ANNUAL REPORT

ON

ADMINISTRATION OF THE OCEAN DUMPING PERMIT PROGRAM

under

PL 92-532, "The Marine Protection, Research, and Sanctuaries Act of 1972"

U.S. ENVIRONMENTAL PROTECTION AGENCY

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Summary

The Marine Protection, Research and Sanctuaries Act of 1972, PL 92-532, established a program for the regulation of ocean dumping through the issuance of permits by EPA for the dumping in the ocean of materials other than dredged spoil. Dredged spoil is regulated by permits issued by the Corps of Engineers and subject to review by EPA. This is a water quality-based program oriented toward a no harmful discharge goal. This program regulates all dumping seaward of the baseline from which the territorial sea is measured; discharge through outfalls into ocean waters is regulated under the FWPCA using the same criteria applicable to the ocean dumping permit program.

On August 3, 1973, the Senate ratified the international ocean dumping convention. When this convention has been ratified by 15 nations it will come into force as an international instrument for the regulation of ocean dumping. The regulations under which the ocean dumping permit program operates are fully consistent with the intent and the language of the convention.

The program has been operational only since April 23, 1973; since that time 75 applications have been received and 47 permits granted. Four permits have been denied and several applications withdrawn. The major activity has been in the northeastern part of the United States where the dumping of municipal sewage sludge and industrial wastes and sludges into the ocean has been going on for many years. Over 80 percent of the permits issued have been to municipalities or industries in the New York and Philadelphia areas.

An interagency coordinating committee consisting of EPA (chairman), NOAA, Coast Guard, and Corps of Engineers has been formed to coordinate all activities under the Act. This committee has developed draft research strategies and monitoring strategies and is currently working on standard procedures and methods for carrying out monitoring and studies of disposal sites.

The interim regulations and criteria under which the program has been initially operating are now being revised

based on public comment and upon the operating experience of the first few months of the program. Final regulations and criteria are to be published in the near future.

Introduction

April 23, 1973, marked the end of unregulated disposal of waste material under the control of the United States into the territorial seas, waters of the contiguous zone of the United States and the oceans. Laws passed in October, 1972 by the Congress of the United States regulate the disposal of wastes into the marine environment and have as the ultimate goal a complete control and limitation of the disposal of harmful materials in the marine environment.

The passage of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) and the Marine Protection, Research and Sanctuaries Act of 1972 (PL 92-532) has established a Federal program of marine pollution abatement and control. Responsibility for different aspects of the program is split among several different agencies, particularly the Environmental Protection Agency (EPA), the Corps of Engineers, the Coast Guard, and the National Oceanic and Atmospheric Administration (NOAA). The role of EPA is to set criteria to govern the disposal of wastes to the marine environment, and to issue permits for the discharge, transportation, and dumping of all waste materials into the marine environment except for dredged material, for which the Corps of Engineers will issue permits for dumping based on EPA criteria.

Permits are issued for ocean discharge through outfalls under the National Pollutant Discharge Elimination System (NPDES) permit program established as authorized under Section 402 of PL 92-500, using the criteria developed under Section 403, and for ocean dumping under the separate permitting authority of PL 92-532.

The authorities delegated by these two Acts provide a broad base upon which effective control of marine pollution can be built. This report, which is the first annual report required on administration of Title I of PL 92-532, covers the status of the program up to June 23, 1973, including two months of the issuance of ocean dumping permits. This report outlines the extent of the problem of marine pollution, describes the statutory authorities presently available to control it, describes how the ocean dumping permit program operates, and outlines the overall program strategy being used to turn

the legislative authorities into an effective program to protect the marine environment from degradation through control of ocean dumping.

