, all right.

Admiral CRAWFORD. A member of your staff had a conversation with Rear Adm. Means Johnston, Chief of Legislative Affairs, on April 6, and your continued concern on this matter was made known to the Chief of Naval Operations, who has directed that this matter be further investigated. We will expect to hear from that investigation shortly.

Mr. ROGERS. Yes. And you will advise us as soon as you get that complete?

Admiral CRAWFORD. Yes, sir.

Mr. ROGERS. Thank you.

Now what about—you say biological warfare agents and munitions have never been disposed of at sea. Could you give for the record how this is done, General?

General HAYES. We can do that. It really will be both plans for some chemical demilitarization and biological disposal also, so it will be actual as well as proposed.

Mr. ROGERS. Well, if you would differentiate, which is actual and which is proposed?

General HAYES. Yes.

Mr. ROGERS. And the extent of it, if you could.

(The information follows:)

DISPOSING OF BIOLOGICAL WARFARE AGENTS

Biological warfare agents by virtue of their disease producing capability have always been treated with the most rigid and absolute controls known. Detoxification and sterilization to render any such agents nonpathogenic have always involved exposure of the organisms to extremely high temperatures, chemical sterilization or both with subsequent test and retest to absolutely determine that no live or virulent organisms remained. Following such an elaborate procedure the inert residue was either incinerated in pathological destruction facilities or treated in other waste disposal installations.

The Department of the Army's Draft Environmental Statement on Biological Demilitarization provides a detailed description of the elaborate program prepared for biological agents and munitions disposal. Currently this statement has been reviewed by other Federal Agencies and appropriate state organizations. The final E.I.S. is being filed with the CEQ in the immediate future.

Mr. ROGERS. Now, Admiral, let me ask you a question or two that I have on your statement. I believe you said that a good ocean dumping act should clearly exclude waste waters discharged from shore facilities through sewers into coastal waters, because the mechanism for controling these discharges are included in the Clean Waters Act.

Admiral CRAWFORD. Yes, sir.

Mr. ROGERS. I thought there was some question as to whether this bill goes into actual coastal waters. Isn't there some question as to whether that actually would apply? I am not sure they set standards, as far as all of the coastal waters.

Admiral CRAWFORD. This is Commander D'Emido.

Commander D'EMIDO. Mr. Chairman, section 10 of the Federal Water Pollution Control Act, as amended, provides for the States to develop their effluent standards. Once these standards are approved by EPA, these become the enforcement documents in each particular State. The mechanism for developing these standards for effluents eminating from industrial plants and from sewage treatment plants, provides adequate discharge controls to protect the receiving waters.

Mr. ROGERS. Suppose the State has not established.

Commander D'EMIDO. They must by law. They had to establish them by a certain date in consultation with the EPA, otherwise the Government would establish the standards for the States.

Mr. ROGERS. Essentially it might happen, if they get to it. Well, would you have any objection to deadlines being set as we stated before, Admiral, on industrial and sewage wastes, having primary and secondary treatment by certain dates? What would be——

Admiral CRAWFORD. I would refer back to General Hayes' comment. It would depend upon what those dates were, because anything that we are required to do in changing sewage treatment plant facilities requires money. This comes out of our appropriation and it is a constrained appropriation. Based on current standards, we hope within a few years to have every deficiency corrected ashore, but we can't do it all at once.

So I would say that if it is reasonable, yes, because we are laying out a program to complete all these things as far as we can.

Mr. ROGERS. Would you let us have your thinking on the time limits that would seem to you to be reasonable?

Admiral CRAWFORD. Yes, sir.

(Supplemental statement follows:)

DEFENSE DEPARTMENT SEWAGE TREATMENT TIMETABLE

H.R. 4359 referred to by Congressman P. Rogers would establish a rigid timetable for the installation of primary, secondary, and tertiary treatment. To meet these standards, especially tertiary treatment, under the present DOD Planning, Programming and Budgeting System, would be impractical to achieve by 1976. Also tertiary treatment, which is a very expensive process, should be provided only if it is determined, based on site surveys and analysis, that this level of treatment is required and essential to protect the marine life and marine habitat. In most cases the quality of the effluent from secondary treatment facilities is adequate to prevent degradation of the ocean, coastal, and other waters.

Mr. ROGERS. Now I want to commend the Navy on some of the actions you have taken. For instance, I think you put out some clarifying orders on setting up personnel to be responsible in every command for impact statements and looking at this. Also I think you clarified some of the orders to your fleets on their dumping policies, which I think is an improvement.

I wonder if you have given any thoughts, and I notice you comment some on that problem. I am not sure. I think you say we should not do—make certain requirements. I am not sure that I can find that right off.

Can you recall where you say we should not require certain actions to be taken by the ships?

Admiral CRAWFORD. I think this is in my next to last paragraph, Mr. Rogers.

Mr. ROGERS. All right.

Should exclude the day-to-day operation and discharge from ships, such as sewerage or oily bilge, which is subject to regulation by other laws.

Now what other laws are those that you are referring to?

Admiral CRAWFORD. The Oil Pollution Act of 1961 takes care of regulations within the 50-mile limit, the prohibited zone. The Water Quality Improvement Act of 1970 takes care of standards within the contiguous zone.

Mr. ROGERS. Well, is there any reason that you see why a ship that is coming into port shouldn't maintain all of its wastes, if it is, say, within a day, unless there is some emergency, 2 days, or 3 days?

Admiral CRAWFORD. These are their instructions, sir; namely, to make maximum use of shore facilities. But to put a blanket restriction on our ships, I don't think, is very practicable.

Mr. ROGERS. Well, I think you have to have some operational judgment.

Admiral CRAWFORD. Yes, sir.

Mr. ROGERS. But I read over the regulations, and I did not get the thrust that you have stated that the ships, if say they are within 2 or 3 days of port, should not. I thought you equated it to the 50 miles out.

Admiral CRAWFORD. Well, we have said that maximum use will be made of shore facilities, where they exist.

Mr. ROGERS. Well, if they are in port, I understand.

Admiral CRAWFORD. Well, this is also ships returning to port.

Mr. ROGERS. Now also you say the Oil Pollution Act would apply, but I just am trying to think, the public vessels really are not subject to that; are they?

Admiral CRAWFORD. They are not subject to the law, but the Navy has stated that we will abide by it. This has been a matter of record for many years. We have never claimed exemption under this law as a matter of policy.

Mr. ROGERS. Now did you have a clarifying statement?

Admiral CRAWFORD. I would like to read you a paragraph. A paragraph from an OPNAV instruction which I think we furnished you, Mr. Rogers.

Mr. ROGERS. Yes.

Admiral CRAWFORD. OPNAV Instruction 6240.3 of March 2, 1971.

Mr. ROGERS. Yes, you may have furnished that. I didn't recall it.

Admiral CRAWFORD. It says:

In the routine operation of Naval vessels maximum use is to be made of all available port disposal facilities for all wastes prior to getting underway, and upon returning.

And then it goes on to put the prohibitions for the 50-mile and the 12-mile limits.

Mr. ROGERS. Well, I understand that, but I don't think it is still quite clear. If I understand, you are saying that you make it if you are returning to port. But I don't think it is quite clear, the point I was trying to make, that if they are coming into port, say, within 2 days or a reasonable time, they shouldn't be dumping out there, even though it is 50 miles out.

If they are going to come into port, where there is no operational problem, when they could not dump outside the 50 miles, and just deposit that in the facility at port. That's the point I was making.

Admiral CRAWFORD. Yes, sir.

Mr. ROGERS. And I wonder if it is possible to perhaps clarify that. I think possibly that is what you are getting at, but I don't think it is quite clear. Would you be willing to consider looking at that?

Admiral CRAWFORD. Modifying our instructions?

Mr. ROGERS. Yes.

Admiral CRAWFORD. Yes, sir, we will.

Mr. ROGERS. Now let me conclude. General Hayes, have you issued any instructions for the Department of Defense in all of the services to check on filing statements, to have that responsibility? I think we went into this before, and you were going to consider it, and I wondered if you had ever taken any action.

General HAYES. We didn't have to take the actions because the services were so responsive.

Mr. ROGERS. I have only seen one response, and that was the Navy.

General HAYES. No, the Air Force and the Army both.

Mr. ROGERS. Would you submit those?

General HAYES. We will, sir.

(The documents follow:)

DEPARTMENT OF THE AIR FORCE,
HEADQUARTERS U.S. AIR FORCE,
Washington, D.C., May 6, 1970.

Reply to attention of: AFOCE
Subject: Pollution Abatement (Our letter, 7 April 1970)
To: ACIC, ADC, AFCS, AFLC, AFRES, AFSC, ATC, AU, AAC, MAC, OAR, SAC, TAC, USAFA, USAFSS, HQ COMD USAF, CINCPACAF (Commander).

1. The referenced letter furnished copies of the recent Executive Orders, legislation and a summary of Air Force actions in environmental enhancement.

2. In order to carry out the intent of the President's Executive Orders we must view environmental pollution on a much broader scale than in the past. Previously, the Civil Engineer and the Surgeon have been tasked with assuring that our bases had potable water, adequate sewage treatment and solid waste disposal and, along with our maintenance personnel, tried to control aircraft noise to within safe levels. We have been successful within this limited sphere but now must address the broader aspects of environmental enhancement and this involves virtually all functional elements of the Air Force. The Environmental Policy Act of 1969 (copy provided with referenced correspondence) requires that we examine the environmental impact of all our actions.

3. In order to carry out the expanded Air Force responsibilities and to insure increased emphasis in support of announced national objectives, the Directorate of Civil Engineering has been designated the OPR at Headquarters USAF for

environmental pollution matters regardless of the source of funds or program authority. The Deputy Director of Civil Engineering is personally responsible for coordinating all staff actions bearing on the subject. In addition, a HQ USAF Environmental Pollution Control Committee has been established, chaired by Civil Engineering, with members from all staff offices having collateral interests and responsibilities. Attached for your information is a listing of personnel and offices. Representatives from Civil Engineering, Maintenance Engineering and the Surgeon General's office constitute the nucleus of the HQ, USAF committee.

4. In order to effectively carry out our mutual responsibilities and provide for rapid communications and coordination at all levels, it is requested that an OPR and working committee, along the lines just described, be established at each major command headquarters having jurisdiction over installations in the U.S., Guam and Puerto Rico. We further suggest that similar organizational arrangements be made at each principal installation.

5. Request you advise HQ USAF (AFOCE) of the name of your designated command pollution abatement coordinator on or before 25 May 1970. A HQ USAF Conference on pollution abatement and environmental enhancement will be scheduled for early summer and invitations tendered to each command designee.

6. Commands having jurisdiction over bases in foreign countries will be receiving separate instructions relative to pollution abatement responsibilities.

For the Chief of Staff:

GUY H. GODDARD,
Major General, HQ Air Force,
Director of Civil Engineering.

Pollution abatement HQ USAF contacts

Office Symbol and Name:	*Telephone extension*
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AFJAG, Maj. D. C. Reid	35648
AFMSG, Lt. Col. Herbert Bell	35775
AFOCE, Brig. Gen. M. R. Reilly	77366
Lt. Col. S. A. Jacobs	79257
AFPDC, Lt. Col. C. E. Waggoner	79977
AFRDC, Mr. C. Kurrle	74958
AFSDC, Col. John Hileman	56233
AFTOR, Capt. H. L. Stricklen	55057
AFXDC, Col. R. A. Jameson	77124/52735
SAFOI, Capt. J. Malloy	71128

DEPARTMENT OF THE AIR FORCE
Headquarters US Air Force
Washington DC 20330

AF REGULATION 161–22

23 September 1970

Aerospace Medicine

ENVIRONMENTAL POLLUTION CONTROL

This regulation establishes policies, assigns responsibilities, and provides criteria and standards for an environmental pollution abatement program. It requires HQ USAF Air Staff offices and MAJCOMs to establish and implement procedures to insure that their activities are conducted in a way to minimize environmental pollution. It implements DOD Directives 5100.50, June 23, 1970, and 5030.41, May 23, 1969. It applies to all Air Force installations and facilities, including Air Force Reserve and contractor activities located on real property under Air Force jurisdiction.

1. Environmental Pollution Explained. As used in this regulation, environmental pollution is the presence of physical, chemical, and biological elements or agents that adversely affect human health or welfare, unfavorably alter ecological balances of importance to human life, affect species of animal or plant life that are of importance to man, or degrade the utility of the environment for aesthetic and recreation purposes. Control of environmental pollution requires consideration of air, water, and land, and must extend to noise, improper solid waste management, and electromagnetic energy, as well as things conventionally thought of as pollutants.

2. Air Force Policy

a. **Air Force commanders** will:

(1) Eliminate or control environmental pollutants generated by or resulting from Air Force operations or from contractor operations on real property owned or leased by the Air Force.

(2) Lead in preventing, controlling, and abating environmental pollution by accelerating corrective measures at Air Force installations and by actively seeking the cooperation of local communities in developing area-pollution abatement programs.

(3) Provide for environmental pollution control measures in designs for new buildings, facilities, weapon systems, operations, tests, exercises, procedures, and projects for rehabilitation or modification of structures.

(4) Comply not only with Air Force directives relating to pollution criteria and standards but also with related directives published by the Department of Health, Education, and Welfare (HEW); the Federal Water Quality Administration (FWQA), Department of the Interior; and state and local pollution abatement agencies in the area. HEW or FWQA standards and criteria apply when state or local agencies prescribe less stringent ones or none at all. Refer to the Surgeon General, HQ USAF/SGP for resolution of the problem with the appropriate agency, if:

(a) A conflict arises on the applicability of any criteria or standard, or

(b) Applying a prescribed criteria or

Supersedes AFR 161–22, 21 April 1966. (For summary of revised, deleted, or added material, see signature page.)

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standard is considered not in the national interest.

(5) Provide preventive pollution control by:

(a) Reducing or eliminating waste at the point of generation.

(b) Considering potential environmental pollution control problems when selecting chemical compounds and materials to be used in Air Force operations.

(c) Including pollution abatement as an element in specifications.

(d) Urging manufacturers of products used by the Air Force to make their products from materials and compounds that have the least pollution potential.

(6) When resources to accomplish pollution control are limited, give priority in this order:

(a) Situations that constitute a hazard to the health or safety of man.

(b) Situations that are cost effective.

(c) Situations that affect the recreational and esthetic value of our natural resources.

(7) Insure, to the extent practicable, that oversea installations conform to the same pollution abatement policies that are prescribed for installations located in the United States, particularly policies pertaining to cooperating with community programs.

(8) Fully coordinate environmental pollution matters with all agencies concerned to avoid duplication and insure timely solutions to mutual problems.

b. **HQ USAF Environmental Pollution Control Committee.** An environmental pollution control committee will obtain coordination of environmental pollution matters at HQ USAF.

(1) The committee will include, as a minimum, representatives of the following Air Staff offices:

(a) The Director of Civil Engineering (Office of the Deputy Chief of Staff, Programs and Resources).

(b) The Deputy Chief of Staff, Systems and Logistics.

(c) The Surgeon General.

(d) The Deputy Chief of Staff, Research and Development.

(2) Other staff agencies that have strong collateral interest and responsibility (such as the Comptroller; the Inspector General; the Assistant for Weather; the Deputy Chief of Staff, Personnel; the Deputy Chief of Staff, Plans and Operations; the National Guard Bureau; and the Secretary of the Air Force Office of Information) will support the committee.

(3) The Director of Civil Engineering, or his designee, will chair the committee, which will meet at the chairman's call.

3. **HQ USAF Responsibilities:**

a. **All Air Staff offices** will develop procedures to insure that their activities are conducted in a manner consistent with the spirit and intent of this regulation and of Executive Orders 11507, 5 February 1970, and, 11514, 7 March 1970.

b. **The Director of Civil Engineering (PRE):**

(1) Is the Air Staff office of primary responsibility (OPR) for pollution abatement, regardless of the source of funds or program authority.

(a) All Air Staff actions on pollution abatement that may alter existing policy or reflect on the stated policies of the Air Force must be coordinated through PRE.

(b) When PRE requests it, an organizational coordinator will be designated in an Air Staff activity that has a strong collateral interest and responsibility. That organizational coordinator must be fully cognizant of all environmental pollution control actions within the designating staff agency.

(2) Establishes engineering design criteria and standards to meet health and welfare requirements established by the Surgeon General for facilities provided under the Military Construction Program and consistent with those of civil authority.

(3) Develops plans and programs to meet the intent of the various statutes on air and water pollution control.

(4) Supervises utility and waste disposal practices and operations to insure they meet required standards.

(5) Includes in the Operation and Maintenance (O&M) and the Military Construction (MC) Programs estimates for funding waste disposal and abatement measures.

(6) Establishes requirements for development efforts involving environmental pollution control.

c. **The Surgeon General, USAF,** is the office of primary responsibility for establishing standards and criteria to protect the health and welfare of US Air Force personnel and for coordinating with other Federal agencies and health authorities on contami-

nation matters involving environmental pollutants. (See AFM 161–2 and AFR 161–18.)

d. **The Director of Maintenance Engineering** establishes policy and criteria for use of sound suppressors during maintenance testing of jet engines, and develops plans and programs to insure that adequate sound suppression equipment is available where needed.

e. **The Director of Procurement Policy:**

(1) Develops policies and procedures for:

(a) Contract administration of contractual provisions for environmental quality.

(b) Preaward surveys that include determining whether the contractor supports good environmental quality practices.

(2) Monitors development of new or the revision of existing military specifications and standards to insure that they are not in conflict with environmental pollution controls.

(3) Assures Armed Service Procurement Regulation clause coverage that is adequate to insure compliance with applicable public laws.

f. **The Director of the Industrial Resources Division (RDPI),** consistent with the provisions of SAFSO 715.1, 15 August 1969, when contractors are performing on real property owned or leased by the Air Force:

(1) Initiates new funding required to insure continued contractor compliance with pollution abatement standards.

(2) Coordinates pollution abatement actions with PRE, SGP, and the Federal Water Pollution Control Administration

g. **The Deputy Chief Of Staff For Research and Development** plans, programs, and budgets for environmental pollution control research and development which is of singular pertinence to the Air Force Mission or which comprises a DOD responsibility and can be conducted most expeditiously by the Air Force.