Pollution at Sea

The marine environment has become increasingly polluted because, in the advancement of technology, man has not addressed all the environmental ramifications of his scientific and engineering pursuits. The evolution of every new marketable product, service or process generates some form of waste product. This waste can range from a simple heat increment to complex combinations of inorganic-organic industrial wastes. In the past, little attention was given to the environmental effects of the waste product, much less to ascertaining the reuse potential or alternative use capability. The minimal technological effort directed at the waste end of the product cycle endeavored to seek out "hiding places" for spent materials, locations affording minimal impact on the immediate environmental system. The coastal region is the ultimate receptacle for most durable waste. The obvious size and assumed mixing properties of the oceans have led some to believe that here lies the supreme "hiding place".

Contrarily, available pollution statistics now show the marine environment has become fouled in places and is becoming increasingly so. Some of the symptoms of this fouling are shown in concentrations of heavy metals, oxygen depletion, bacterial growth, and accelerated bio-stimulation. The Council on Environmental Quality (CEQ), in its 1970 ocean dumping report to the President, describes the degradation of the marine environment. In 1968, 38 million tons of dredged spoil (34 percent polluted), 4.5 million tons of industrial wastes, 4.5 million tons of sewage sludge (significantly contaminated by heavy metal fractions), and 0.5 million tons of construction and demolition debris were deposited and concentrated in the coastal ocean environment. These 48 million tons of materials constitute less than 2 percent of the total volume of wastes generated yearly in the United States. But, coupled only with trends in population growth in the coastal zone, the volume of marine dischargeable material, extrapolated optimistically, would increase 70 percent by 1980.

The effect of concentrating pollutants can be tragic as in the case of Minimata Bay, Japan. Here, mercury concentrations as great as 10 ppb led to 43 deaths and unnumbered cases of blindness, neurological diseases, and

brain disorders within the Japanese population. Another example indicates that an estimated 20 percent of the U.S. shellfish beds, valued at 63 million dollars, lie closed because of concentrated pollution.

Finally, attention is drawn to the case of the New York Bight, New York City's "dump". The past forty-year period indicates that the oxygen concentration as a percent saturation in the near bottom waters declined from 61 percent in 1949 to 59 percent in 1964. In 1969 the oxygen concentration dropped to 29 percent in the sludge dump area and was as low as 10 percent in the center of the dump. This observation indicates that delicate thresholds of waste assimilating capacity exist in the environment beyond which the addition of more waste results in rapid degradation of marine water quality.

The sum total of pollutants in marine waters is not known, largely due to the size and complexity of the problem, but some quantitative estimates of toxic constituents are impressive. The National Academy of Sciences reports the flux of petroleum products to the marine environment may reach 100 million tons per year; pulp mill effluents 2 to 4 million tons per year; heavy metals greater than 1 million tons; organic chemicals greater than 100,000 tons per year.

There is little information about the fate of waste materials discarded by man after they reach the open ocean, but a few illustrations show that man's methods of waste disposal are impacting there as well. Dr. Thor Heyerdahl reports that in a 57-day voyage across the Atlantic his crew was rudely greeted on 43 days with varied types and quantities of floating materials discarded by man. Further evidence of global ocean contamination is brought forth in the article, "Plastics on the Sargasso Sea Surface", from Science, (1972). The authors report concentrations of plastic particles at 3,500 pieces or 290 grams per square kilometer over an area bounded within seven degrees of latitude by five degrees of longitude. Plastics have only been produced in quantity since World War II, again reinforcing the acceleration and resultant timeliness of the ocean pollution problem.

A more recent survey covering some 700,000 square miles of ocean from Cape Cod to the Caribbean Sea revealed that oil and plastic materials in ocean waters were distributed far more widely than had previously been suspected. Analysis of the distribution of the plastic contaminants showed a 20 percent occurrence in samples collected in the Caribbean Sea, and a 50% occurrence in samples collected in the Antillean Chain and the continental shelf between Cape Cod and Florida. The heaviest concentrations were from Florida to the Chesapeake Bay, and near Long Island. The plastic scraps were white or opaque spheres or discs, speck to pea-sized, and were identified as polystrene.