4. Major Command Responsibilities:

a. **Each major command** will:

(1) Appoint an organizational coordinator for pollution control matters to assure full coordination and avoid duplication. The organizational coordinator must be fully cognizant of all command environmental pollution control actions. Notify HQ USAF/PRE Wash DC 20330 when the appointment is made.

(2) In budget estimates and funded programs, provide for environmental pollution control consistent with this regulation. The cost of environmental pollution control must be accomplished within funding available to the Air Force.

(3) Identify and control or eliminate existing environmental pollution sources at all installations; maintain records of monitoring results; assure that in all new plans, programs, and specifications any potential environmental pollution problems have been recognized and their abatement or control provided for; and identify requirements for research and exploratory and advanced development for environmental pollution control consistant with mission requirements.

(4) Coordinate each new water pollution control project with the regional administrator of the Federal Water Quality Administration during its early planning stages. The Air Force installation develops the initial concepts of the project. It then obtains the advice of FWQA regional administrator about applicable state and local criteria and requirements and the various alternative corrective measures that are available. If any differences of opinion arise that cannot be resolved at regional level, advise HQ USAF.

(5) Assure that:

(a) Officials who conduct operational and training programs that result in emission of pollutants into the atmosphere (such as use of open fires for fire-fighting training) exercise proper constraint, consistent with meteorological conditions and operational training requirements.

(b) The Office of Information is given appropriate help in preparing background information on local environmental pollution in response to queries from the public or news media.

b. **HQ AFLC, HQ USAFE, HQ AFSC, and HQ MAC** fulfill the following additional responsibilities:

(1) *HQ AFLC:*

(a) Develops procedures to minimize the amount of air and water pollution generated by normal base industrial-type operations (corrosion control, engine repair, paint removal, etc.) and assures that they are included in appropriate Air Force technical orders.

(b) Programs and procures pollution control equipment to support Air Force weapon systems, aerospace ground equip-

ment, motor vehicles, and other industrial equipment on Air Force bases that is not covered by military construction.

(2) *HQ AFLC and HQ USAFE—USAF Radiological and Environmental Health Laboratories and USAFE Environmental Health Laboratory (AFR 161-17)*. These laboratories:

(a) Give Air Force installations and organizations advice and guidance on sampling equipment, instruments, methods, and frequency of sample collection appropriate to establishing an installation environmental pollution abatement and monitoring program.

(b) Recommend methods of sanitary and industrial waste treatment and air pollution control.

(c) Test and evaluate instruments and equipment used, or proposed for use, in USAF pollution programs.

(d) Maintain a repository of analytical results and of information on methods and techniques for measuring, evaluating, and controlling environmental pollutants of concern to the Air Force.

(e) Send HQ USAF/SGP, Wash DC 20330 information copies of reports, studies, and other information relating to environmental pollution abatement and control that are developed by the laboratories.

(f) When requested by a major command, conduct periodic environmental pollution surveys at military installations to determine the need for, effectiveness of, and degree and type of treatment or control required to comply with this regulation and related statutory requirements.

(g) Respond to requests for support from the Departments of the Army or Navy, or from other DOD components or Federal agencies.

(h) Collaborate with the Air Force Weapons Laboratory (AFWL) and, when directed by HQ USAF or when otherwise appropriate, evaluate jointly with the AFWL any unique or unusual environmental pollution problems.

(3) *HQ MAC—Air Weather Service (AWS):*

(a) Provides guidance and helps Air Force facilities and organizations obtain and interpret meteorological data on the diffusion of gaseous and particulate pollutants in the atmosphere. AWS detachment commanders and staff meteorologists will provide staff weather services to commanders confronted with pollution problems.

(b) As required, provides specialized fixed and mobile meteorological observations to support hazardous operations and transportation of hazardous materials and to help bioenvironmental and medical personnel in problem areas.

(c) As directed by HQ USAF (XOOTR), provides aerial sampling or other aerial reconnaissance data for air pollution control agencies.

(d) Develops and maintains procedures to interpret and tailor for USAF installations the available air pollution potential forecasts of the National Meteorological Center. Issues forecasts and warnings as required to support Air Force global operations.

(e) Provides, or arranges for, predictions of atmospheric pollutant diffusion under various meterological conditions to help USAF environmental pollution abatement and control personnel determine the requirement for, establish, and enforce pollution abatement and control programs.

(f) Through staff meteorologists, helps AFSC insure that air pollution control is considered as an integral part of all RDT&E activities.

(g) Participates in studies and research projects concerned with the diffusion and transport or propagation of pollutants in the atmosphere.

(h) Develops and maintains a capability to provide the meteorological support necessary to interpret the environmental effects of noise and to help monitor and assess hazardous aircraft-operating noise levels for compliance with FAA regulations and local laws.

(4) HQ AFSC:

(a) Assures that environmental pollution control:

1. Is an element in RDT&E projects and programs and in specifications for materials that support them (see AFR 161-18).

2. Is an integral part of all weapon system development.

(b) Monitors the following procedure for industrial facilities that support production and RDT&E programs:

1. The contractor or his A&E secures the necessary approvals of facilities procurement contracting officer.

2. The contracting officer obtains civil engineering technical review of plans and specifications and, at the earliest stage of planning, asks the Federal Water Quality Administration's advice on state and local criteria for pollution abatement.

(c) Through the Air Force Weapons Laboratory, conducts research and develops exploratory and advanced environmental pollution controls. The laboratory develops methods and techniques for detecting, controlling, and abating environmental pollution and continuously exchanges information with HQ AFLC. Joint evaluation and collaboration with the USAF may be necessary to solve, or determine approaches to, particularly difficult problems.

(d) Conducts environmental pollution toxicology studies to help develop realistic standards and criteria for chemical compounds of special interest or peculiar to the Air Force.

(e) Prepares, for the Surgeon General, HQ USAF, manuals, regulations, pamphlets, and other documents on environmental pollution abatement and control in Air Force systems operation and systems support functions.

5. Criteria and Standards. Normally, Air Force activities must comply with the quality standards and related implementing plans, including emission standards, adopted and approved by Federal regulatory agencies. Issued criteria and standards apply to all facilities (buildings, installations, structures, public works, equipment, aircraft, vessels, and other vehicles and property) owned by, or constructed or manufactured for lease to, the Federal government.

a. If no air or water quality standards are in force for a particular geographic area or if more stringent requirements are considered advisable for Federal facilities, use Federal standards issued by regulatory authority under section 4b, Executive Order 11507, 5 Feb 70.

b. From time to time facilities may be identified that should, in the interest of national security or the nation, be exempted from complying with approved environmental control standards. To exempt the facility, the installation must apply for a waiver through command channels to HQ USAF/SGP, Wash DC 20330. Send an information copy of the request to HQ USAF/PRE or HQ USAF/RD, as appropriate. The application must explain why the waiver is requested, justify the waiver, and include the comments or recommendations of the State or local pollution control agency or the regional office of the Department of Interior.

c. Standards in the Code of Federal Regulations, title 42, chapter I, subchapter F, part 76, "Prevention, Control, and Abatement of Air Pollution from Federal Government Activities, Performance Standards, and Techniques of Measurement" (published in the Federal Register, volume 13, No. 107, June 3, 1966) apply to Air Force installations and facilities.

d. Do not discharge into waters or the atmosphere any waste that contains any substance in concentrations that are hazardous to the health of people; that can result in substantial harm to domestic animals, fish, shellfish, or wild life; or that may cause economic loss through damage to plants or crops.

e. Do install facilities or establish procedures to prevent cooling water from increasing stream temperatures above acceptable limits.

f. Store and handle gasoline, jet fuels, and other volatile petroleum distillates or organic liquids in a way to minimize vapor emission. For storage, use pressure tanks or reservoirs or containers equipped with floating roofs or vapor recovery, vapor emission control devices or systems to control loss of vapor to the atmosphere.

g. Avoid or minimize the creation of wastes throughout the complete cycle of operations of each facility.

h. Preferably, use municipal or regional waste collection or disposal systems to dispose of wastes from Air Force facilities. When use of such a system is not feasible or appropriate, do whatever is necessary to satisfactorily dispose of such wastes, including the following:

(1) When appropriate, install and operate waste treatment and disposal facilities.

(2) Provide trained manpower, laboratories, and other supporting facilities, as appropriate, to meet the requirements of issued standards.

(3) Require operators of Air Force pollution control facilities to meet levels of proficiency consistent with the operator certification requirements of the State in which the facility is located. If the State has no requirements, use the guidelines on operator qualifications and performance issued by the Secretary of HEW or Interior.

i. Insure that all materials (including solid fuels, ashes, petroleum products, and other chemical and biological agents) are used, stored, and handled to avoid or minimize the possibilities of water and air pollution.

j. Provide the engineering safeguards (such as dikes, catchment areas, relief ves-

sels) that are necessary to prevent pollution of water by accidental discharge of stored fuels, solvents, oils, and other chemicals.

k. Do not dispose of or discharge waste in a way that could cause ground water pollution that would endanger the health or welfare of the public.

l. Assure that discharges of radioactivity conform with the applicable rules, regulations, and requirements of the Atomic Energy Commission and with the policies and guidance of the Federal Radiation Council, as published in the Federal Register.

NOTE: Attachment 1 lists Air Force documents that give guidance on various aspects of pollution abatement and control programs. If questions about criteria and standards arise, direct them to HQ USAF/SGPAA.

6. Submitting Reports and Comments. HQ USAF requires copies of reports and comments by representatives of State or local pollution abatement agencies, HEW, or Department of Interior about pollution caused by Federal installations. Send documents by letter of transmittal and indorsement to HQ USAF/PRE. Include comments on proposed actions. Send information copies of reports and comments to HQ USAF/SGPAA.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

JOHN D. RYAN, *General, USAF*
Chief of Staff

OFFICIAL

JOHN F. RASH, *Colonel, USAF*
Director of Administration

Summary of Revised, Deleted, or Added Material

This revision expands explanation of "environmental pollution (para 1); requires control of environmental pollutants generated by contractor operations on real property owned or leased by the Air Force (para 2a(1)); establishes an Air Force Environmental Pollution Control Committee, chaired by the PRE or his designee (para 2a(8)); requires all Air Staff agencies to insure that their activities are conducted in a manner consistent with this regulation and Ex Os 11597 and 11514 (para 3a); designates HQ USAF/PRE the Air Staff OPR for pollution abatement and authorizes a single point of contact in each Air Staff activity (para 3b(1)). Adds to HQ USAF responsibilities—PRE to establish requirements for funds and direct necessary mission-related research and development to establish new and improve existing environmental pollution control methods (para 3b (2)–(6)); SME to be responsible for jet engine sound suppressors (para 3d); Dir of Industrial resources to insure that contractors on real property owned or leased by AF comply with pollution abatement standards, and initiate funding to insure continued compliance (para 3f). It requires MAJCOMs to appoint a single point of contact for environmental pollution matters (para 4a(1)), exercise caution to minimize pollution when conducting firefighting training (para 4a(5)(a)); help the Office of Information respond to public or news media queries (para 4a(5)(b)), directs HQ AFLC to program and procure control equipment to support weapon systems, AGE, motor vehicles, and other industrial equipment not covered by military construction (para 4b(1)), USAF Environmental and Radiological Health Laboratories to collaborate with Air Force Weapons Laboratory (para 4b(2)(h)), and HQ AFSC to require industrial facility contractors and A&E to obtain the procurement contracting officer's approval and the PCO to obtain civil engineering technical review (para 4(b)(4)(b). Revises Air Weather Service responsibilities (para 4b(3)), and adds Air Force Weapons Laboratory responsibilities (para 4b(3)(c)). It defines criteria and standards for facilities (para 5); specifies procedures for areas without established air or water quality standards (para 5); adds requirements of ExO 11507 (para 5g, h, i, k, and l); deletes reporting requirement for environmental contamination problems and aligns reporting procedures with new Air Force policy (para 6); and updates references and spells out new requirements of recent public laws and executive orders (throughout regulation).

REFERENCES

(Each publication listed in this attachment contains references that apply to some aspect of an environmental pollution abatement and control program.)

1. Statutory and Executive Office Requirements. (Do not requisition these publications; they are not available through distribution channels.)

a. The Federal Water Pollution Control Act, Act of June 30, 1948 (62 Stat. 1155), as amended by the Act of October 2, 1965 (79 Stat. 903; 33 USC 466 et. seq.).

b. The Clean Air Act, Act of July 14, 1955, as amended (42 USC 1857 et. seq.).

c. Code of Federal Regulations, Title 42, Subchapter F, Part 76, as amended, 23 March 1967 and 10 July 1969.

d. Executive Order 10779, "Directing Federal Agencies to Cooperate with State and Local Authorities in Preventing Pollution of the Atmosphere," August 20, 1958.

e. Executive Order 11507, "Prevention, Control, and Abatement of Air and Water Pollution at Federal Facilities," February 5, 1970, Federal Register, Vol 35, No. 25.

f. Excutive Order 11514, "Protection and Enhancement of Environmental Quality," March 7, 1970, Federal Register, Vol 35, No. 46.

g. Message of the President to Congress, February 10, 1970 (H.R. Doc 91–225).

h. National Environmental Policy Act of 1969, Act of January 1, 1970 (83 Stat. 852).

2. DOD Directives. (Do not requisition these publications; they are not available through distribution channels.)

a. DOD Directive 6015.5, "Joint Utilization of Military Health and Medical Facilities and Services," December 5, 1955. (Implemented by AFR 160–62; AFMs 162–1 and 168–4)

b. DOD Directive 4000.19, "Basic Policies and Principles for Interservice Support," March 26, 1960. (Implemented by AFR 400–27)

c. DOD Directive 5410.18, "Community Relations," April 21, 1965. (Implemented by AFR 190–20)

d. DOD Directive 5500.5, "Natural Resources—Conservation and Management," May 24, 1965. (Implemented by AFRs 91–36 and the 126 series)

e. DOD Directive 5230.9, "Clearance of DOD Public Information," December 24, 1966. (Implemented by AFR 190–12)

f. DOD Directive 5030.41, "Implementation of National Multi-Agency Oil and Hazardous Materials Pollution Contingency Plan," May 23, 1969. (Implemented by AFRs 161–18; 190–27; 355–9, –11; and AFM 355–1)

g. DOD Directive 5100.50, "Environmental Pollution Control," June 23, 1970.

3. Air Force Regulations:

85–5	Operation and Maintenance of Installations Facilities
85–6	Real Property Maintenance, Repair and Construction
85–18	Trailer Parks for Privately-Owned and Government-Owned Trailers
86–4	Master Planning
88–2	Evaluation of New Materials and Methods
88–3	AF Contract Construction
88–9	Transfer and Acceptance of Facilities Constructed for the Air Force
88–15	Engineering Manuals and Guide Specifications for Military Construction
88–16	Surveys of Installations in CONUS, Alaska, and Hawaii
88–18	Air Force Regional Civil Engineers
89–2	AF Form 378, "USAF Construction Program"
89–11	Air Force Responsibilities for the Military Construction Program
91–2	Custodial Services
91–5	Utility Services
91–7	Heating
91–8	Refrigeration, Air Conditioning, Mechanical Ventilation Evaporative Cooling, Dehumidifying, Ice Manufacturing and Cold Storage
91–9	Sewage and Industrial Waste Works
91–10	Water Works
91–11	Refuse Collection and Disposal
91–12	Utilities Management and Conservation Program
91–13	Permanently Installed Storage and Dis-

pensing Facilities for Petroleum and Unconventional Fuels

91–21 Pest Control

91–22 Aerial Dispersal of Pesticides

126–1 Conservation and Management of Natural Resources

126–2 Management and Conservation Programs for Fish and Wildlife

126–3 Presentation of Awards for the Outstanding Management and Conservation of Natural Resources

126–4 Soil and Water Management

161–17 Environmental Health, Forensic Toxicology, and Radiological Health Professional Support Functions

161–18 Use of Potentially Toxic Agents and Hazardous Materials

4. Air Force Manuals:

85–1 Resources and Work Force Management

85–6 Land Management and Grounds Maintenance

85–7 Military Entomology Operational Handbook

85–10 Custodial Services

85–11 Refuse Collection and Disposal

85–12 Vol I—Operation and Maintenance of Central Heating Plants and Distribution Systems

85–12 Vol II—Operation and Maintenance of Space Heating Equipment and Systems, and Process Heat Utilization

85–13 Maintenance and Operation of Water Plants and Systems

85–14 Maintenance and Operation of Sewage and Industrial Waste Plants and Systems

85–15 Coal Handling

85–16 Maintenance of Permanently Installed Storage and Dispensing Systems for Petroleum and Unconventional Fuels

85–17 Maintenance and Operation of Electric Plants and Systems

85–18 Maintenance and Operation of Refrigeration, Air Conditioning, Evaporative Cooling, and Mechanical Ventilation Systems

85–19 Maintenance and Operation of Electric Power Generating Plants

85–20 Plumbing

85–25 Standard Guide Specifications for Family Housing Construction

85–26 Military Construction Programming

85–28 Policies, Procedures, and Criteria for the Management and Conservation of Utilities
Vol I: Policies, Procedures and Criteria
Vol II: Utility Measurement Systems

85–31 Industrial Waste Management

86–1 Programming Civil Engineer Resources

86–4 Standard Facility Requirements

86–6 Air Base Master Planning Manual

88–2 Definitive Designs of Air Force Structures

88–5 Soils, Site Preparation, Grading and Drainage

88–8 Mechanical Design

88–10 Water Supply

88–11 Sewerage, Refuse and Industrial Waste

88–12 Fuel Storage and Distribution

88–15 Standard Outline Specifications for Air Force Facilities

88–17 Planting (Chapters 3 and 4)

88–19 Arctic and Sub-Arctic Construction (Chapters 1, 5, and 7)

88–20 Chapter 1—Heating and Air Conditioning Underground Installations

88–29 Air Force Design Manual

88–40 Emergency Construction (Chapter 5, Water Supply; Chapter 19, Garbage and Rubbish Disposal; Chapter 26, Dust Control)

88–54 Air Force Civil Engineer Handbook

160–39 The Handling and Storage of Liquid Propellants

161–2 Conducting the Aerospace Medicine Program

5. Air Force Pamphlets:

AFP 161–19 Environmental Health Engineering Handbook—Air Pollution

AFP 161–20 Environmental Health Engineering Handbook—Water Pollution

DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO
AGDA-A (M) (24 Mar 71) LOG-C-PDBB

29 March 1971

SUBJECT: Environmental Protection and Preservation

SEE DISTRIBUTION

1. References:

a. Public Law 91-190, 1 January 1970

b. AR 11-21

c. TAGO Ltr AGDA(M) (10 Sept 1970) LOG-C-PDBB-8316B, dtd 11 Sept 1970, subject: Interim Guidelines on Environmental Statements.

2. Since the passage of the National Environmental Policy Act in January 1970, there have been a number of Executive Orders and a great variety of new laws all designed to curtail pollution and preserve the national environment. In addition to the efforts at the national level, almost every state and community has taken up the ecological banner, so that today control of pollution has become a national theme and to a certain extent a major political issue. To those in the Army who are a witness to all of this activity there can be little doubt that preserving the environment is an effort in which we must play a part.

3. In response to a Presidential edict directing all Federal Agencies to demonstrate leadership, both DA and subordinate commands and agencies have initiated measures to demonstrate a genuine concern toward protecting our environment. Actions taken to date include such measures as programing for new construction to abate air and water pollution emanating from Army installations, issuing guidelines on the preparation of Environmental Impact Statements for those actions and plans which could have adverse impact on the environment, supporting the use of low-lead gasoline in military vehicles, encouraging greater efforts toward expanding the conservation and fish and wildlife protection programs on our posts, and stimulating a greater awareness of the environmental considerations as part of normal DA staff activity.

4. For the most part there has been good response by subordinate commands and agencies to comply with specific pollution abatement requirements. In a number of instances most noteworthy initiative has

SUBJECT: Environmental Protection and Preservation

been displayed in the development of dynamic local programs in the absence of specific guidance or direction from DA. In one instance, the efforts at one post received laudatory Congressional recognition as a direct result of local popular support of the actions taken. Unfortunately, this type of recognition has been the exception rather than the rule.

5. At this time, when a great deal remains to be done to bolster the image of the Army, direct advantage can be taken of the public interest in the environment to aid this effort - particularly if there are accomplishments or activities that reflect that the Army is supporting the fight against pollution. Activities which should be capitalized upon through public information media are the construction, regardless of funding source, which has been accomplished to abate air and water pollution, local cooperative agreements involving regional sewage treatment facilities, local efforts to promote the purchase of beverages at Post Exchanges and commissaries in returnable bottles and the use of low phosphate detergent soaps, salvage of or recycling of waste materials (glass containers and waste papers), and local forestry, fish and wildlife conservation programs. Particularly significant and newsworthy activities of the types listed which should be publicized beyond the local area should be forwarded to DA (ATTN: CINFO).

6. The pervasive nature of and the public sympathy for environmental issues make it essential that staff responsibilities in this matter be clearly defined and assigned at each level of command. Consideration should even be given to the establishment of an Environmental Quality Control Committee to assist the commander in the formulation of local policies and the planning and coordination of programs which have environmental implications. A particular responsibility of such a committee should be the preparation, review and reduction of the all important impact statements which are now required for any program which could have a significant adverse impact on the environment. Very careful attention must be given to the timely preparation and submission of environmental impact statements for failure to do so could cause Congress to deny funds for a program until the requirements of the National Environmental Policy Act are fully observed.

7. In addition to the foregoing suggestions which primarily focus on the management aspects, there is also a clear need to gain the active support of all command elements, down to the individual soldier himself. During recent Congressional hearings on federal agency implementation of the National Environmental Policy Act, it was clearly demonstrated that there was a failure on the part of the Services in disseminating environmental policies down to the operating level. It was the consensus that the effectiveness of this program is heavily dependent on the wholehearted support of all members of a command but that individuals will only contribute assistance if they clearly understand the basic policies and objectives involved. Obviously, to achieve this end there must be

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SUBJECT: Environmental Protection and Preservation

increased publicity on what is being done to protect the environment, an opportunity for those within a command to contribute support to local programs and appropriate recognition and publicity of the efforts to assure productive and enjoyable harmony between us and our environment.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

DISTRIBUTION:
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US Army, Pacific
Commanding Generals
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US Army, Alaska
US Army SAFEGUARD System Command
Commanders
US Army Forces Southern Command
Military Traffic Management and Terminal Service
Superintendent
US Military Academy
CF:
Office, Secretary of the Army
Office, Chief of Staff, US Army
Assistant Secretary of the Army (FM)
Assistant Secretary of the Army (I&L)
Chief of Legislative Liaison
Deputy Chiefs of Staff
Comptroller of the Army
Chief of Research and Development
Chief, Office of Reserve Components
Assistant Chiefs of Staff
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DISTR A EXPIRES 31 August 1971

Memorandum

U. S. ARMY

CSM 70-323

DATE 14 September 1970

SUBJECT: Protection and Enhancement of Environmental Quality

FILE CS 723.1 (14 Sept 70)

ACTION OFFICER EXT
LTC Thomason/78841/sez

MEMORANDUM FOR: HEADS OF ARMY STAFF AGENCIES

1. REFERENCES.

a. The National Environmental Act of 1969, P.L. 91-90.

b. Executive Order 11507, 5 February 1970, 35 F.R. 2573, "Prevention, Control and Abatement of Air and Water Pollution at Federal Facilities."

c. Executive Order 11514, 5 March 1970, "Protection and Enhancement of Environmental Quality."

d. DOD Directive 5100.50, 23 June 1970, Environmental Pollution Control.

e. DOD Instruction 4120.9, 30 December 1966, Air Pollution Control.

f. DOD Instruction 4120.10, 5 June 1967, Water Pollution Control.

g. AR 11-21, 3 November 1967, Army Programs, Environmental Pollution Abatement.

2. PURPOSE. This CSM:

a. Applies to all Army Staff agencies and programs except the Civil Works Program.

b. Identifies Army Staff interests and responsibilities in the protection and enhancement of environmental quality.

c. Directs the review, and revision as appropriate, of all Department of the Army policies and directives which affect environmental quality.

d. Assigns Army General Staff responsibility for environmental pollution control and abatement programs to the DCSLOG.

3. DEFINITIONS.

a. Environmental Pollution: That condition which results from the presence of chemical, physical, or biological agents in the air, water, or soil which so alter the natural environment that an adverse effect is created on human health or comfort, fish and wildlife, other aquatic resources and plant life, structures and equipment to the extent of producing economic loss, impairing recreational opportunity or marring natural beauty.

SUBJECT: Protection and Enhancement of Environmental Quality

b. Environmental Quality Enhancement: Environmental preservation and improvement activities of the Army, including all actions to curtail pollution of the environment by installations, facilities, buildings, structures, equipment, aircraft, vehicles, vessels, and any other property owned, leased, and/or operated by the Army.

4. DISCUSSION.

a. While significant public interest in environmental factors is relatively new, elements of the Army have been actively concerned with ecological problems and projects for many years. It is noteworthy that in the present era of austere budgets, Army fiscal planning includes provisions for projects relating to protection and enhancement of environmental quality.

(1) In planning for operations and in designing materiel and facilities, individual elements of the Army Staff have long recognized an interest and responsibility in protecting environmental resources. However, the Army Staff as a whole has not given deliberate and coordinated consideration to the requirement to avoid contamination and destruction of land, water, and air resources.

(2) The increasing severity and pervasiveness of the contamination and depletion of environmental resources require a universal awareness and a thoroughly coordinated response by the Army. The inherent nature of military operations and the professional and technical resources of the Army place it in a unique position - to contribute both to the problem and to its solution.

(3) The increasing attention being given the national pollution abatement effort requires that Army planning consider the impact of Federal and local environmental controls on the accomplishment of the Army's primary mission and on the availability of resources.

b. Environmental conservation issues have two common characteristics which must be recognized in both Army planning and execution:

(1) Environmental considerations are pervasive and impact on almost every aspect of Army activity. Each Army Staff agency must acquire and sustain a knowledge of current developments in this field, outside as well as within the Army. Planners and action officers must develop a sufficient understanding of environmental pollution control to be able to give it due consideration in their planning.

(2) Both the cause of deterioration and programs for environmental protection and enhancement operate slowly and over a period of many years. Army Staff planning for environmental pollution control must be constant and continuous in nature, rather than oriented only to immediate problems, if the Army's long-range responsibilities are to be met.

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SUBJECT: Protection and Enhancement of Environmental Quality

5. POLICY.

a. The Army will comply fully with both the requirements and the spirit of Executive Order 11507, subject: Prevention, Control and Abatement of Air and Water Pollution at Federal Facilities, and with the National Environmental Policy Act of 1969 as implemented by Executive Order 11514, subject: Protection and Enhancement of Environmental Quality.

b. Pollution of the environment by installations, facilities, equipment, vehicles, and other property owned and/or operated by the Army will be curtailed. Continued efforts will be made to conserve or protect the natural environment and to improve or enhance the changed environment when it is altered by Army activities.

c. Resources for the control and abatement of environmental pollution will be allocated first to those programs which provide the most significant, tangible results with the earliest payoff. Toward this end, cost and effectiveness measures will be developed for each resource programing proposal, and alternatives will be considered to insure priority treatment for only the most cost-effective proposals. Effort will be allocated in the following order of priority:

(1) To correct situations which constitute a direct hazard to the health of man.

(2) To conserve economic resources.

(3) To improve the recreational and aesthetic value of the environment.

d. Maximum effort will be given to incorporating environmental pollution preventive measures in the basic design for weapon systems, military materiel, tests and exercises, and projects for rehabilitation or modification of existing structures and new construction.

6. RESPONSIBILITIES.

a. DCSLOG:

(1) Exercise primary Army Staff responsibility for coordinating environmental preservation and improvement activities within the Army.

(2) Establish a central point of contact for the coordination of environmental control and abatement actions (Suspense: 18 September 1970).

(3) Conduct, on a continuing basis and in coordination with appropriate Staff agencies, a comprehensive review of Department of the Army statutory authority, administrative regulations, policies, and procedures - including those relating to loans, grants, contracts, leases, licenses, or permits -

SUBJECT: Protection and Enhancement of Environmental Quality

to identify deficiencies or inconsistencies which prohibit or limit full compliance with the provisions of the National Environmental Policy Act of 1969 and Executive Orders 11507 and 11514. DCSLOG will task other Staff agencies, as appropriate, to accomplish portions of this review.

(a) Propose actions to be accomplished by the Department of the Army to correct identified deficiencies and inconsistencies to assure compliance with the National Environmental Policy Act of 1969 and Executive Orders 11507 and 11514.

(b) With the concurrence of interested Staff agencies, implement those actions developed in response to subparagraph (3)(a) above which are within the scope of DCSLOG's authority.

(c) Prepare and submit necessary action documents to the Chief of Staff to implement actions developed in response to subparagraph (3)(a) above which require approval by the Chief of Staff or the Secretary of the Army.

(d) As necessary, recommend actions to be accomplished by OSD or higher authority to provide DA the capability of conforming its policies to the intent, purposes and procedures of the National Environmental Policy Act of 1969.

b. COA: Assist DCSLOG and other Army Staff agencies in the development of cost and effectiveness measures to insure that the programing of resources to accomplish pollution control and abatement is consistent with the policy established by paragraph 5c, above.

c. CRD: Review Army Research and Development activities which contribute to the control and abatement of environmental pollution. Develop recommendations to insure that Research and Development programs fully support the goals established by the National Environmental Policy Act of 1969 and Executive Orders 11507 and 11504.

d. ACSFOR: Review current procedures for establishing Qualitative Materiel Development Requirements and recommend changes necessary to insure that future Army materiel meets Federal pollution control standards (unless exception thereto has been granted).

e. TJAG: Review existing pollution control and abatement laws and identify legal requirements not currently satisfied by Department of the Army regulations, programs, and procedures.

f. CofEngrs:

(1) Assist DCSLOG in the review directed by paragraph 6a(3) above, with special emphasis on the engineering and construction aspects of pollution abatement and control.

SUBJECT: Protection and Enhancement of Environmental Quality

(2) When appropriate advise DCSLOG of Civil Works activities and programs which are related to military functions.

g. TSG: Assist DCSLOG in the review directed by paragraph 6a(3) above, with special emphasis on the health and welfare aspects of pollution, health and medical policy guidance, and pollution monitoring.

h. CINFO: Prepare, in coordination with DCSLOG and other appropriate Staff agencies, national news releases which focus public attention on Army programs for the protection and enhancement of environmental quality.

i. SMD, OCofSA: In coordination with each Staff agency, insure that appropriate responsibilities are included in the functional statements of Chief of Staff Regulations.

j. Each Army Staff agency:

(1) Designate a point of contact for environmental protection and enhancement matters (Suspense to DCSLOG: 24 September 1970).

(2) Establish a planning capability for environmental pollution control and assure its consideration in the discharge of agency functional responsibilities.

(3) Coordinate planning and actions which impact on environmental quality control with DCSLOG.

(4) Review, in coordination with DCSLOG and SMD, OCofSA, current Mission and Function Statements and recommend revisions necessary to insure that responsibilities for protection and enhancement of environmental quality are included in appropriate Chief of Staff Regulations.

BY DIRECTION OF THE CHIEF OF STAFF:

Warren K. Bennett

WARREN K. BENNETT
Major General, GS
Secretary of the General Staff

SUSPENSE:
DCSLOG-18 Sep 70--Central Point of Contact
Other Addresses-24 Sep 70--Points of Contact to DCSLOG

Mr. ROGERS. That is fine if they have. Each one has done that?

General HAYES. That is correct.

Mr. ROGERS. Said that they should have a person in each command specifically responsible?

General HAYES. That's right.

Mr. ROGERS. That it be done. That is fine, and I commend you.

Thank you very much.

Thank you, Mr. Chairman.

Mr. DINGELL. Thank you, Mr. Rogers.

Mr. EVERETT. Thank you, Mr. Chairman.

Mr. ROGERS. Let me ask this before you proceed.

You will let us have this report on the Air Force dumping?

General HAYES. Air Force dumping?

The Air Force base in California, yes, sir.

Mr. ROGERS. Thank you.

(The information may be found on p. 541.)

Mr. DINGELL. Mr. Everett.

Mr. EVERETT. Admiral Crawford, in conjunction with Mr. Rogers' question with respect to the operation of vessels, in the next to the last paragraph of your statement, it says as follows.

> Finally, a good ocean dumping act should exclude the day-to-day operational discharges from ships, such as sewage and oily bilge, which are properly subject to regulation by other laws. In this connection it is our understanding that 'dumping' as defined in the proposed act would not include the incidental discharge of some debris or other material the water from an activity provided that disposition is not the primary objective of the activity. For example, waste incidental to the operation of ships, the material and debris from missiles, spent bombs and other projectiles would be excluded from this act.

Mr. Chairman, I would like to introduce into the record a letter from Mr. Barry Sullivan, Washington representative of the River and Harbor contractors, addressed to Congressman Lennon, who raises this same point.

Mr. DINGELL. Without objection, the document referred to will be inserted in the record at this particular point.

(Letter follows:)

THE NATIONAL ASSOCIATION OF RIVER AND HARBOR CONTRACTORS,
Washington, D.C., March 31, 1971.

Hon. ALTON LENNON,
Chairman, Subcommittee on Oceanography, Committee on Merchant Marine and Fisheries, Rayburn House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: With reference to H.R. 4723, a bill to regulate the dumping of material in the oceans, coastal, and other waters and for other purposes, may we suggest that consideration be given to amendment of Sec. 3. (f) definitions. As amended, the provision would read as follows:

"Dumping" means a disposition of material: Provided, That it does not mean a disposition of any effluent from any outfall structure, or a routine discharge of effluent incidental to the propulsion *or operation* of vessels. And provided further, That it does not mean the intentional placement of any devise in the oceans, coastal, or other waters, or on the submerged land beneath such waters, for the purpose of using such devise there to produce an effect attributable to other than its mere physical presence. (Proposed amendment italic above.)

In the operation of vessels, cooling water is required for equipment, such as winches and derricks, auxiliary machinery, etc., and as effluent this cooling water is the same as the effluent from propulsion.

Accordingly, we request such effluent receive the same statutory treatment as "effluent incidental to propulsion of vessels."

Sincerely,

BARRY SULLIVAN,
Washington Representative.

Mr. EVERETT. And he is concerned that operation of the vessel and equipment are not covered under the exclusion. And he suggests language that would include language similar to what you did, that would exclude the operation of the vessel from the coverage of dumping.

And so I take it that if the interpretation is that the discharges from regular operation of vessels are not covered, then it is your suggestion that these items be covered under the bill as an exclusion to dumping?

Admiral CRAWFORD. Well, we would like to make it clear that it is certainly the intent, if not specifically in the bill, that routine operations of ships are to be excluded.

Mr. EVERETT. He suggested an amendment more or less to this effect, in the operation of vessels, cooling waters required for equipment, such as winches and derricks, auxiliary machinery and so forth, as effluent, is the same as the effluent from propulsion, and the bill only speaks of propulsion rather than operation.

Do you agree with Mr. Sullivan's suggestion with respect to operation?

Admiral CRAWFORD. I would agree to that, and if you think that it is not sufficient to have the intent clarified on this, I would welcome the opportunity to submit a statement as to how a portion of the bill should read to satisfy these considerations.

Mr. EVERETT. If you would, we would appreciate it, Admiral, if you would submit suggested language to accomplish the purpose you seek.

(The amendment follows:)

AMENDATORY LANGUAGE RE VESSEL "DUMPING"

S. 1238—Sec. 3(f)—Recommend change in definition for "Dumping" to read as follows:

f. "Dumping" means a disposition of material: provided that it does not mean a disposition of any effluent from any outfall, or a routine discharge of *wastes and* effluent incidental to the *operation and* propulsion of vessels: and . . .