Previous hypotheses of not being able to contaminate the ocean were obviously incorrect, and the problem must be addressed. Steps are being taken through the Marine Protection, Research, and Sanctuaries Act of 1972 (PL 92-532), the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, and the Intergovernmental Maritime Consultative Organization.

Legislative Summary

Title I of PL 92-532, the Marine Protection, Research, and Sanctuaries Act of 1972, is designed to regulate the dumping and transportation for dumping of waste material within the territorial and beyond the territorial jurisdiction of the United States. Title I bans the dumping of all chemical, biological, or radiological warfare agents, and high level radioactive wastes. The Administrator of the Environmental Protection Agency is authorized to issue permits for the transportation for the purposes of dumping or for dumping of all material except for dredged material which will be handled by the Corps of Engineers consistent with EPA criteria. Civil penalties may be assessed by the Administrator, after notice and opportunity for a hearing, and an action may be brought to impose criminal penalties when the provisions of this title are knowingly violated. Title II of the bill authorizes the Secretary of Commerce in coordination with the Coast Guard and EPA to initiate a comprehensive program of research on the effects of ocean dumping and on pollution of the ocean in general. Title III allows the Secretary of Commerce to designate as marine sanctuaries those areas of ocean waters to the outer edge of the Continental Shelf for the purposes of preserving or restoring such areas for their conservation, recreational, ecological, or aesthetic values.

Section 403 of PL 92-500, the Federal Water Pollution Control Act Amendments of 1972, provides that the Administrator shall, within 180 days after enactment and from time to time thereafter, promulgate guidelines for determining the degradation of the waters of the territorial seas, the contiguous zone, and the oceans including the effect of disposal of pollutants on human health and welfare, on marine life, and on aesthetic, recreational and economic values as well as guidelines for determining the persistence of pollutants and other possible locations for their disposal. No permit under Section 402 for a discharge into the territorial sea, the waters of the contiguous zone, or the oceans shall be issued, except in compliance with the guidelines. The Administrator shall not issue a permit unless adequate information exists on any proposed discharge to make a reasonable judgment on any of the guidelines.

Section 404 of PL 92-500 deals with a separate permit program for the discharge of dredged and fill material into the navigable waters, administered by the Corps of Engineers. Disposal sites will be specified for each permit by the application of guidelines developed by the Administrator in conjunction with the Secretary of the Army and by consideration of the economic impact of the site. The Administrator is authorized to deny or restrict the use of any area for specification as a disposal site.

Section 405 of PL 92-500 provides that, in any case where the disposal of sewage sludge which results from the operations of treatment works (including removal of in-place sludge from one location and its deposit at another location) would result in any pollutant from that sludge entering the navigable waters, such disposal is prohibited except in accordance with a permit issued under this Section.

It is the goal of both pieces of legislation that the marine environment be protected from the disposal of materials into it, whether discharged from barges or through continuous outfalls. Both pieces of legislation also require the setting up of a continuing program of ocean disposal within which ocean dumping which does not damage the marine environment can be carried out on a continuing basis, not only in this generation but also in succeeding ones. It was therefore essential that the criteria developed prevent the use of the marine environment as a hiding place for highly conservative wastes on other than an interim basis. On the other hand, the criteria developed should permit disposal to the marine environment of waste products which are either innocuous or beneficial in that environment, and provision had to be made for revision of criteria to incorporate the impact of advancing waste disposal technology.

International Convention

The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter was developed at the Intergovernmental Conference held at London in the fall of 1972. It became open for signature December 29, 1972, at London, Mexico City, Moscow and Washington. The Senate ratified this Convention on August 3, 1973. After 15 nations have ratified it, it will be in effect.

As soon as the Convention becomes effective, legislation has been introduced to amend the Marine Protection, Research, and Sanctuaries Act of 1972 (PL 92-532) to require the Administrator of the Environmental Protection Agency to implement the statute in a manner consistent with the Treaty.

The Interim Regulations for the Transportation for Dumping, and the Dumping of Material into Ocean Waters, and for other Purposes, which were published in the Federal Register on Thursday, April 5, 1973, and the Interim Criteria under which permits may be issued, as required by the terms of PL 92-532, which were published in the Federal Register on May 16, 1973, were written with the language of the Treaty in mind. Thus, ratification of the Treaty should not require any drastic changes in these Regulations and Criteria or in the operation of the Permit Program.

Program Strategy

The legislation establishing the ocean dumping permit program imposes on EPA a commitment to a part of the environment in which controls have been lacking in the past and in which the present state of knowledge is extremely deficient. The near shore waters of the oceans have been used in recent years as the final repository of a variety of wastes which could not be disposed of conveniently or legally into more strictly regulated parts of the environment, such as inland waters. Concurrently, the oceans have been the domain of the deep- sea research oceanographers who were more interested in understanding fundamental processes than in meeting real- time needs for regulatory control.

The past approach to combatting marine pollution problems has been one of responsive enforcement, i.e., an environmental damage is recognized and action is taken to abate the source of pollution, wherever such authorities existed, such as within the territorial sea. Outside of the territorial waters, however, no authority to combat marine pollution existed, and even responsive enforcement action could not be taken.

A solely responsive approach to the abatement of pollution is not, however, sufficient to cope with the existing and potential pollution problems of the oceanic environment. The effects of pollutants in this marine environment may go unnoticed until vast areas are irreversibly damaged. This condition is a result of the subtle interaction of pollutants in the coastal zone and in the zone of tidal mixing and of the great distances pollutants dumped at sea may travel in the ocean in the absence of land barriers.

The strategy necessary to cope with such problems must therefore be one of seeking out and correcting potential pollution problems before they occur as well as making a direct and immediate attack on the problems that already exist.

The new authorities embodied in the Marine Protection, Research, and Sanctuaries Act of 1972 and in the Federal Water Pollution Control Act Amendments of 1972 extending water pollution control authorities to the contiguous zone

and the oceans make it possible for EPA to carry out the full range of program activities necessary to accomplish this in the near-shore oceanic environment.

In passing the Ocean Dumping Act, Congress established the basis for strong regulatory control of ocean dumping, but made the Act effective long before much of the information needed for its continuing implementation could be obtained and even before the necessary studies could be planned, much less carried out. In establishing the legislative base for the program, Congress took the view that protection of the marine environment was of immediate concern, and required that criteria be developed based on the presently known impact of waste materials on the marine environment.

This approach is analogous in concept to the setting of water quality criteria, and then developing discharge standards to meet those criteria. In the Ocean Dumping Act, however, the criteria concern the entire marine ecosystem, not just water quality, and the critical parts of the ecosystem are the disposal sites themselves, since they are the first parts of the ecosystem to be impacted by wastes. In terms of inland waters, a plant dumping wastes into a stream is analogous to a barge dumping wastes into the ocean.

When the water quality standards program was established in 1966, there had already been some 40 years of research and field survey of the impact of wastes on streams, and a definitive body of data already existed. When the Ocean Dumping Act was passed, however, only 10 of the 200 dumping sites in use had ever been studied, and only a few of these in any systematic manner. Even in these few cases there is insufficient information to determine what the quantitative impact of wastes on the marine environment actually is. There is, consequently, a great dearth of knowledge on the impact of wastes which must be rectified at the same time the permit program is in operation.

In starting the program, EPA has set highly restrictive limitations on the types of materials which can be dumped on a continuing basis with reasonable assurance of negligible environmental damage. At the same time a system for the issuing of interim special permits

for wastes not meeting the limitations was established, and dump sites now in use were approved on an interim basis. Thus, while the mechanism for issuing permits is established and operating, there is no basis for knowing at the present time how much or what kind of wastes have been dumped, what their impact on the environment may be, or exactly what restrictions should be placed on dumping to protect the environment.