Mr. EVERETT. General Groves, one of the definitions of the section 3(b) of the bill is that oceans, coastal, and other waters, means oceans, gulfs, bays, salt water lagoons, salt water harbors, and other coastal waters where the tide ebbs and flows, and the Great Lakes. I was wondering if you could give us some indication as to how far inland the coverage of this bill would be with respect to the ebbing and flowing of tides.

General GROVES. I can give you a couple of very specific examples. In the case of the Hudson, it would be up to about Troy, N.Y.

Mr. EVERETT. How far is that, sir? Roughly.

General GROVES. About 150 miles in. And on the Mississippi it goes up to, oh, slightly above Mile 350.

Mr. EVERETT. 350 miles?

General GROVES. Yes. And I would be happy to give you some others for the record, if you want.

Mr. EVERETT. If you would, Mr. Chairman, I would like to ask that this information be supplied as to the effects of this definition concerning the ebbs and flows of tides, with respect to these coastal areas and the rivers and tributaries extending therefrom.

Mr. DINGELL. General, I think that kind of counsel would be helpful, if you could give it to us.

General GROVES. All right, sir, we will try to work up something along that line.

(The information follows:)

LIMITS OF TIDAL INFLUENCE ALONG CERTAIN RIVERS

River and location:	*Approximate miles*
Connecticut, Windsor Locks, Conn	64
Hudson, Troy, N.Y	134
Delaware, Trenton, N.J	127
Susquehanna, Conowingo, Md	9
Potomac, Little Falls, Washington, D.C	114
Rappahannock, Fredricksburg, Va	107
James, Richmond, Va	91
Mississipi, Red River Landing, La	(AHP) 302
Klamath, Klamath, Calif	([1])
Columbia, Bonneville Dam	140

[1] 2 miles inside bar.

Mr. EVERETT. General, we have had some discussions about the harbor at Baltimore, and I was wondering if you could give me some indication as to the answer to this question. What would be the effect on the cost and economic justification of waterway improvement projects, such as that which the Port of Baltimore has, in the event that the Administrator of EPA should revise the dredge material disposal plans of the corps, to require such material to be transported for disposal at sea or other locations remote from the improvement project?

General GROVES. In the case of Baltimore the present project is based upon disposal of the spoil near Kent Island in the Chesapeake Bay.

Mr. DINGELL. Would you yield? Is that open or dike-enclosed?

General GROVES. It is open disposal.

Mr. DINGELL. Is that polluted dredging? Or is this clean dredging?

General GROVES. I am sure it would be classed as polluted, yes, sir.

Mr. DINGELL. It is polluted?

General GROVES. I would expect so, yes, sir.

Mr. DINGELL. There is no question in your mind on that point?

General GROVES. I wouldn't think so, no, sir.

Mr. DINGELL. Very good.

General GROVES. I would say within whatever jurisdiction we might have we would look to EPA for the establishment of water quality standards. They would govern anything else that we do just as they do govern in the case of the section 13 permits now.

Mr. DINGELL. So that when we referred to the provisions here that we have, section 7(c)(2), and I hope if you don't have a copy of it, I will see that the staff makes one available to you, 7(c)(2), referring down here:

> Provided, That after the effective date of this act, no Federal license or permit shall be issued under the authority of the Rivers and Harbors Act of 1899 to conduct any activity otherwise regulated by section 4 of this act and the regulations issued hereunder, unless the Administrator has certified that the activity proposed to be conducted is in conformity with the provision of this act and with the regulations issued hereunder.

Would you behave strikingly differently if this statue were in effect with regard to the dredging and depositing of spoil in the Baltimore Harbor than you would if it were not in effect under the water pollution contract, national environmental policy acts and your agreement with the Interior Department?

General GROVES. I believe the essential difference would be this. This particular act has a 6-month effective date on it. As I read this, we would have to have applicable standards in order to proceed.

Under present conditions we would proceed using the best means available to us.

In other words, if the EPA standards were not fully developed we would proceed as at present. If they developed further we would modify our work.

Mr. DINGELL. Would you have any reason to believe that you would apply any lesser environmental safety standards before the enactment of this legislation than you would after?

General GROVES. I don't really think, sir, it makes much difference. We would use the best that we have. EPA is the source of those standards and that is where we would look to get them.

Mr. DINGELL. You would in any event get the standards on water pollution and so forth from EPA?

General GROVES. Yes, sir. This is inherent in the five point environmental statement if nothing else. We would have to coordinate it with the various governmental agencies.

We would solicit and I am sure we would obtain EPA's comments. We would certainly abide by them.

Mr. DINGELL. What you are saying is that really your behavior, either before or after the enactment of H.R. 4723 insofar as environmental protection, will be very little different.

General GROVES. I see no basic difference, except in the time necessary to adopt alternate methods.

General GROVES. Now if the law required that the dredged spoil be disposed of at some more distant location, perhaps in an enclosed location on land, say, in any case the cost of the project would undoubtedly go up. This can lead you to a number of possibilities

If we were to follow the one course that might be taken when you run a five-point environmental statement analysis through section 102(c) of the act and you arrive at the point where you have certain irreconcilable conflicts and if at that point you decided you would invoke the provisions of section 102(d) which says, in effect, you reformulate and start over and you come up with a project that does have an adverse environment effect which, to eliminate would result in higher cost, the first question you have to answer is to whom do you charge these higher costs?

If you could charge it to mitigation of the environmental damage under our present understanding of the system, it would have no effect on the project economics. If, on the other hand, you had to pull them into the project cost and, in effect, charge them to navigation the cost of the project would go up, the benefits would remain constant.

So, it is conceivable that the B–C ratio could become unacceptable. This is one possible outcome.

Another possible outcome, almost a certain outcome, is that if you had to go to sea and if you were going to have to do this on a large scale, we have only a limited hopper dredge capacity, which is already fully employed. It would take us about 5 years to build new dredges. If you went to the industry, using a scow and dipper, it would take them at least 2 years probably to react. So if this hits you throughout the Nation, the effect on Baltimore Harbor might be that the work would stop while we got a new capability.

This is one of the possible outcomes. It might become economically unfeasible. In any case, it might be delayed or stopped.

Mr. DINGELL. You have been referring to what would happen under existing law, General, or under a transfer to EPA or a compliance with section 102(c) and (d)?

General GROVES. My understanding of the question was, sir, that it involved the assumption that we would have some requirement to haul the dredged spoil to some more distant location than we now put it.

Mr. DINGELL. Let me ask you a hard question here. Is it your assumption that the Environmental Protection Agency would behave strikingly different under the legislation in H.R. 4723 than you would under the existing law, your agreement with the Interior Department, and under the Environmental Protection Act? I am talking about issuing permits generally for the dumping of polluted dredgings.

Mr. DINGELL. Do you see any basic difference in terms of the cost of the project before and after the enactment by reason of the fact that you are going to have to get formal certification from EPA instead of having informal certification as you do at this particular time?

General GROVES. Here I think, sir, the main difference is one of timing. I think that if we were to apply the rule that we are applying in section 13 which is that EPA governs water quality standards, they are the same.

Mr. DINGELL. They are the same?

General GROVES. They would be the same. If on the other hand we were to consider the total public interest it might be slightly different.

Mr. DINGELL. Thank you.

Mr. Everett?

Mr. EVERETT. General Groves, would the Corps be immediately capable of maintaining the harbors and channels at their authorized project depth if alternate disposal methods should become necessary as a result of this legislation?

General GROVES. Would you repeat the beginning of that, please, sir.

Mr. EVERETT. Would the Corps be immediately capable of maintaining the harbors and channels at their authorized project depth if alternate disposal methods should become necessary as a result of this legislation?

General GROVES. I think the answer to that is that we would be unable to maintain our total level of effort.

In other words, we would have to maintain a lesser amount initially for the reasons that I mentioned, that the available plant, both corps and contractor and especially the corps hopper dredge are fully employed.

If we went to diked land disposal, our experience leads us to believe that it would be several years before we would enter into the agreements necessary and get the funds necessary and to build the enclosures.

It would be quite a while, maybe a period of 5 years. If we went to scow and dipper type operation it would take industry or we or both several years to get the funds to build these things and put them in operation.

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So, to answer your question, you are imposing a greater workload on a fixed capability and less is going to get done overall for a while.

Mr. EVERETT. General Groves, there is still some ambiguity as to what the intent of section 11 is.

I wonder if you could provide us with a memo with respect to section 11(a), 11(b), 11(d) and 11(e), on the effects of these reactions on existing law if the bill is enacted as recommended in H.R. 4723.

General GROVES. Do you want me to supply that for the record?

Mr. EVERETT. Yes.

General GROVES. I will be glad to.

Mr. EVERETT. Does the bill in any way change your method of operation or procedure under the Fish and Wildlife Coordination Act?

General GROVES. No, indeed.

Mr. EVERETT. How about under the national Environmental Policy Act?

General GROVES. No.

Mr. EVERETT. That is all I have, Mr. Chairman.

Mr. DINGELL. Captain Heyward.

Mr. HEYWARD. General Groves, in connection with section 11 there were some discussions with other witnesses as to the effect of the EPA procedures for issuing permits.

There has been disagreement on the interpretation of exactly what supersession of corps permit authority is involved in this act.

May I ask you, can you tell me whether a particular section is used by the corps as authority for issuing permits to dispose of dredge spoil?

Is that under 33 U.S.C. 403 or are you aware of the specific number?

General GROVES. I am not aware of the code numbers. Essentially they derive from the supervisory act and from the 1905 act, section 4.

Mr. HEYWARD. Section 4 of the 1905 act?

General GROVES. Yes, sir.

Mr. HEYWARD. That is not being touched in any of this repealing material, is that correct?

Yes, that is 33 U.S.C. 419, whch is being superseded. This is the question I was really getting to, whether or not the authority under section 10 of the Rivers and Harbors Act is utilized by the corps in connection with its permit for excavation and filling or whether you rely on section 4 of the act of 1905 which is being superseded here.

General GROVES. Now we are talking about ocean dumping, are we not?

Mr. HEYWARD. We are talking about dumping in all these defined waters, yes, sir.

General GROVES. Section 10 of course applies to the territorial waters. It is used primarily for structures and dredge and fill type operations.

The subject of today's hearing, ocean dumping, is covered under the section 4 of the 1905 act.

Mr. HEYWARD. This is the problem that we face in discussing this because in section 7(c)(2) it says except as provided in subsection 11(e) nothing in the Rivers and Harbors Act is going to be superseded.

Now, if section 11 then turns around and superseded those elements of the Rivers and Harbors Act that you rely on there is nothing left for you to do in issuing the dredge spoil disposal permit.

This is the point I am sure Mr. Everett was getting to.

It would be very helpful for the committee to have a complete analysis of what you need to retain your permit authority consistent with the scheme envisioned here in 7(c)(2) which would not be adversely affected by any of the repealers in section 11.

General GROVES. All right, sir, we will be very happy to supply that for the record.

(The information requested follows:)

Subsections 11(a) and 11(b) repeal the Supervisory Harbors Act of 1888, as amended (33 U.S.C. §§ 441–451b), and the provision of the Rivers and Harbors Act of 1899 (33 U.S.C. § 418) which preserved the Supervisory Harbors Act from supersession by the 1899 Act. The Supervisory Harbors Act provides a special authority to control transit in and from the harbors of New York, Baltimore, and Hampton Roads, Virginia. This authority has been used to regulate ocean dumping. The proposed Marine Protection Act would replace that authority. A portion of the Act of August 5, 1888 (33 U.S.C. § 407a), which pertains to deposits of debris from mines and stamp works, and which is covered by the proposed Act or the Refuse Act, is also repealed. A provision contained in the Rivers and Harbors Act of 1905 (33 U.S.C. § 419), which has been used to buttress the Corps of Engineers' authority to regulate ocean dumping, is superseded, insofar as it authorizes action that would be regulated by the proposed Act. Lastly, Section 13 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 407), commonly known as the Refuse Act, is superseded, but only insofar as it applies to dumping of material in the waters covered by subsection 4(b) of the proposed Act. Except for the limited supersession found in subsection 11(e), the Rivers and Harbors Act authorities are not negated or abrogated, nor are existing licenses or permits issued under that Act terminated. Rather, in situations where the proposed Act and the Act of 1899 both apply to dumping of material in connection with a dredge, fill or other permit issued by the Corps of Engineers, issuance of the permit requires a certification by the Administrator of EPA that the activity is in conformity with this proposal and any regulations issued under it. The Administrator will not issue separate permits in such cases.

After the proposed Act becomes effective, the Department of the Army's permit program under the Refuse Act, which is administered in close cooperation with EPA on all water quality matters, will continue to regulate the disposition of any effluent covered by the Refuse Act from any outfall structure regardless of the waters into which this disposition occurs, in addition to regulating all depositing of material into other navigable waters of the United States not covered by subsection 4(b) of this Act.

Mr. HEYWARD. There is one other question.

In 7(b)(2) there is provisional authority as the EPA certification comes only on permits issued after the effective date of the act, that is to the extent that it does not repeal something, in effect, any permits which you issued before the acts:

Would the Corps of Engineers in those cases where permits have already been issued but where disposal of the dredging had not been undertaken confer with the EPA consistent with the policy required in section 7(c)(2) even if the statute does not specifically require it?

General GROVES. I would expect so, sir. In any case, these permits are for finite durations and when they came up for renewal, they would have to be considered again.

Mr. HEYWARD. Thank you, General.

Mr. DINGELL. Gentlemen, can you tell us about that impact of enactment of this bill on existing practices with regard to dredge and fill operations in the Great Lakes?

General GROVES. The dredge and fill operations in the Great Lakes, sir, if this were enacted, would, of course, have to be conducted under license from EPA, under permit from EPA.

Mr. DINGELL. As I read the requirements of section 7 they require that the permit be issued by the corps and that you carry out the requirements of EPA.

As I read section 7(c)(2) you would still continue to issue permits but you would have the added requirement that it would have to be certified that the activity to be conducted is in conformity with the provisions of the act and the regulations issued thereunder.

Captain Heyward and Mr. Everett were both inquiring as to this particular point.

General GROVES. Sir, I believe this is one of the points that probably requires some clarification. It would depend in part as to whether we were doing the dredging or one of our contractors.

Mr. DINGELL. If you were doing the dredging and your contractors were doing the dredging you would have the same situation.

EPA would have to certify that your permit was issued in conformity with the requirements of the law and in conformity with the regulations?

General GROVES. My question really dealt more with specifics.

Mr. DINGELL. I assume that in the Great Lakes you anticipate you will probably continue to be obligated to utilize dike disposal areas for pollutant spoil.

Am I correct on this?

General GROVES. Yes, sir.

The Rivers and Harbors Act of 1970 provided a means by which that can be accomplished.

We are certainly headed in that direction. I should point out though that the proviso that the local interests be excused from their 25 percent contribution if EPA certifies that they have an on-going acceptable program is making it rather difficult for us to come to grips with them so far.

Mr. DINGELL. Would you amplify that, please?

General GROVES. Yes, sir.

The initial reaction of any of these local interests that we go to is that they will go to EPA first and see if they can't be excused from their contribution.

Mr. DINGELL. What is the effect of that on your program?

Does it jump your cost?

General GROVES. It means that we are not making much progress toward getting these dike enclosures underway.

Mr. DINGELL. Are you telling us that EPA is excusing them from the requirement of using dike enclosures or simply paying the cost and shifting the cost to you?

General GROVES. Sir, a pattern has not really emerged yet.

Mr. DINGELL. Obviously, when they go to EPA to be excused from the 25 percent they either try to get out of the construction of the dike area in its entirety or they are expecting to shift the burden to someone else.

General GROVES. I think it is the latter.

Mr. DINGELL. Which is it, shift the burden to you?

General GROVES. We get that impression.

Mr. DINGELL. You then have to rush out and get more appropriations?

General GROVES. Yes, sir.

Mr. DINGELL. That is what you referred to when you said it will make it a little harder?

General GROVES. Yes, sir.

Mr. DINGELL. I think you have answered all of my questions at this time.

Gentlemen, if there are further questions the committee wishes to have answered or further assistance, I assume we can come back to you for guidance and counsel.

General HAYES. We will be glad to assist you in any way.

Mr. DINGELL. Gentlemen, the Chair wishes to commend you for a very able and very helpful presentation.

The Chair, as I am sure you know, has long been an admirer of the efficiency of the corps. Of late I have come to be an admirer of the corps for its environmental concerns. So, I wish to express that to each of you for your presence today.

Mr. DINGELL. Our next witness is Dr. Richard Barber, Duke Marine Laboratory, Beaufort, N.C.

Dr. Barber, I don't want you to feel that we have downgraded your appearance. As a matter of fact, it might be said that we have saved the best for last.

We are grateful for your attendance.

Will you identify yourself in full by name and address.

We will be happy to recognize you.

STATEMENT OF DR. RICHARD BARBER, DIRECTOR, OCEANOGRAPHIC PROGRAM, DUKE MARINE LABORATORY, BEAUFORT, N.C.

Dr. BARBER. I am Richard Barber, director of the oceanographic program at Duke University Marine Laboratory in Beaufort, N.C.

My experience with the ocean dumping is as an oceanographer studying certain parts of the biological system in the waters over the New York Bight dump sites.

The proposed bill, H.R. 4723 seems to me to be a very good first step in improving relations between our way of life and the ocean.

The fact that the bill regulates the transportation, as well as the dumping (sec. 4) of materials is wise and necessary in my opinion.

I favor passage of the bill, but I feel it could be strengthened.

This bill will perhaps be adequate in the future when we have good water treatment facilities, solid waste recycling, and other environmental amenities, but I question whether this bill will enable the Administrator to deal in a reasonable manner with our current ocean dumping problems.

The acutely dangerous, small volume dumping practices, such as chemical warfare agents and explosives, can be halted, but the large volume practices such as the New York Bight dumps cannot be halted.

We have lived with and rely on this kind of ocean disposal. How will the Administrator deal with this problem?

One means would be to establish procedures such as the air pollution abatement schedules which generate solutions in a realistic manner.