The program strategy includes full implementation of the permit program on a continuing basis, the evaluation and approval of some disposal sites for dumping on a continuing basis and termination of dumping at others, research and monitoring to improve knowledge of the impact of ocean dumping and the ability to regulate it effectively.

The following Chapters describe the operation and present status of the permit program and the research and monitoring strategies through which interagency cooperation will be sought and these goals achieved.

Since so little work has been done on the study of the impact of ocean dumping on the marine environment and particularly on the impact of wastes on specific dumping sites, the use of existing dumping sites for continued dumping for an interim period was desirable for the following reasons:

1. If an existing dump site has already been irreparably damaged by dumping, little additional impact on the marine ecosystem will occur by continuing to dump at that location; whereas it may be true that arbitrarily shifting to a new site could result in irretrievable damage to two areas.

2. If an existing dump site is gradually being degraded by dumping, careful monitoring of the site and the nature of the wastes being dumped will provide valuable information on the impact of wastes on the marine environment without having to devote an undamaged part of the ecosystem for this purpose.

3. The resources available for carrying out the necessary field surveys are quite limited; by limiting the universe necessary to study the areas known to be already

stressed by ocean dumping, these resources can be committed to solve the problems where they exist rather than dispersing them on a random search for new dump sites.

At the present time only general evidence is available to determine the impact of dumping on many of these sites. Until sufficient evidence is accumulated and guidelines are prepared on the use of individual sites, evaluation of permit applications must be based upon a consideration of the general types of characteristics of dump sites desirable for minimizing the effects of waste materials on the environment.

The evaluation and approval of disposal sites is therefore a critical part of the entire strategy. It is here that the decisions must be made as to whether or not waste materials can be dumped without harm to the ocean environment, and, if they cannot, what part of the marine environment should be reserved for this purpose. For this reason the chapter on monitoring strategy deals in some detail with the procedures to be used in evaluating disposal sites.

Elements of the Permit Program

The Ocean Disposal Permit Program incorporates the use of five types of permits; the general permit, the special permit, the interim special permit, the emergency permit, and the permit to handle dredged materials.

The general permit is essentially a determination made by the Administrator that a class of materials is to be considered harmless and innocuous and treated in a prescribed fashion. The determination and handling instructions are formally published in the Federal Register. This type of permit will be used to regulate such activities as the dumping of galley waste and refuse from naval, merchant, and passenger vessles during routine operation, removal of wrecked vessels from navigation channels and their dumping in the ocean, and burial at sea.

The special permit regulates all materials not covered by the general permit and strictly regulates the disposal of such materials when it can be demonstrated that the quantities, nature of wastes and methods of disposal will not result in irreparable or irrevocable harmful effects on the marine environment. Bioassays and other tests as appropriate made by approved techniques will be required by the Environmental Protection Agency prior to the issuance of a special permit.

An interim special permit may be granted when a waste violates the criteria, but when there is no economically feasible present alternative to the ocean disposal of the waste. In such cases a permit may be granted, but only contingent on the development of a satisfactory implementation plan either to bring the waste into compliance with the criteria or to eliminate it from ocean dumping entirely.

An emergency permit will be issued only when there is a danger to human health involved and there is no feasible alternative to ocean dumping. This type of permit requires consultation with the Department of State since it deals with materials which will be prohibited under the international ocean dumping convention.

The dredged material permit issued and administered by the Corps of Engineers is specifically geared to dredged spoils and requires the same careful testing as for those materials addressed by the EPA special permit. The Administrator will recommend appropriate sites and has the right to review permits issued by the Corps of Engineers.

With the initiation of the permit program on April 23, 1973, anyone who wishes to dispose of waste in the ocean must make application for a permit by submitting a letter of application to the EPA Regional Administrator responsible for the port of exit to the disposal site under consideration.

The letter must include the origin of the waste (manufacturing process); the nature of the waste (physical, chemical description); amount; the means of conveyance to the dump site; usual location of vessel; name of person or firm applying for application and site selection. The applicant will also be asked to submit information concerning alternate methods open to him for disposal, and a strong case for ocean dumping on the part of the applicant should be prepared prior to submission of application letters.