Given: (1) authority and responsibility over the Continental Shelf to a depth of 200 meters;

(2) public dissemination of information on the condition of the environment; and

(3) the establishment of grades of environment—sanctuaries, moderately protected areas and interim lower quality sites—the administrator could effectively protect the ocean system at present.

On the basis of my New York Bight experience, I feel that involved Government units are devoting almost no effort to solving the problems of ocean dumping.

The very small studies to define the problem were good. Now that the problem is defined it is time to start on the more difficult and risky work of decreasing the degradation caused by this dumping.

I hope this bill will provide an interim mechanism for controlling existing dumping practices as well as an ultimate means for regulating future dumping practices.

That is the end of my prepared statement. I will provide my resume for the record later.

Mr. DINGELL. Without objection, that will appear at this point in the record.

We will be happy to hear any other comments you have.

(Information to be furnished follows:)

RÉSUMÉ OF BIOGRAPHICAL INFORMATION

RICHARD T. BARBER

Dr. Richard T. Barber is Director of the Oceanographic Program at Duke University Marine Laboratory and Associate Professor of Zoology and Botany of Duke University, Durham, North Carolina. He was born in Bridgeton, New Jersey and received his undergraduate education at Brown University, Utah State University (B.S., 1962), and did his graduate studies at Stanford University (Ph.D., 1967).

After completion of the Ph.D. degree at Stanford University, he was a Postdoctoral Fellow in Biological Oceanography at the Woods Hole Oceanographic Institution, Woods Hole, Massachusetts. During tenure of the fellowship he served as Chief Scientist for three months on a Stanford University Oceanographic Expedition to the Galapagos Islands. In 1968 he joined the staff of Woods Hole Oceanographic Institution as Assistant Scientist in the Department of Biology. In 1970 he assume his present position at Duke University.

He is a member of the National Academy of Sciences Committee on Water Quality, Panel on Marine Aquatic Life and Wildlife; the National Science Foundation Panel on Research Needs for the Council on Environmental Qualities Report on Ocean Dumping; and the National Advisory Board of the *R/V HELIX*.

Dr. Barber's work on the inhibition of plankton growth in the New York Bight dumping area was selected by the National Science Foundation for inclusion in the 1970 Annual Report of the President to the Congress on Marine Resources and Engineering Development. Other research interests include studies on the growth and decay of organic matter in the sea and the effect of metals on the growth of plankton. Specific work has examined the speed with which organic matter decays and is recycled in the ocean and the effect of organic matter on metal uptake by plankton. He is the author of ten publications on these subjects.

Dr. BARBER. My statement that no effort is made in solving the current problems of ocean dumping is based on the fact that when you are out over the New York Bight dumps you don't see anyone else out there doing research.

It is not being done.

The amount of effort and the dollars spent on work in this area is vanishingly small and some of the work that I am familiar with is

supported by the National Science Foundation and supported by the Army Corps of Engineers, but they are very small projects.

The other Government agencies such as State and city authorities and other Federal authorities just seem to be missing from the scene.

There is very currently concern among the people that I know working there this bill has a potential effect of decreasing work on the problem.

Mr. DINGELL. You say this bill has the potential effect of decreasing work?

Dr. BARBER. The idea that dumping is going to be ended means that there is no longer a need to study it.

That, of course, is the thrust of my statement.

I know and anyone who looks at the economics of the coastal population centers knows that dumping is not going to be ended so that the question is to work out some way to cope with it.

This different message seems to be going out that it is going to be ended so that it is no longer necessary to work in the area.

I refer specifically, though my information may be incorrect, that the Army Corps of Engineers has a 3-year plan for working on the New York Bight, which in my opinion is an excellent one.

I hear from the Army Corps of Engineers they will only carry out one year of that. After that year it will presumably be EPA's responsibility, but EPA has not announced that this is their plan.

The Bureau of Solid Waste Management, again by verbal exchange, has informed us that it is no longer funding any work on dumping since dumping will be ended.

Mr. DINGELL. Your counsel in these matters is useful.

We may find it necessary to communicate with the agency involved regarding the points you raised.

Your assistance to this committee in framing the appropriate questions to the agencies to which you have alluded for inquiry by the committee will be much appreciated.

Dr. BARBER. Thank you.

Are there any questions?

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

Mr. DINGELL. Doctor, we thank you very much for your presence.

You have come a considerable distance to be of assistance to the committee.

We thank you for your very generous and kind assistance.

We are most grateful for your presentation.

Dr. BARBER. Thank you.

Mr. DINGELL. If there are no further witnesses to be heard, the subcommittee will stand adjourned pending the call of the Chair.

(The following information was submitted for inclusion in the printed record:)

DUKE UNIVERSITY MARINE LABORATORY,
Beaufort, N.C., April 19, 1971.

MR. NED P. EVERETT,
Counsel, Committee on Merchant Marine and Fisheries, Longworth House Office Building, Washington, D.C.

DEAR MR. EVERETT: When I testified on the ocean dumping bills on April 7 I expressed my concern that the proposed regulatory acts appeared to be having the unexpected and unintentional effect of placing in jeopardy some of the ongoing research programs on the environmental consequences of ocean dumping

in the New York Bight. The basis for my concern is described in the following letter. This material may be included in my statement for the record on H.R. 4723, the Marine Protection Act of 1971, if you desire to use this information.

I support the intent of the Marine Protection Act of 1971 because I think there is a very real need for regulating the various ocean dumping practices that are going on at present. The acutely dangerous and small volume dumps of explosives, chemical warfare agents, highly radioactive wastes, and very toxic industrial wastes can be halted. The relatively small volumes involved in this kind of dumping make it economically feasible for this waste material to be disposed of in alternative ways.

The large volume dumps of dredge spoils and sewage sludge will have to be brought under "control" by a slow and complex process which will require greatly improved land-based waste treatment facilities. The dredge spoil and sewage sludge are in themselves not acutely dangerous materials but the large areas of environmental degradation at the site of the New York dumps testify to the fact that the present methods of managing this ocean disposal are no good. Whether the recycling capacity of the system has recently been exceeded or whether the dredge spoils and sewage sludge have become more acutely toxic in the last five years is not known.

What is known is that an area of the sea floor is devoid of animals and the bottom sediment smells of petrochemicals. I feel that we have defined the problem clearly and we are ready to start research on an interim solution for managing this kind of dumping while we work towards the ultimate goal of no harmful dumping.

I am familiar with the studies supported by the Army Corps of Engineers and carried out by Dr. Jack Pearce and Dr. Grant Gross. When the Coastal Engineering Research Center of the Corps of Engineers was developing its second phase research program on the New York Bight they contacted Dr. Dirk Frankenberg of the National Science Foundation to discuss the Army's proposed research program.

Dr. Frankenberg is the Biological Oceanography Program Director at the National Science Foundation; he contacted me and asked if I had suggestions for a man to administer the research contract program for the Army. He outlined the Army's program as being a three-year program budgeted at $300,000 the first year, $2,000,000 the second year, and $2,000,000 the third year. After discussion with Dr Frankenberg I said I would be glad to serve as an advisor to the Army on this work because I feel that problems associated with the New York Bight dumping are important and I feel that they can be solved, but I am dissatisfied with the amount of effort that government agencies, other than the Corps of Engineers and National Science Foundation, have devoted to this important problem. Dr. Frankenberg knew that I was interested in this problem because my NSF supported research studied some of the biological consequences of the dumping. Some of the results of my work in the New York Bight were selected by National Science Foundation for mention in the 1970 Annual Report of the President to the Congress on Marine Resources and Engineering Development. This report is entitled "Marine Science Affairs—Selecting Priority Programs" and was communicated to the Congress in April 1970. The relevant section of page 156 of the Report is given below:

> "It has been demonstrated that phytoplankton growth is prohibited or prevented in waters over New York City's sewage dumping area.[13] The toxicity is increased by the addition of small amounts of trace metals and is partially decreased by the addition of metal chelators indicating the toxicity results from high concentration of toxic metals in the sewage sludge."

On March 31, 1971 an advisory group met at the Army Corps of Engineers' Coastal Research Center, 5201 Little Falls Road, Washington, D.C., to review the specifications of their proposed research program. At that time, Lieutenant Colonel Edward M. Willis of the Center informed the advisory group that the Army's participation in the study had been reduced from the original three-year program to a one-year program. The staff at the Army's Coastal Research Center mentioned that the future of the research program has been discussed with individuals from EPA but as late as 6 April 1971 EPA had not announced that it was going to adopt and carry out the Army's proposed program of research.

I think that the Army's proposed program is a good first step towards further understanding of the New York dumping problems. It would take several

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[13] Barber, Richard T., Unpublished results from progress report on NSF Grant GB–13663 to Woods Hole Oceanographic Institution 1969.

months, perhaps even a year, for another agency to develop a similar program from scratch; therefore I would regret seeing the three-year program discarded until a better and more comprehensive plan of attack is in hand. Everyone involved in these studies recognizes that the Army Corps of Engineers may not be the best agency for administering the research program, because their responsibility for maintaining the harbor depths is one of the sources of the problem. However, the Corps has acted in the public interest in supporting research on the problem up to now and they are well acquainted with the nature and mechanics of the dumping activities.

In addition to the Army's familiarity with the problem I feel that other agencies of the government that are charged with protecting the environment have not demonstrated a willingness to become involved in work on problems related to the actual dumping activities. Our present knowledge of the problem is based on the excellent, but small, Army supported programs of Dr. Jack Pearce and Dr. Grant Gross. A Smithsonian advisory group has contributed its skills and the National Science Foundation and Atomic Energy Commission have supported research work done at sea by Woods Hole Oceanographic Institution and Duke University groups. If there are other major research efforts the Army's advisory group and the major researchers are not aware of them.

It is disappointing that NOAA and what is now EPA have not been active in this research. In view of the lack of major involvement of these agencies at present I feel that a clear *charge* of research responsibility to some agency is needed in the Marine Protection Act of 1971 to insure that the necessary work is carried out.

One example of necessary work is high precision depth and seismic mapping of the dump sites. To "manage" the dumping we need to know whether the material dumped in the New York Bight has been accumulating over the past forty years and has produced a series of low hills or hummocks or whether the dredge spoil and sewage sludge is dispersed by currents and winter storms over a broad area. The vessels of the Environmental Science Services Administration, under the direction of NOAA in the Department of Commerce, are specifically equipped for carrying out a precision depth and seismic survey of the sea floor. The question of dispersal versus accumulation would perhaps be answered by such a survey, and in addition a sensitive seismic survey (such as are used in oil prospecting on the continental shelf) might tell us what kind of material is accumulating on the bottom in dump sites. Since the New York Bight dumps have been receiving publicity for over three years I am puzzled as to why ESSA has not assisted the Corps by making such a survey. This work would be a small and perhaps even trivial effort for NOAA to undertake but until work of this sort is started I do not feel that we are making a reasonable effort to solve the problems caused by ocean dumping.

If the Marine Protection Act of 1971 is going to result in the transfer of research responsibility out of the Army Corps of Engineers then the responsibility should be assigned to another agency and that agency should carry on the ongoing programs until it has a better research program.

The present research effort of my lab is NSF supported; I do not intend to seek support from the above described Army research program. My concern is that an environmental crisis resulting from ocean dumping is gradually occurring with the full knowledge of political and scientific authorities. This low level crisis deserves as much attention as the acute hazards of transporting and dumping of chemical warfare agents.

RICHARD T. BARBER,
Director, Oceanographic Program.

Santa Ana, California, April 7, 1971.

HON. ALTON LENNON,
Chairman, Subcommittee on Oceanography,
U.S. House of Representatives, Washington, D.C.

DEAR SIR: Please place this on the record for the hearings of April 5–7.

I ask that you by-pass H.R. 4723, which only meets *some* of the recommendations of the Council on Environmental Quality in banning the dumping of waste material.

I ask your support for the bill co-sponsored by Dingell and Rogers which meets all *CEQ* recommendations.

Sincerely,

FERN ZIMMERMAN.

THE PORT OF NEW YORK AUTHORITY
New York, N.Y. April 13, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries,
U.S. House of Representatives, Washington, D.C.

DEAR CHAIRMAN GARMATZ: The Port of New York Authority is vitally interested in H.R. 4723, titled the "Marine Protection Act of 1971", which was considered jointly at public hearings held by the Subcommittee on Fisheries and Wildlife Conservation and Subcommittee on Oceanography in Washington on April 5, 6 and 7, 1971. In general, we agree with the statement you made at the hearing on April 5, with particular regard to provisions for dredge spoils in the proposed bill.

Under the Port Compact of 1921, the Port Authority is responsible for promoting and protecting the commerce of the Port of New York, as well as for the development of transportation and terminal facilities in the Port District. Development of these facilities often entails the creation of land along the waterfront by fill, the dredging and maintenance of ocean vessel berths, and the provision of safe, efficient and economic Federal navigation channels to serve the Port of New York. Such activities involve moving dredged spoils, rock and sand from one area to another in and around the waters of the Harbor under permits granted by the U.S. Army Corps of Engineers, since land areas in the Port of New York have been deemed unsuitable for this purpose in various Corp navigation improvement reports. It is the sections of the proposed legislation dealing with spoils disposal on which we wish to comment.

The Port Authority believes that H.R. 4723, sensibly interpreted, would provide a reasonable approach to balancing development needs with environmental needs in the matters of spoils disposal in the Port of New York. The proposed Act obviously recognizes that while disposal in ocean and adjacent waters must be intelligently regulated, it cannot be capriciously or arbitrarily prohibited. All uses of the world's oceans—for transportation as well as for food and as a source of natural resources—must be accommodated.

We feel, however, that the bill may be negating some of its general spirit of reasonableness and unbiased regulation by expressing a policy "to prevent or vigorously limit the dumping into the oceans, coastal and other, which could adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities" as prescribed in Section (2)(b). It is suggested that the world "could" be changed to "will", or the phrase "prevent or vigorously limit" revised to read "control", thus avoiding a situation in which a harsh curb might be levied against materials which have not been proved to be harmful.

Section 3(e) would appear to apply the proposed Act with equality to both Federal and non-Federal dumping activities. We trust this means that non-Federal requirements will be made no more restrictive than Federal requirements of compliance. We are also assuming that the wording in Section 3(f) excludes fill operations from application of the term "dumping", and thus, from inclusion in the proposed Act.

In Section 5, we commend the inclusion of such criteria as "unreasonable degrade", "unreasonable endanger", "likely impact" and "probable impact", since these terms evidence an intent to attain not only desirable but practical goals in a field which still lacks considerable scientific knowledge about cause and effect. The Federal, State and local consultative obligation is likewise desirable, as is the establishment and issuance of various categories of permits commensurate with the nature, volume, dumping location and impact period of the material to be dumped. Particularly commendable is the option of issuing general permits for materials which will have a minimal adverse impact. The designation of dumping sites is also reflective of the constructive approach to the dumping problem displayed throughout much of the proposed Act.

There is another section which gives us some cause for concern, namely, Section 7(a), which rescinds all outstanding permits "after the effective date of this Act," which is established as "six months after its enactment". We recommend an additional six month grace period after enactment, to soften hardships during the period for conversion to new permits, and to permit processing of applications with minimum delay to ongoing dumping needs.

Dredged spoils in their natural state, unlike other materials such as sewage sludge and certain industrial wastes which are obvious pollutants, are no more

detrimental to the environment than littoral drift or fluvial deposits. Areas which are to be dredged sometimes have been polluted by indiscriminate sewage and sludge outfalls which, for the lack of proper treatment and disposal, deposit polluted material on nearby harbor bottoms. In such cases, dredged spoils are the victim, rather than cause of pollution. It would be grossly unfair in view of these facts to place an economic burden on navigation improvements in the form of excessive transportation costs with what, in effect, is a form of interim pollution abatement. Just as pollution control facilities are funded specially for this purpose, any extra costs for disposal of polluted dredged spoils should not be borne by navigation improvements, but by pollution abatement programs. We respectfully submit that these factors must be carefully considered in this legislation.

Sincerely,

HAYDEN B. JOHNSON,
Coordinator, Office for Environmental Programs.

STATEMENT OF THE MANUFACTURING CHEMISTS ASSOCIATION

The vital importance of the ocean environment to our total ecological well being is an undisputed scientific fact. It is important to recognize, however, that the oceans are the ultimate sink in the hydrologic cycle. An inquisitive child might ask the question, "Why are the oceans salty?" The answer is not so apparent. The oceans receive, concentrate, and to a degree provide natural treatment to water-borne substances. Natural and man-made water-borne substances eventually find their way to the oceans where the water evaporates. Rains then fall over the land and fresh water resources are replenished.

We are faced with a dichotomy. On the one hand, oceans are the source of life, vital to ecological well being, and a significant economic factor in many parts of the world. On the other hand, oceans are the natural and ultimate depository for water-borne residues of man and nature.

Decisive action must be taken to regulate and control the practice of dumping deleterious wastes into oceans and coastal waters. In some instances serious problems have arisen from irresponsible dumping practices—primarily dredging spoils and municipal sewage sludges in coastal waters where the contaminating materials have washed shoreward or affected commercial and sport fishing. Such practices should be prohibited or strictly controlled. We submit, however, that there are instances where ocean disposal, if responsibly and conscientiously performed is justified and that this disposal method should not be categorically prohibited.

We would like to put forth for consideration some basic regulatory concepts and then comment specifically on the proposed "Marine Protection Act of 1971".

The hydrologic cycle is an element in a complex ecological system which must be balanced to serve mankind's needs. How we go about maintaining this balance is the central issue. It is our view that control of ocean disposal practices should not be totally divorced from protection of coastal and estuarine waters or inland fresh water lakes, streams, and ground waters. The interplay between all aspects of water pollution control dictates that a flexible grant of authority be given to the regulatory agency. The agency should have latitude to determine within reasonable bounds the control strategy and alternatives most appropriate in a particular instance.

It should be recognized that there are technical limitations on what can be accomplished in wastewater treatment and control. It is not always possible, with today's state of the art, to adequately treat and control all wastewaters to a degree which would allow the safe discharge to surface waters. Some wastewaters are presently untreatable; others may be treatable, but where treatment does not result in complete destruction, residuals may have adverse environmental consequences.

The diversity and scope of the chemical industry present a wide range of waste residuals that must be disposed of. The industry has been forced to seek various disposal alternatives when such wastes cannot be safely or economically recycled. These alternatives are deep well injection, land application, incineration, and ocean dumping. Each has its place if properly selected and conscientiously performed. The central question is which disposal alternative poses the least risk

of environmental harm. In certain instances, ocean disposal may be the only responsible alternative.

We reiterate that indiscriminate ocean dumping should be outlawed, but maintain that ocean disposal should be allowed under strict regulation. It is appropriate that a Federal agency, specifically the Environmental Protection Agency, be given regulatory authority in this matter. EPA is the only agency at either the Federal or State governmental level with broad authority for wastewater control. Other Federal agencies, such as NOAA, Corps of Engineers, and the Coast Guard, along with State agencies, may very well play an active role in the regulatory process or surveillance, but we recommend that ultimate responsibility be centered at the Federal level in EPA.

Regulatory control should take into account the quantity as well as type of material to be disposed of, the disposal site, and method of disposal. The Environmental risks of various alternative disposal means should be weighed, taking into consideration technically feasible control methods and the possible effect of onshore disposal. We envision that certain potentially toxic materials which can be practically treated should not be allowed to be discharged into the ocean, whereas other potentially toxic substances which might create greater hazards of land, air or surface water pollution be disposed of at sea under strictly controlled conditions. Disposal areas should be carefully selected and monitored for any adverse effect. Marine sanctuaries should be maintained, and fishing and recreational areas protected for present as well as future generations.

The issue is not simply one of ocean disposal, since wastes eventually find their way to the oceans, if not by direct disposal then by conveyance in surface streams and subsurface waters. Rather it is a matter of farsighted wastewater control management, soundly and effectively administered. The controlling agency must have a broad grant of authority, alternative choices, flexibility of action, and the resources to fully implement its program.

We have reviewed the various legislative proposals presently pending and feel that the "Marine Protection Act of 1971" offers the more complete and appropriate approach to regulatory control. Our recommendations in reference to it follow.

Recommendation 1—Incorporate regulation of ocean disposal as a separate Title of the Federal Water Pollution Control Act.

Control of ocean disposal should be regarded as simply one element of water quality management. Accordingly, we suggest that control of ocean disposal would most appropriately be provided for as a separate Title of the Federal Water Pollution Control Act.

Recommendation 2—Subject agencies of the Federal Government to injunctive proceedings for violations.

As the proposed Act now reads, departments and agencies of the Federal Government are exempt from the penalty provisions of Section 6. Ocean dumping, significantly the dumping of dredging spoils, has been practiced by a number of Federal agencies with alleged detriment to the environment. We believe Federal agencies should be subject to injunctive proceedings brought by the Administrator, and recommend the exception provided under Section 3(e) be limited specifically to those penalties provided in Subsections 6(a) and (b), i.e., fines and imprisonment.

Recommendation 3—Criteria establishment under Section 5 should afford interested persons an opportunity for written comment.

The development of ocean disposal criteria will affect a large number of interested parties, including other agencies of the Federal Government, State control officials, conservation and economic interest groups, permit applicants, etc. On matters as important and complex as this, criteria should be published as a proposed regulation with reasonable time given for interested persons to submit written comments thereon.

Valuable assistance and added expertise can be made available when government fosters a common spirit of cooperation and coordination in the resolution of environmental problems.

Recommendation 4—Clearly delineate between responsibility for (a) the nature of the material to be disposed of and (b) the proper deposition of such material at the permitted site.

Many barging activties are conducted by independent waste haulers who are under contract to the waste-generating party. A barge may contain wastes from a number of different sources and a party turning his wastes over to the inde-

pendent hauler may not have control over other types of wastes included with the load, the exact disposal location, or the actual disposal technique practiced.

We feel that the various responsibilities of the waste generator and the waste hauler should be specifically delineated. A possible approach would be to issue permits for various types of waste materials specifying the zone or area in which the material could lawfully be discharged. The waste generator would certify the quantity, nature of the waste material, and the permitted disposal area when the waste material was loaded upon the barge. It would then be the responsibility of the waste hauler to dispose of the material in the permitted disposal area. This could be checked by requiring reports of the log of the barge's activities including copies of the waste certificates of the barge load. This system is in accordance with the realities of most ocean disposal activities, and would provide a workable and enforceable system of control.

Recommendation 5—Include a provision to allow continued ocean disposal pending implementation of the permit system.

The reasons for not categorically banning all ocean disposal of waste materials were stated earlier. Similarly, a precipitous moratorium on ocean disposal pending the implementation of the permit system would be unwise and could result in adverse environmental and economic consequences. We suggest two years as an appropriate and realistic lead time for obtaining the requisite permits. Interim measures such as prohibiting the discharge of waste materials within a 30-mile limit could be initiated if thought necessary or desirable.

Recommendation 6—Provide funding to initiate and support fundamental scientific and social research related to ocean disposal practices.

Existing knowledge of effects of ocean disposal on the actual physical, chemical and biological properties of the oceans is sadly lacking. Active research in this area should be sponsored by the Federal Government. We recommend that a system of Federal grants be established to initiate and support fundamental scientific and social research related to ocean disposal practices.

In conclusion, the chemical manufacturing industry shares the national and international concern over indiscriminate ocean dumping practices. We urge recognition that ocean disposal has its place in a sound and comprehensive water management program We support strict regulatory control of ocean disposal of waste materials.

STATEMENT OF RICHARD T. BARBER, DIRECTOR, OCEANOGRAPHIC PROGRAM, DUKE UNIVERSITY MARINE LABORATORY, BEAUFORT, NORTH CAROLINA

My experience with ocean dumping is as an oceanographer studying certain parts of the biological system in the waters over the New York Bight dump sites.

The proposed Bill H.R. 4723 seems to me to be a very good first step in improving relations between our way of life and the ocean.

The fact that the Bill regulates, the transportation, as well as dumping, (Sec. 4) of materials is wise and necessary in my opinion. I favor passage of the Bill, but I feel it could be strengthened. This bill will perhaps be adequate in the future when we have good water treatment facilities, solid waste recycling, and other environmental amenities, but I question whether this Bill will enable the Administrator to deal in a reasonable manner with our current ocean dumping problems. The acutely dangerous, small volume dumping practices, such as chemical warfare agents and explosives, can be halted, but the large volume practicer such as the New York Bight dumps, can not be halted. We have lived with and rely on this kind of ocean disposal. How will the Administrator deal with this problem?

One means would be to establish procedures such as the air pollution abatement schedules which generate solutions in a realistic manner. Given 1) authority and responsibility over the continental shelf to a depth of 200 meters; 2) public dissemination of the condition of the environment; and 3) the establishment of grades of environment (sanctuaries, moderately protected areas, and interim lower quality sites); the Administrator could effectively protect the ocean system.

On the basis of my New York Bight experience I feel that involved government units are devoting almost no effort to solving the problems of ocean dumping. The very small studies to define the problem were good. Now that the problem is defined it is time to start on the more difficult and risky work of decreasing the degradation caused by this dumping.

I hope this Bill will provide an interim mechanism for controlling existing dumping practices as well as an ultimate means for regulating future dumping practices.

STATEMENT OF HAROLD L. PERRY, WILDLIFE REPRESENTATIVE, THE HUMANE SOCIETY OF THE UNITED STATES

Mr. Chairman and Members of the Subcommittee: My name is Harold L. Perry. I am a wildlife representative for The Humane Society of the United States, with headquarters in Washington, D.C. I am stationed in Phoenix, Arizona, where I have worked on wildlife problems for the past twenty years.

The Humane Society strongly endorses the provisions of H.R. 5060 to amend the Fish and Wildlife Act of 1956 to provide a criminal penalty for shooting at certain birds, fish, and other animals from aircraft. We are totally and vehemently opposed to shooting any species of wildlife from any type of aircraft. Such activity is the worst form of distortion of the true meaning of the word "sport." More than one species is being depleted in this absurd and inhumane method of hunting. Some of them are threatened with total extinction.

We take exception to one provision of the bill, namely (b)(1), exempting employees or agents of federal or state governments. My personal observation in Arizona has proved to me that coyotes and their dens can be spotted and easily shot from aircraft. I see no need to leave an open door for government representatives to use this unfair method of killing.

We also urge that this Subcommittee consider extending H.R. 5060 to cover snowmobiles. This is another cruel and unsportsmanlike method of hunting that has grown enormously in popularity in recent years. The hunted animal has no chance as it is run down by the snowmobile and killed. Laws controlling this activity have been passed by some states but federal legislation is badly needed to stop snowmobile hunting on public lands and to declare it is against the policy of the United States Government to hunt animals in this manner.

Snowmobiles can be included in H.R. 5060 with minor changes in wording. The Humane Society urges that you do so.

STATEMENT OF ANDREWS M. LANG, PRESIDENT, WASTE MANAGEMENT AND COMPACTION SYSTEMS, INC., CHESTNUT HILL, MASS.

I would like to draw the Committee's attention to the experience which Japan has had with ocean dumping. They have, in fact, been disposing of solid wastes for some time both in shallow water situations and in deep water—i.e. Tokyo Bay which is several thousand feet deep.

In all cases, the Japanese have treated their solid wastes prior to disposal in water. The treatment has been through the process known as Intensive Compaction—which is similar to baling but at much higher compression levels and with special equipment so that the compacted wastes are consistently heavier-than-water. Also, the compacted wastes are wrapped with wire mesh and dipped in asphalt in order to maximize stability and minimize sanitation problems. The equipment used comes from the Tezuka Kosan Company of Tokyo.

There have been no significant negative results from this Japanese exercise in ocean dumping. I would, therefore, urge that the pending legislation permit ocean diposal of solid wastes so long as the wastes are given a pre-disposal treatment sufficient to guard against any adverse effects to the marine ecology.

I would also urge that the Committee, the Congress and the appropriate government agencies carry out more intensive investigation of the Japanese activities in the field so as to permit this greater application in the U.S.A.

STATEMENT OF THE AMERICAN PETROLEUM INSTITUTE

The American Petroleum Institute would like to comment on currently pending federal legislation concerning the disposal of wastes in the oceans. The Institute is in agreement with the general thrust of the various measures now being considered—namely, to bring an end to uncontrolled use of the oceans as a dumping ground for the wastes of our civilization.

Without really effective control, the problem of ocean disposal may become critical within a few years. The amount of waste to be disposed of is growing rapidly. Some of the proposed alternatives to ocean disposal—such as recycling—are still in the developmental stage and are not yet technically or economically feasible. At the same time, the responsibilities of the various jurisdictions involved—local, state, national, and international—are poorly defined.

Clearly, it is time for an effective federal program to deal with the problem. For as the Council on Environmental Quality stated in its *Report to the President* last October: "The Nation has an opportunity unique in history—the opportunity to prevent an environmental problem which will otherwise grow to a great magnitude." It may be added that an effective legislative response to the challenge laid down in the Council's report is of great importance not only nationally, but also internationally, particulary at this time. Positive action in this area now would contribute toward U.S. leadership in pollution control in the family of nations, whose representatives will be meeting at the United Nations Conference on the Human Environment in Stockholm next year. Ocean pollution is expected to be a major topic at this conference.

We believe that in order to be effective, federal legislation should embody a system for issuing permits for ocean disposal. Further, the issuance of such permits should be based upon consideration of such elements as what types of wastes may be safely disposed of in the oceans, in what quantities, and at what sites and times. Effective criteria need to be developed, along with adequate enforcement procedures and appropriate penalties for violations.

Some of the legislation now pending before Congress proposes absolute deadlines and absolute bans against all ocean disposal. Although research may one day demonstrate that some kinds of waste should not be disposed of at any site, at any depth, in any ocean, research may also demonstrate that some kinds of waste can be so disposed of without damage to the marine ecosystem. The Institute therefore would support legislation authorizing the issuance of federal permits, in accordance with carefully developed criteria.

The logical agency to coordinate such a program would seem to be the Environmental Protection Agency (EPA). We believe that EPA's Administrator should develop the criteria on which permits are based. In this task he should develop be required to consult with the National Oceanic and Atmospheric Administration (NOAA), which has or is developing the relevant expertise. We suggest further that the job of serveillance, enforcement, and general administration be delegated to the Coast Guard, which already has the necessary experienced manpower, shore installations, communications network, and ships.

In summary, the American Petroleum Institute believes:

1. That the ocean disposal of wastes should be controlled
2. That the federal level is the only level of government that can achieve effective control
3. That a system of permits based on carefully developed criteria is far preferable to absolute bans on all ocean disposal.
4. That in developing such criteria, EPA should be required to consult with NOAA
5. That the responsibility for enforcement and day-to-day administration should be delegated to the Coast Guard.

[Telegram]

WESTERN OIL AND GAS ASSOCIATION,
Los Angeles, Calif., May 11, 1971.

R. J. MCELROY,
Chief Clerk, House Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.:

Regret inability to participate in recent hearings H.R. 4723. Request following comments be added to hearing record which understand still open.

We are concerned that definition "material" in section 3(c) will prohibit present practice of depositing cleaned drill cuttings (rock chips) to ocean from offshore drilling operations. Also, that present practice approved by California water quality boards of depositing excess drilling mud which is an oil free and nontoxic clay and water combination into ocean will be prohibited. "Offshore

oil drilling its effect upon the marine environment" conducted by California Department of Fish and Game, January 31, 1962, shows conclusively that depositing washed drill cuttings on ocean bottom not deleterious to marine life in adjacent area.

If such ocean depositing prohibited by strict construction of section 3(c) decision would add approximately 7–9 percent to cost of offshore drilling operations. Request opportunity to discuss matter with appropriate committee personnel and staff in greater detail. Copy of report cited earlier in mail to you for attachment to this wire.

Appreciate your consideration of these belated remarks.

HENRY W. WRIGHT,
Manager, Land and Water Department.

[Telegram]

PORT OF NEW ORLEANS,
New Orleans, La., April 5, 1971.

Hon. EDWARD A. GARMATZ,
Chairman, House Merchant Marine and Fisheries Committee
House of Representatives, Washington, D.C.:

Please accept this as the position of board of commissioners of the Port of New Orleans an agency of the State of Louisiana with respect to H.R. 4723 entitled Marine Protection Act of 1971 and on which bill joint hearings are being currently held. This board administers the second largest port in the United States and is charged with the legal duty to develop and improve the port and harbor in the interest of maritime activities and the development of the Foreign Commerce of the Port and of the United States.

While this Board supports the objectives of H.R. 4723, it is its firm and considered opinion that the provisions of this bill which would relieve the Army Corps of Engineers of its authority to issue permits for the disposition of dredge spoil and place such authority with the Administrator of the new Environmental Protecction Agency (EPA), will be seriously detrimental to the day-to-day operations and to the long-range development and improvement of ports and harbors and navigation channels by reason of the fact that the Corps of Engineers is eminently qualified and experienced by virtue of its vast professional knowledge and long established familiarity with and understanding of the engineering requirements in connection with dredging and other related activities required for the successful development, maintenance, and operation of ports, harbors, and navigation channels, and the like, and historically is qualified and experienced in the economic and environmental aspects and, therefore, to transfer such authority to another agency or Federal Government such as the EPA, is unnecessary, and will, in our said firm opinion, result only in delaying urgently needed projects, and further in discouraging future developments of kind in the public interests, particularly since no other Federal agency is as qualified as the Corps of Engineers to weigh the balance between economic and national defense necessities and the environmental quality considerations.

It must be remembered that the Corps of Engineers is controlled not only by the congressional processes, but itself must seek the comments and approval of environmental agencies.

EDWARD S. REED,
Executive Director, Board of Commissioners.

SIERRA CLUB, NEW ENGLAND CHAPTER,
Somerville, Mass., April 29, 1971.

Chairman EDWARD A. GARMATZ,
Committee on Merchant Marine and Fisheries,
Longworth Building, Washington, D.C.

DEAR CHAIRMAN GARMATZ: The Sierra Club, New England Chapter, strongly supports certain environmental policies of H.R. 895 as a significant first step in protecting the oceans against the reckless and excessive dumping of industrial wastes. In your consideration of this and other bills on ocean dumping, we hope you will adopt the sound policies that Mr. Harrington's bill stresses.

First, a glaring defect of the present Water Pollution Control Act, as amended, and other proposed legislation on ocean dumping is the assumption that those chemicals and wastes that are toxic can be enumerated and thus barred from the oceans. It is safe to state that experts in the field would not be able to compose such a list. The reason is that our knowledge is much too primitive; substances we once thought to be much too insoluble to be harmful turn out to be solublized by micro-organisms or by reacting with other pollutants and consequently are capable of being amplified in the food-web to toxic levels. Further, toxicity is always a function of concentration—low levels of fluoride are beneficial but higher concentrations are deadly metabolic poisons—and it is impossible to predict at present, what concentrations of industrial wastes become toxic to marine life. H.R. 805 does not contain this defect. Instead, the burden of proof of non-toxicity is on the dumper. This may appear, at first, too controversial, too unjust to business but remember a dying or dead ocean may have unfathomable effects on all mankind. In reality, this requirement will limit dumping and tend to stimulate recycling of wastes. Our knowledge and technology can make recycling a reality. If ecological considerations are paramount then suddenly recycling wastes will become much cheaper than dumping.

Secondly, H.R. 805 includes thermal pollution which the present federal legislation does not. The proliferation of nuclear and fossil power plants using ocean or estuary water for cooling purposes demands immediate Federal regulation. The rejection of excess heat into estuaries can do profound damage to these all important ocean nursery grounds.

It is these two substantive aspects of this bill, not covered by present Federal legislation, that are essential if this nation is to move towards sound ecological solutions to our very serious waste disposal problems.

DON COMB, and
JEANNETTE HARGROVES,
Ocean Studies Group,
Sierra Club—New England Chapter.