If, and only if, the information in the application letter is complete, and if through the proper testing the material is shown to meets the criteria, will a permit be issued to the applicant describing in detail the site to be used, the time of dumping and the prescribed method for release of the waste into the sea.

A processing fee of $500.00 is charged for processing each application for a special permit for dumping (no fee is charged for a general permit) and if the applicant wishes to use a site other than those listed by EPA as approved sites, an additional fee of $1,000.00 is charged. Renewal of special permits is $200.00. Agencies of the United States are not required to pay a fee.

The tentative decision to issue or deny a permit is prepared in writing within 10 days after receipt of an application letter. If the tentative determination is to issue a permit the following information is forwarded to the applicant.

1. proposed time limitations, if any;

2. proposed dumping site, and

3. a brief description of any other proposed special conditions determined to be appropriate for inclusion in the permit.

Public notice of all completed applications is circulated widely for public information. Specifications of the application and permit are posted and further information can be found at the office of the Regional Administrator. Notice is mailed to any interested party upon request and shall be considered a standing request.

The states (water pollution control agency) are notified and certification by the state contiguous to the territorial sea used as a dump location is requested. State certification is not required in the waters outside the territorial waters of the United States.

In addition to the public and the states, the Corps of Engineers, Department of Commerce, NOAA and the Coast Guard receive a copy of the application for comment to the issuing office of EPA within 30 days.

The Department of Interior also receives notification as required by provisions of the Fish and Wildlife Coordination Act and the Marine Protection, Research and Sanctuaries Act.

If enough interest is shown by the public, a hearing will be held. Requests for the hearing must be in writing and submitted within 30 days of notice to all parties. The Regional Administrator or designee will designate a time and place to air all comments or objections to the issuance of any permit. The Administrator may also determine that the request does not merit a public hearing and in such a case he will advise the requestor in writing of his action and continue to process the application.

Anyone receiving a permit must maintain a complete record of his dumping activities and shall make it available for inspection upon the request of the Administrator or his designee. The information should reflect

the instructions found on the permit and any deviation from the permit instructions.

A report of the information in the records is required, the periodicity of which is made part of the permit instructions.

If an emergency at sea occurs and dumping is required without a permit, the dumper must report all particulars to the Administrator within 30 days of the dumping.

Under the law the U.S. Coast Guard will patrol and monitor dumping activities. Penalties for violation of the law can run as high as $50,000 for each violation. Anyone violating the law will have a trial-type hearing and within 30 days following adjournment a determination will be made by the Administrator based on the facts and findings as presented by the hearing officer.

Present Status of the Permit Program

The ocean dumping permit program became operational April 23, 1973, the effective date of PL 92-532. Since that time the seven EPA coastal regions have issued 47 permits for ocean dumping. Table I presents pertinent data on the permits issued as of June 23, 1973.

No major problems in administration of the program have appeared. The limited periods for public comment on specific permit applications in the initial stages of the program has caused some adverse public comment, but this was an interim measure required by the time constraints inherent in the initiation of the program.

Because of these constraints it was necessary to publish interim regulations and criteria as a basis for operation in the first few months of the program. These are presented in the Appendix. Periods for public comment on the regulations and criteria expired June 23, 1973. Based on these comments, research presently under way, and operating experience during the first few months of the program, the interim regulations and criteria will be revised and final regulations will be promulgated in the fall of 1973.

Interagency coordination on a national scale is being achieved by an interagency coordinating committee composed of EPA, NOAA, the Coast Guard, and the Corps of Engineers. Interagency agreements and guidelines for operation are now being developed.

The Coast Guard is informed of all permits issued and the conditions imposed, so that suitable surveillance operations can be conducted. The Coast Guard has not advised EPA of any violations of the Act as of June 23, 1973.

The responsibility for issuing special permits has been delegated to EPA regional offices. Brief summaries of the activities (through June 23, 1973) of each region follow.