(Committee NOTE.—The following information is a follow-up on material supplied for the record in the committee's hearing entitled "Administration of the National Environmental Policy Act—Part 1," Serial 91–41, on page 1264:)

DEPARTMENT OF THE NAVY,
OFFICE OF LEGISLATIVE AFFAIRS,
Washington, D.C., June 23, 1971.

Hon. JOHN D. DINGELL,
Chairman, Subcommittee on Fisheries and Wildlife Conservation, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: In response to the requests made by the Subcommittee on Fisheries and Wildlife Conservation, House Committee on Merchant Marine and Fisheries, during the hearing held on December 11, 1970, I am enclosing a summary embodying the contents of a final report released by the Secretary of the Navy, of the results of the investigation of the oil dumping incident which occurred off Mayport, Florida on November 30, 1970.

Sincerely yours,

LANDO W. ZECH, Jr.,
Captain, U.S. Navy,
Deputy Chief.

Enclosure.

FINAL REPORT OF RESULTS OF NAVY INVESTIGATION TO INQUIRE INTO THE CIRCUMSTANCES SURROUNDING THE DISCHARGE OF WASTE MATERIAL WHICH OCCURRED OFF THE COAST OF JACKSONVILLE, FLA., ON NOVEMBER 30, 1970

1. The review of the investigation has now been completed within the Department and the intermediate and final reviewing authorities have concurred in the findings of fact, opinions and recommendations of the investigation as they were prevously reported.

2. Review of the investigation revealed that the directive of the Chief of Naval Operations, dated October 30, 1970, regarding the implementation of the National Environmental Policy Act of 1969 was in the process of being prepared for dissemi-

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nation to individual commands on November 30, 1970. By virtue of Secretary Chafee's message on this subject to all ships and stations on December 3, 1970, it became unnecessary for such implementing directives to be published by intermediate commands.

3. In paragraph III.A. of the interim summary, it was stated that the failure at Naval Station, Mayport, to insure distribution of the Chief of Naval Operations' message of September 1970, enjoining a review of procedures to prevent incidents such as this, was a breakdown in internal communications. A command inspection was conducted of the Naval Station at Mayport, with particular attention to the message distribution practices used. It was the conclusion of the inspecting officer that messages were being handled and routed in accordance with standardized methods under the supervision of knowledgeable and trained personnel, and that a recurrence of the unfortunate communications breakdown that occurred in this instance was extremely unlikely.

4. The method of disposal of oily waste waters outlined in paragraph IV of the interim summary continues in effect. This procedure has been approved, on an interim basis, by the Department of Air and Water Pollution Control of the State of Florida. The Navy is developing a water separation installation as a pilot project and, upon satisfactory testing, will prepare an emergency Military Construction item for installation at the Naval Station, Mayport, to replace the interim system.

5. The Navy has initiated a number of positive steps to reduce to an absolute minimum any future actions which could have an adverse impact on the environment. Deep water disposal of munitions has been halted while alternative methods of disposal are being reassessed. Instructions have been issued to the Fleet stressing the requirement for maximum use of in-port facilities for the disposal of shipboard wastes. The Navy is in the process of investigating various methods of recycling waste products to attain maximum recovery of usable products. A man at each major command will be designated to act as the focal point for all matters relating to the environment.

6. The Navy is most concerned with all aspects of environmental pollution and is determined to continue aggressive and, hopefully, farsighted and imaginative programs, aimed at not only eliminating degradation of the environment, but enhancing it as well.

Ecology, Law, and the 'Marine Revolution'

CARLETON RAY, Ph.D. (Columbia)

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ABSTRACT

The attainment of a world-wide high standard of living depends upon vastly increased resource exploitation, including the seas. Man's exploitive activities heretofore have simplified environments, reducing their stability and leading to ecosystem collapse (Fig. 1). *Ecosystem ecology is rarely definitive; however, laws by which Man regulates his activities should be subject to change according to ecosystem reality. Many historically-developed modes of human activity make little sense ecologically. What we may call the 'Marine Revolution' follows the Agricultural and Industrial Revolutions as a significant change in Man's relationship with his environment. Advanced technology for ocean research and development are becoming available, but cultural and legal frameworks for regulation have not matured. A major problem in the development of a marine tradition whereby Man will not destroy marine ecosystems lies in the application of ecological 'laws' to our activities at sea. The uses of the seas are for fisheries, minerals, and mining, for furthering military interests, and for recreation. Science and technology are advanced for all of these, while conservation attempts to integrate them wisely. Legal régimes for regulation stem mainly from the four Geneva Conventions which formalize a three-and-a-half-centuries-old history of marine law. These Conventions themselves emphasize that marine law needs modification along new lines. Debate intensifies over régimes of* res nullius (*belonging to no one*) *versus* res communis (*property of the community*) *for ocean exploitation. This paper concludes that exploitive 'conquest' can no longer serve as a guide for Man's use of the sea. An emphasis must be given to marine ecosystems and to the rôle of the marine ecologist in the oceanological debate. In the past, provincialism and tradition have stood in the way of international control of ocean-resource use. Should an over-riding consideration be given to ecology and to internationalism, the Marine Revolution will affect Man's future life far more beneficially than a mere evaluation of resources alone would indicate.*

INTRODUCTION

Man has not yet solved the age-old paradox upon which his civilizations have many times foundered; namely, that high population numbers with high cultural levels demand high environmental productivity, yet exploitation of Nature produces environmental destruction and ecological collapse. When the numbers of humans will come to exceed the total carrying capacity on Earth, as is already the case in many nations, no one can say; but if Man does not learn the lessons of history, there is no doubt that this catastrophic situation will occur relatively soon. The survival of Man, or anyway of civilization as we now know it, will surely depend upon how he handles this challenge.

There are two dominant features of the marine part of this challenge: first, the development of international law with enforcement for exploitation of the sea, and, second, the development of ecosystem-based conservation practices. The latter includes the cessation of

existing destructive practices, the assessment of marine environments relative to the carrying capacity of Earth for Man, and the creation of marine parks, sanctuaries, and control areas for research. These ecological aspects have to date been attacked in a piecemeal fashion. Ultimately, the answers will depend upon value judgements about what sort of a world we choose to live in. The late Fairfield Osborn (1953) asked: 'Is the purpose of our civilization really to see how much the earth and human spirit can sustain?'

This paper considers biology and law as they reflect upon what we may call the Marine Revolution. Biology and law require different approaches. The body of law by which we exercise control and responsibility is of Man's creation. It should reflect common sense and be capable of rational alteration. Natural phenomena may make no 'sense' at all, and their complexities are infinite. It has been stated that the ecosystem is not only more complex than we think it is; it is also more complex than we can think. The ecologist can rarely be definitive. He often experiences great difficulty in explaining, even to some fellow scientists and especially to engineers and technicians, the real nature of the ecological crisis. Ehrlich's (1969) 'Eco-catastrophe' sounds to many like alarmist stuff, yet it has a fundamental basis of perception.

To a great extent we are slaves of our own history. The *laissez faire* spirit of exploitation, the goal of economic growth, Man's socio-religious beliefs which separates him from Nature, and the conflict and case-history methods of law make little sense when applied to the environment. The emerging 'Marine Revolution' poses to those concepts a challenge which magnifies the importance of the sea far beyond its resource value. The wide recognition that this is so is reflected by the numbers of recent symposia and reports on the exploration, use, and legal régimes of the sea. Unfortunately, meetings of the American Bar Association and the Marine Technology Society, among others, have been composed almost entirely of industry representatives, lawyers, and a scattering of government officials, naval personnel, and fisheries biologists—the last mostly representing mission-oriented governmental agencies or industry. Marine ecologists have been virtually absent!

In spite of this, the intensifying debate has produced the beginnings of workable ideas. The ecosystem approach may be just over the horizon, the greatest present need being for marine ecologists to make their voices heard. If consideration for the ecosystem be added to the debate, it is possible that non-destructive and cooperative exploitation on an international basis will result, and perhaps then marine ecosystems will not suffer further.

THE MARINE REVOLUTION

Man's massive entry into 'inner space' initiates what we are calling the Marine Revolution. It is resulting in increased resource utilization and new régimes for law, politics, and socio-economics, as Man investigates, uses, and hopefully will conserve, that three-quarters of the world's surface which has been mostly foreign to him.

Agricultural and Industrial Revolutions. Some thousands of years ago, Man began to grow his own food. This change from the hunter-gatherer to the agriculturalist comprized the Agricultural Revolution. It led to the diversity of occupations which marks present urban culture. The Agricultural Revolution produced more food in a more accessible form than was available to the hunter-gatherer. Food, which presumably had been a limiting factor, was limiting no more. The carrying capacity of land for humans rose and the population grew accordingly.

The Industrial Revolution has been going on for the last two centuries or more. It has been marked by the growth of science and technology, by increased resource-use, and by expanded diversity and efficiency of human skills. It has meant a turning away from the agricultural way of life to an increasingly urbanized and 'artificial' one. It once again increased the carrying capacity of the land for human beings and led to a spectacular decrease in death control without concomitant birth control. Most significantly of all, the Industrial Revolution, in its greed for resources, has produced environmental destruction at an astounding and dangerous pace. Forests have been cut, land has been eroded and stripped, bays have been polluted and filled, and the result of all of these and other activities has been to lower the long-term carrying capacity of land for future human populations, notwithstanding the temporary increase which technology has made possible. Such environmental wastage makes our wish to provide a better life for our children seem to be sheer hypocracy.

The Marine Revolution. Thus does Man turn to the seas which become increasingly vital for his resources. However, the Marine Revolution is not totally a consequence of the exhaustion of the land. Man also turns to the sea as it lies before him in the form of a challenge which he is now becoming technologically able to accept. 'Products are sold on an open world market that cares nothing about the origin of the material; one competes only against price' (Bascom, 1966).

Thus, we accept the challenge of the sea, being not a little starry-eyed over our technology. But we must remind ourselves that Man remains a hunter-gatherer in the oceans; in only an insignificant few places does

he farm the sea. This contrast between developing technology and the inadequacies of cultural and legal frameworks for regulation is a characteristic of 'revolution'.

The Marine Revolution is, to my mind, quite as important a development as the previous Agricultural and Industrial Revolutions. It is no more obvious on a day-to-day basis than the Agricultural and Industrial Revolutions were in their time. Future Man will clearly see this Revolution as his inner-space logistics and utilization increase.

ECOSYSTEMS AND HOMEOSTASIS

The ecosystem is the fundamental functional unit of the natural world. It is comprised of all the living and non-living components of an environment and the totality of their interrelationships. An ecosystem has properties of self-sustainment. Solar energy must be added, but nutrients and other materials are recycled. Examples are a lake, a forest, an estuary, and a coral reef.

Carrying Capacity, Limiting Factors, and Synergisms. Carrying capacity may be defined as the number of individuals of a species within a particular ecosystem beyond which no major increase in numbers may occur. It fluctuates about an equilibrium level and may change seasonally or even daily. It is regulated according to Liebig's 'law' of the minimum and Shelford's 'law' of tolerance, which together state that the presence or abundance of an organism locally is determined by the amounts of critical materials available or by the local levels of environmental factors such as salinity or temperature.

It is typical of ecology that 'laws' are easy to state but difficult to prove. A major reason for this is *synergism*; that is, environmental factors often act together to produce effects which are different quantitatively or qualitatively from the effects expected separately or additively. Carrying capacity and limiting factors apply to all living things. The foolish assumption is that technology may negate them for Man. Technology cannot alter ecological laws, though it can redirect utilization in limited ways.

Productivity. Productivity is determined by turnover rate. The standing crop or biomass is a poor indicator of this, as it tells little about how often materials are recycled. Plants absorb about one per cent of solar energy for photosynthesis. An examination of trophic levels from these producers to primary, secondary, or tertiary consumers, reveals that each step involves about a 90 per cent loss of energy. Thus, food-chains are usually short and each trophic level shows much lower productivity than its predecessor.

Nutrients, unlike energy, are recycled. The biogeochemical cycles of gases, salts, and minerals, are most efficient in complex ecosystems. Man can occasionally increase productivity through the addition of substances which once were limiting. More often, his 'making the desert bloom' fails in the long run through failure to recognize the interrelationships of these cycles.

Primary productivity varies widely. Deserts and the waters of the deep oceans, which together cover most of the Earth, produce less than one gram of dry organic matter per square metre per day. Grasslands, waters over the continental shelf, and marginal agriculture produce 0·5 to 3 gm; moist forests and agriculture produce 3 to 10 gm; estuaries, inshore seas, and intensive agriculture produce 10 to 25 gm (Odum, 1959).

Owing to their large total productive area and volume, the seas contain more living material than the land supports. However, Man's utilization is at a higher trophic level in the sea: land = sun → grass → cow; sea = sun → phytoplankton → zooplankton → primary carnivore (e.g. herring) → secondary carnivore (e.g. tunny). The seas contain a much greater total diversity of life in terms of classes of animals than does the land, but owing to the lower oxygen content of water than air, the seas are dominated by animals of lower metabolic rate, but higher ecological efficiency than birds and mammals. Lastly, the sea provides a more stable environment than the land; in it, the 'weather' is mild and the productive season is long. For all these reasons, marine productivity is not equivalent to that of land.

Homeostasis, Simplification, and Pollution. Homeostatis defines the 'balance of nature'. All ecosystems depend upon recycling for sustainment and upon complexity for stability. These involve intricate mechanisms analogous to (but more complex than) the heat-producing, dissipating, and conserving mechanisms which regulate human body temperature. Ecosystems are never perfectly balanced, but homeostatic mechanisms give them recuperative power which, when exceeded, leads to breakdown; the eutrophication of Lake Erie is a classic example of such excess.

A major part of homeostasis lies in complexity which insures both productivity and stability, and also has aesthetic value for Man (Elton, 1958; Dasmann, 1968). Man is a simplifier of ecosystems and thus reduces their recuperative power. The many forms of pollution are the most serious stresses in this regard. Historically, Man has depended upon maximum homeostatic capacities of the environment to endure pollution; but in simplifying and polluting at the same time, he attacks with a two-edged sword.

Is the ocean too large to disrupt? I think not. According to the Task Force on Environmental Health and Related Problems (1967), the American people and their environment are being exposed to half-a-million different alien substances with 20,000 new ones being added each year. Some of these go to sea. For instance, pesticides have been distributed throughout the world's oceans through the vectors of air and precipitation (Frost, 1969). Polikarpov (1966) suggests that radionuclide pollution of the seas may already be at a dangerous level for some organisms. Hedgpeth (in press) remarks than our standards for waste disposal are anthropocentric and that laboratory tests on pollutants are 'interesting, but possibly academic as far as the real world is concerned'—in other words, waste-level standards set for Man are not necessarily those which ecosystems will tolerate.

MAN'S USE OF THE SEA

Only recently has Man begun to explore the sea throughout its three dimensions. The first extensive exploration of the deep sea was in 1873–76 by *H.M.S. Challenger*. Not quite a century later, Man has visited the ocean's deepest place in a research submarine and knows that all marine waters are capable of supporting life.

The Marine Revolution consists of five major aspects, which are related to, but by no means coincidental with, its dominating challenges mentioned in the Introduction. These aspects are: fisheries, minerals and mining, military interests, science and technology, and conservation and recreation. Emery (1966) gives world values of marine resources in 1964 as follows: biological—US $\$6{\cdot}4 \times 10^9$; geological—US $\$3{\cdot}6 \times 10^9$; and chemical—US $\$1{\cdot}3 \times 10^9$. Biological resources will always be the most valuable, even if surpassed economically, for Man cannot exist without them, and they are largely renewable.

Fisheries. Fisheries remain the most difficult aspect of international law of the sea. This is due mainly to the fact that most commercially important marine animals move and cannot be claimed. It is ludicrous to discover that certain benthic organisms are, in fact, classified as 'minerals' under the Convention of the Continental Shelf. In some cases it is of advantage to the exploiter that they should be so classified, an instance being the Alaska King Crab (Oda, 1968); in other cases the reverse is true, instances including some shrimps (Neblett, 1966). Fisheries resources include various Algae, plankton, shellfish, fishes, turtles, and mammals (Walford, 1958); but, as has been pointed out above, Man's utilization represents only a fraction of total marine productivity.

Over-utilization continues to dominate fisheries, especially off-shore ones. Clark (1967) states that Japanese long-lining accounted for almost a million billfishes in 1965. Even larger quantities of tunny were taken. Evidence is accumulating that such utilization cannot be sustained. Perhaps even more serious than overfishing is inshore habitat destruction. Over two-thirds of all commercial and sport fishes of the eastern United States depend upon inshore environments at some critical time of their life-cycle. The most effective way to extirpate a species is by environmental disruption, and this is being done inshore at a rapid pace.

Consideration of energetics lead many to propose exploitation at lower trophic levels. Complex size/metabolic factors and fishing efficiency strongly indicate, however, that higher-order consumers are more effective fishermen and converters of energy than Man is. A total 'plankton' fishery should be considered as a last, and none too satisfactory, resort. Those who have taste-tested swordfish and plankton might agree! The choice, however, should not be between swordfish and plankton; given proper management, we could have both.

The concept of 'yield' is vital biologically and legally. Fisheries biologists have emphasized the asymptotic attainment of maximum biomass through controlled utilization. Such a yield may or may not conform to economic efficiency or to local market value—hence the preference of 'optimum' over 'maximum' yield (Crutchfield, 1968).

W. M. Chapman (1966) states an exploitive point of view: 'When the fishing effort has increased beyond the point of maximum sustainable yield, the fishing can ordinarily be permitted to expand without serious damage to the resource'. He ignores Allee's principle (Odum, 1959), which is that density is in itself a limiting factor for population growth and survival. Relative abundance of the species in a community is a contributor to homeostasis. Thus, it is biologically most sound to change population size as little as possible in natural systems.

Christy (1966) considers broader aspects of utilization: '. . . somehow or other it will be necessary to limit the number of fishermen that can participate in a fishery. Such limitations can be achieved only by further restricting the "freedom of the seas"; and this clearly raises questions about the meaning of this freedom and about the distribution of wealth.' This approach appears to me more susceptible to ecological application than Chapman's more narrowly-stated views.

Aquaculture presents different sorts of problems from hunter-gathering, and may be the dominant provider of the future. Aquaculture is a major concern of the US Sea Grant Program (Abel, 1968). Ryther & Bardach (1968) and Bardach & Ryther (1968) review aquaculture and make the point that it will be carried out largely along coasts—exactly the areas currently most stressed at the hand of Man. To reconstitute coastal environments, or to fertilize them artifically, is difficult or impossible. The key to aquaculture is clearly the maintenance of natural productivity.

Minerals and Mining. Reading in this field often leaves one impressed with the viewpoint that somehow we are slaves to 'economic growth'. Close (1968) speaks of 'the care and feeding of a gigantic industrial complex'. One hopes that only a segment of industry would speak so carelessly, but it does appear true that an awareness of ecology and a willingness to exploit the non-living resources at little or no expense to the living are indeed rare. If mineral exploitation continues by sea as it has by land, the predictable results are frightening to contemplate. Strip mining is one parallel example.

Mero (1966, 1968), Luce (1968), and Young (1968), review the diversity of mineral resources in the sea. Inshore mineral exploitation is already heavy, but a consensus exists that only a few minerals, such as oil and gas, are currently feasible of exploitation. This is evidently based upon the lack of a favourable legal and economic climate, not upon the lack of technological capability. Further, it is not true that exploitation will progress from shallower to deeper water, any such progress being a function of the resource sought (Wilkey, 1969).

Off-shore mineral production in 1968 was 6 per cent of the world total and of it oil and gas accounted for 84 per cent (Economic Associates, 1968). In 1965, 16 per cent of the free world's oil was produced off-shore, the result of the work of 325 rigs which have drilled many thousands of wells (Dozier, 1966); oil has been produced from wells in as much as 104 m of water (Wilkey, 1969), and exploratory drilling was carried out in 1968 in the Gulf of Mexico in over 3600 m. At any one time, about 30,000,000 tons of oil are at sea in tankers. From US off-shore wells alone the production of oil has so far been 2×10^9 barrels,* and of gas $5{\cdot}5 \times 10^{12}$ ft^3,* at an investment of US $6 thousand million, and with the ultimate potential of 15–35 thousand million barrels of oil and 90–170 $\times 10^{12}$ ft^3 of gas (Nelson & Burk, 1966). The massive pollution potential of the oil industry has been previewed by the tragic *Torrey Canyon* and Santa Barbara disasters. We can be certain that these episodes are not the last of their kind, and probably there will be far bigger ones.

* 1 barrel = *ca* 200 litres; 1 cubic metre = *ca* 30 cubic feet.

Military Interests. Military activities in the oceans are shrouded in secrecy. It would, for instance, be interesting to know what the degree of radio-nuclide pollution is from Soviet and US nuclear-powered submarines. Both Harlow (1966) and Hearn (1968) give as the US Navy's viewpoint the contention that maximum freedom to use all dimensions of the sea must be maintained in order to exploit naval strength to the fullest in the best national interest. I think it fair to state that such a position is shared by the military of other major powers. The effect is to raise a serious obstacle to internationalization, to expanded territorial jurisdiction, and to peaceful use of the sea-floor.

It is difficult for me to understand why putting the sea-bed under a 'peaceful purposes only' treaty, as has already been done for outer space and Antarctica, is not in the 'best national interest'. Evidently, military influence was a major factor in preventing that principle from being accepted at the 1967 United Nations debate on the subject (Eichelberger, 1968). As yet the sea-bed is not much utilized militarily, though the waters over the floor of the sea certainly are. Thus, it is particularly disturbing to read that 'military strategists . . . have been looking for better ways to put the sea to use for the purposes of national defense' (New York Times, 1969).

It must be pointed out that military interests are not necessarily contrary to fishing or mineral exploitation. In any case, international progress on these last should not be held up by conflicts with the military authorities.

Science and Technology. The United States, among other nations, is heavily committed to marine exploration, science, development, and conservation. Reports on the highest level are numerous, including: Interagency Committee on Oceanography (1963, 1967); National Academy of Sciences (1964, 1967, 1969); Panel on Oceanography, President's Science Advisory Committee (1966); National Council on Marine Resources and Engineering Development (1967, 1968*a*, 1968*b*); and the Commission on Marine Science, Engineering and Resources (1969).

The last-mentioned, the so-called Stratton Commission Report, departs courageously from—while also building upon—the baseline established by its predecessors and is no doubt the most significant of them all. It is broadly ecological and international in nature, and recommends a US National Oceanographic and Atmospheric Agency for centralization of US research, exploration, data collection, and education. Further, it proposes an International Registry Authority for

ocean claims—with régimes for ocean bottoms, a delineated continental shelf, and an intermediate zone. The Commission also stresses optimal use of coastlines on a long-term basis in which industry, water quality, and aquaculture would be regulated under Federal law to guard against deterioration of the inshore marine environment. A useful review of this Report, including both the pros and the cons, is provided by the Program of Policy Studies in Science and Technology (1969).

Looking not at reports, but at budgets, produces some dismay. Ocean Science News (1969) states the current US Federal commitment to marine matters to be $528 million per annum, of which only $150·6 million is in basic and applied research, $143 million being in national security—and this in the very year of Man's travel to the moon and continued development of supersonic transport! The overall oceanic budget has grown 22 per cent since 1968, when Economic Associates, Inc. (1968) remarked: 'what remains to be pointed out is the very low level of Federal expenditure on . . . resources and their environment, compared with Federal oceanologic programs in general and, decidedly so, with the Federal effort in such a field as outer space'.

The International Biological Programme's Marine Productivity section deserves mention. The IBP theme of 'The biological basis of productivity and human welfare' is ideally suited to the needs of Man during the initial period of the Marine Revolution. However, at the current level of funding (only US $7 million for all US IBP sections in fiscal year 1970), it is certain that IBP cannot fulfil its goals.

Conservation and Recreation. To many, conservation and recreation involve *inter alia* the establishment of parks, sanctuaries, and control areas for research (Ray, 1961, 1965, 1966, 1968; V. J. Chapman, 1968; Randall, 1969). However, conservation and recreation must not be confined to protected areas. Both must principally be concerned with the maintenance of ecosystem homeostasis on a world-wide basis, and this is a large order indeed.

The concepts of conservation have been developed for terrestrial environments and are only vaguely applicable to the sea. The oceans together occupy a vastly larger part of the biosphere than does the land, and they are more continuous. The sea's rate of change, its biotic complexity, and our ignorance of its three-dimensional hydrosphere, are of a different order of magnitude from their counterparts on the more familiar land. For both land and sea, modern conservationists have become less concerned with the placing of 'fences' about sea or landscape, valuable as protective measures are, than with an ecological concept of the total ecosystem of which Man forms a part. A good basis of conservation policy exists for land and, in part, for inshore seas. For the high seas, this is not the case.

LEGAL RÉGIME OF THE SEA

Ultimately, Man's marine activities of all kinds must be legally regulated. Griffin (1967) states: 'To a large extent, a period of legal conjecture is ending.' The problem is '. . . to evolve policies and a legal régime which will maximize all beneficial uses of ocean space. . . . Under no circumstances, we believe, must we ever allow the prospects of rich harvest and mineral wealth to create a new form of colonial competition among the maritime nations.' A contrary view is that of Ely (1967*a*): 'Above all, we should not now cede to any international agency whatsoever the power to veto American exploration of areas of the deep sea which are presently open to American initiative. We can give away later what we now keep, but the converse is sadly false.' Ely (1967*b*, 1968) later extended these views.

Basically, the argument concerns whether the sea and sea-floor are *res nullius* (belonging to no one but subject to claim) or *res communis* (property of the world community).

Eichelberger (1968) puts the matter another way when he says: 'Either [the sea] opens up another threat of conflict or another area of cooperation.' Of course, the argument is not so simple. As Friedham (1966) and Belman (1968) point out, traditional law of the sea is imperfect, but there is legitimate hesitancy towards creating new modes when our experience with the sea and our ignorance of its resources are both still great.

Historical Background. In 1609, Grotius wrote *Mare Liberum* as a challenge to national jurisdiction of areas of ocean. This brief for the Dutch Government was directed towards breaking the Portuguese monopoly of the East Indies spice trade. Gradually, and in partial response to struggles for supremacy between Britain and Spain, the principle of 'freedom of the high seas' was accepted.

The concept of a territorial sea was born when Bijnkershoek wrote *De Domino Maris* in 1702. A territorial width of three nautical miles (*ca* 6 km) has been attributed to the distance of a cannon-ball shot, but the range of cannon at the time was only a single nautical mile. Probably the three-mile limit began with a British instruction to her Ambassadors, in 1672, that control should be exercised one marine league (= 3 nautical miles) from shore (Weber, 1966). Three

nautical miles was never adopted as a limit universally; claims of up to 12 such miles (*ca* 24 km) have always been valid.

A Convention of 1884 sustained all states' rights to lay cable on the deep sea-floor; but it was not until the Treaty of Paria, between Britain and Venezuela in 1942, and the Truman Proclamation of 1945, that any state claimed jurisdiction and control over any part of the sea-floor. By its important action, the United States effectively laid claim to an area of shelf larger than Alaska and Texas combined.

Three-and-a-half centuries of precedent thus led to recognition of the following zones: (1) internal waters and bays within the control of the coastal state; (2) territorial sea under the control of the coastal state; (3) continental shelf over which the coastal state might claim control; (4) contiguous zones for special purposes; (5) the high seas, held to be *res communis*; and (6) the deep sea-floor, held to be *res nullius*. New technology for ocean research and exploitation after World War II indicated obvious conflict under this system.

The International Law Commission had been created in 1947 under the United Nations. It proposed in 1956 that a Conference on Law of the Sea be held. This occurred in 1958 at Geneva and adopted four Conventions as follows:

(1) *Territorial Sea and the Contiguous Zone*: ratified 10 September 1964. This Convention confirmed the control of the coastal state over all resources within a territorial sea. In addition, the coastal state might declare control over a contiguous zone for security, customs, fiscal, immigration, or sanitary purposes, but not to interfere with the right of innocent passage. The width of the territorial sea is still undecided. Of 91 coastal states, 50 declare 12 nautical miles, 17 declare more than 12, 10 declare between 3 and 12, and 14 declare 3 such miles (Oda, 1968). A narrow territorial sea is favoured by military interests and by states with international fishing fleets; Japan is the only major fishing nation which adheres to three miles. A wide territorial sea is favoured by states wishing to protect a coastal fishery. Obviously, the US has been in a delicate position and only recently declared 12 nautical miles to be the width of its territorial waters.

(2) *High Seas*: ratified 30 September 1962. This includes all waters outside territorial ones and declares freedoms of navigation, overflight, fishing, and the laying of submarine cables and pipelines. Also included are regulations on piracy and pollution.

(3) *Continental Shelf*: ratified 10 June 1964. This Convention is mainly concerned with the sea-floor and does not include the water lying above. It has already been pointed out that certain living resources are included. The most serious contention concerns the extent of the shelf, which is defined in the Convention as extending: '. . . to the sea-bed and subsoil of the submarine area adjacent to the coast, but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admit of the exploitation of the natural resources of the said areas.' Two schools of thought prevail here. One contends that as this Convention is entitled 'Contenental Shelf', the sea bottom beyond its geographic limits of about 200 m depth is not included. The other contends that the exploitability provision defines a 'juridical shelf' which could include the slope or even the whole ocean bottom. It should be kept in mind that the shelf area is a huge one; without the slope it comprises 10×10^6 mi^2 (about 28×10^6 km^2), which is equal to 20 per cent of the total land area on Earth (Mero, 1966, 1968). An excellent review of the problem is that of Tubman (1966).

(4) *Fishing and Conservation of Living Resources of the High Seas*: ratified 20 March 1966. This remains the most controversial of the Conventions, being the only one which did not more or less standardize a body of existing custom but which contained genuine innovation. The problem that one non-cooperating state could vitiate fishery conservation efforts was a major reason for calling the Geneva Conference. This Convention 'virtually forces consideration of the need for conservation of a fish stock by all participating nations if only one (or an adjacent coastal state) insists on it,' but 'it says nothing about the principles to be followed, nor, more fundamentally, about the objectives sought' (Crutchfield, 1968). It does not treat allocations or provide more than case-by-case consideration of conservation.

Prognosis. Christy (1968) outlines four approaches to the developing law of the sea. The 'wait and see' approach leaves exploitation to chance. Support for wait-and-see comes in part from proponents of case law who heed the dictum of Oliver Wendell Holmes: 'The life of the law is not logic, but experience.' Additional support accrues from those who note our lack of knowledge and experience in the sea.

The second approach is that of the 'national lake'. The obstacle here is that the division of the sea would be highly inequitable. The USSR would get little, whereas tiny oceanic islands would gain title to huge territories.

The 'flag' approach is the third. It is supported mainly by mineral and military interests of powerful nations. Burke (1966*a*, 1966*b*, 1968, 1969), McDougal (1968), and Wilkey (1969), all defend this point of

view, emphasizing traditional processes of mineral claim on and under a sea-bed held to be *res nullius*. Some are willing to make concessions on an international registry or towards cooperation in pollution and security. On the other hand, Young (1968), Krueger (1968), and Eichelberger (1968), hasten to point out that the flag approach is but a form of neo-colonialism which would rapidly lead to a gold-rush. Nor does the flag approach, with its unavoidable competitive nature, make much sense ecologically.

The last alternative is 'international'. Kruger (1968) and Eichelberger (1968) lucidly point out the obsolescence of nationalism and the fact that most small nations will view internationalism as the only legitimate approach to the sea. Furthermore, mineral resources required by the industrial nations are spread throughout the international market, necessitating international trade.

The United Nations has shown its resolve by a series of resolutions. One of 31 December 1968, designated Resolution 2467A–2467D (XXIII), includes the following points: (1) promotion of international co-operation; (2) exploitation for the benefit of mankind; (3) prevention of pollution; (4) desirability of peaceful use of the sea-bed; and (5) endorsement of an International Decade of Ocean Exploration.

I find it impossible to argue against any of these goals, and equally impossible to see an alternative to internationalism in achieving any of them. Precedents of treaties on Antarctica and outer space exist though both Young (1968) and Eichelberger (1968) point out that the ocean floor is not *tabula rasa* (i.e. a 'blank slate') as were in some senses both Antarctica and outer space. However, they do not point out that virtually all of Antarctica was under territorial claim, and that nuclear testing and exploration had been carried on in outer space before those treaties were signed. Both treaties involved a yielding of claims and nullifications of military interests. It is difficult to see why such yielding could not also take place for the sea-floor, the superjacent waters, and even some sections of shelf. One thing is certain; under no reasonable circumstances would the exploiter lose by international control. All that might ensue would be more efficient utilization and a cleaner sea.

Gargantuan problems exist with regard to internationalism. Burke (1966*a*, 1966*b*, 1968, 1969), Alexander (1966), and Griffin (1967), review the problems of disarmament, bilateral and multilateral agreements, the extent of off-shore claims, scientific freedom in research, and many others. Burke (1969), particularly, examines difficulties in applying the Stratton Commission Report. However, one should not be deterred from a path simply because it is stony.

CONCLUSION

The sea lies today like a huge plum which Man is ready to pluck but towards which he gropes in quandary. This paper emphasizes the application of ecology to this Marine Revolution. We see that historically we have grown to treat the sea as the land—exploitively and as a 'frontier' to be conquered. There is no longer room for doubt that this is a collision course and that the 'conquest' of Nature threatens Man's existence as a species with high 'culture'.

Much as we might wish it so, the sea is not a placebo for our destruction of the land. The very existence of Conventions on the sea are cause for optimism and proof of awareness of the need for change. To the international lawyers belongs most of the credit. However, there persist such items as the 'house' lawyer's fear of loss of proprietary rights, the industrialist's fear of loss of claim, and the fisherman's fear of loss of *laissez faire* exploitation. Many maintain that we do not yet know enough about the sea, nor do we have sufficient experience with it, to change our *modus operandi*. Nevertheless, one must agree with Belman (1968): 'If law awaits developments, it loses the ability to shape them.'

The ecosystem principle must serve as the overriding guide for shaping our future resource use. We simply do not dare exceed limits of homeostasis in the sea. Ripley (1966) states: 'The basic problem therefore is to acquire sufficient knowledge about our ecosystems to provide feedback controls essential to homeostasis.' It is true that we do not as yet have all the knowledge we might desire, but it is also true that we know enough now to be able intelligently to monitor our actions. We *can* assume that every one of our actions puts some stress on the environment. We *can* put aside expediency, tradition, and false economic idols. We *can* negate flimsy and obsolescent national boundaries. We *can* shift the burden of proof for ecological damage from the plaintiff-community to the defendent-exploiter. The problem is not the ability to change; it is the desire and necessary understanding.

A new brand of environmental biologist must become increasingly involved in the Marine Revolution; without him, no purely political or legal solution will suffice. Non-biologists, even lay conservationists, have too rarely shown comprehension of the complexities of the living world and they are not equipped to deal with the sophistication of ecosystem ecology. However, the biologists have been largely unwilling to commit themselves. Darling (1967) has pinpointed part of the problem: '. . . public policy has to be ahead of public consensus. . . ecology and conservation

can move surely into the hurly-burly without losing scholarly integrity, a course most of us must be prepared to follow . . .'. Biology must to a new degree achieve interaction with politics and the law. Scientific integrity must be defended and this is not in conflict with a willingness to 'stick one's neck out'.

There is apparently no end in sight either to Man's reproductive potential or to his infinite conceit that he shall inherit the (still productive?) Earth. Yet there is a limit to the sea as to the land. The uniqueness of the Marine Revolution lies in part in the fact that Man is recognizing the limits of the Earth as he is developing exploitation of its most remote and unknown region—the oceans and seas. It also lies in the fact that the oceans' and seas' uncertain ownership forces Man at last to consider alternatives to provincialism and nationalism. Indeed it may be said that the Marine Revolution, for the first time in Man's history, ties survival with international cooperation.

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(Whereupon, at 5 p.m., the subcommittee hearing was adjourned, subject to call.)