Region I (Boston, Massachusetts)

Region I issued its first ocean dumping permit May 18, 1973, to the New England Division of the Corps of Engineers for the sinking of a barge at the Foul dump site in Massachusetts Bay.

The region has also received three other formal applications for disposal at sea. Safety Projects is an industrial refuse collector of hazardous and toxic chemicals in small quantities. They provide some neutralization or encase these materials in concrete. The region has broken this application into two parts. The first section will deal with the disposal of earth metals (Calcium, Sodium, Lithium, and Potassium) which have been stored on site and have an immediate explosive risk. A public hearing was held June 19, 1973, at the John F. Kennedy Federal Building. The rest of the application will be handled as a typical ocean disposal operation. Another hearing will have to be scheduled to decide whether this operation should continue and, if so, what limitations and monitoring schedules should be developed.

The other two applications are by Pfizer Chemical Company and A&S Transportation Company. The Pfizer application is for the disposal of a culture medium used in the processing of their product. This material was originally disposed of in Long Island Sound. An enforcement conference terminated that operation, and a land disposal site was used. Local discontent has forced them to find another alternative; so, once again they propose ocean disposal. A&S Transportation has been contracted by the City of Stamford, Connecticut, to dispose of sewage sludge off the coast of New York. This will be a temporary procedure until the construction of an incinerator is completed within the year.

The regional office has also been contacted regarding the disposal of two fishing boats. Copies of the regulations have been sent to the prospective permittees, and the region is awaiting the applications.

Region II (New York, New York)

In January of 1973 Region II received from the Corps of Engineers a list of the permits the Corps had issued to municipal and industrial ocean dumpers. In addition to this list of names, the region prepared a list of those organizations they felt would be potential ocean dumpers. The Regional Administrator sent a letter to every potential ocean dumper on these lists. The letter outlined EPA's responsibilities under the Marine Protection, Research and Sanctuaries Act of 1972 and requested information necessary for evaluation of a permit application.

Although several speeches and papers had been given in the region to groups which represented potential applicants, many prospective applicants were uncertain exactly what would be required of them. Because of this, meetings were scheduled with each industrial applicant following receipt of the requested information. The EPA program was outlined and the draft regulations and criteria discussed. Applicants were asked whether they were currently disposing of their wastes in the ocean, if they had been doing it a long time, why the waste was not being disposed of elsewhere, what the process was giving rise to the waste, how long they proposed to continue to dump in the ocean, what they could do to reduce the levels of toxic or unacceptable materials in their waste, and what their implementation plan was for the future. Because of the lack of time, municipal applicants were contacted by telephone. If any severe problems arose, they came in to discuss them.

Following these meetings, public notice of 21 complete applications was printed in the New York Times along with notice of public hearings to be held within 5 to 7 days. At the same time letters were sent to the applicants giving them the time and date of their hearing.

Each public hearing was attended by a hearing officer from the Enforcement Division, his technical aide, two Surveillance and Analysis Division representatives and representatives of the applicant, permit holder, and the general public. With the exception of a representative of one environmental group who attended each hearing and objected to each permit application, there was very little

written or oral comment from the general public at the hearings.

Following the hearings, meetings were held by the Regional Administrator's staff to discuss comments made at the hearing and to make a judgment as to whether to change the conditions of the permit and whether to issue or deny the permit. If the decision was made to issue the permit, it was signed by the Regional Administrator and notification sent to the applicant that it was approved.

The time constraints of issuing permits by April 23 presented a great problem for Region II. In addition to contacting each applicant and holding separate meetings with them, public notices had to be written and public meetings attended. Too, much effort was put into selecting the appropriate parameters used for monitoring of the wastes and the methodology by which the analyses of the wastes would be done. Meetings were held with the applicants, dumpers and analytical laboratories to discuss these methods.

Following issuance of the permits, several barge companies objected to the specifications in the permits that dumping be done in daylight hours only since the maritime industry works around the clock. As a result of this objection, it was agreed that dumping at night could be done if necessary; however, if more than 25 percent of the dumping were done after dark, the application would come up for reconsideration.

The region is currently discussing with each permittee alternatives to ocean disposal. Various municipalities who are dumping sewage sludge are contacting industries in their jurisdictions to get them to reduce by pretreatment their discharges of toxic or harmful material.

Among Region II's applicants are two companies who pick up wastes from a number of locations, including some trucking "middlemen." On one occasion one of these middlemen picked up a load of wastes intended for land disposal and they ended up in the trucking company's wastes to be disposed of in the ocean. A member of the Surveillance and Analysis Division was checking the manifests of truckers bringing waste in for ocean disposal

and noted that the generator of the wastes intended for landfill was not on the list of customers whose wastes were approved for ocean disposal. As a result this particular middleman was not permitted to contribute his truckload of wastes to those being disposed of in the ocean. This type of surveillance is continuing as personnel are available.

In addition, one of the companies was requested to drop two of his customers since one had wastes containing a high percentage of mercury and the other would not identify his wastes, his process or his products.

For the most part the applicants and dumpers have been very cooperative. They seem to be aware that their wastes may be damaging the environment and are cooperating fully with the region.

A meeting with the Coast Guard to discuss surveillance indicated that Coast Guard was waiting for guidance from their Headquarters; further meetings are planned.

Region II has been cooperating with NOAA for the past year in the MESA project in the New York Bight area. They have attended all meetings and agree with NOAA that this area deserves high priority.

The EPA coastal Pollution Research Laboratory in Corvallis is currently making a study in Region II on test site selection and pre-site evaluation for testing of an experimental dump site off Fire Island. Information on the microbiology of the water column is being gathered by Region II personnel. A decision will be made within the next six months on whether the site is to be used.

During May and June of this year Region II personnel are collecting general chemical background data on dump sites in the Bight to support evaluation of their permit requests in line with the criteria. Both the sludge dumping grounds and the acid dumping grounds will be covered from 4 to 6 times each.

Region III (Philadelphia, Pennsylvania)

On April 23 Region III issued ocean disposal permits to the City of Philadelphia and the Edge Moor facility of E.I. duPont. Philadelphia was granted a permit to dump no more than 75 million gallons of sewage sludge in the six month period ending October 23 at a site 50 miles from shore. The City has been requested to do extensive analyses of their sludge and will be required in the future to initiate studies to determine lethal effects, bioaccumulation and degradation.

DuPont's permit was for no more than 20 million gallons of a 15-20% acid liquid during the six-month term of the permit. The company is presently complying with EPA requests for analyses and monitoring.

The region has also received a number of other permit applications. The Sun Oil Company of Marcus Hook, Pennsylvania, submitted an application on April 18 to dump approximately 6,000 barrels a month of white water and 17,000 barrels a month of spent caustic at a site approximately 100 miles off Cape Hatteras. Several meetings were held with the company, and a public hearing is scheduled for July 13 with an alternative site proposed.

Rollins Environmental Services, Inc., of Wilmington, Delaware, applied for a permit on March 29 to dump approximately 2 million gallons of a contaminated brine solution once every seven weeks. Although additional supportive data were submitted on April 30, the region requested further information on May 1. The company is presently supplying this information.

Modern Transportation Company of Philadelphia applied for a permit on April 11 to dump approximately one million gallons of a mixture of industrial wastes and sewage sludge, septic wastes and digester cleanout. A hearing was scheduled for July 12. A meeting was held on June 21 to discuss future permits for segregated wastes.

Four other permit applications have been received; three are awaiting additional technical information from the applicants, and the fourth was withdrawn upon receipt of a request for supplemental information.

As a result of the hearings and evaluation of all pertinent information on the City of Philadelphia's application, Region III decided to move the City's dumpsite from its existing location 12 miles offshore to another existing site 50 miles offshore. Prior to the City's dumping at the new site, the region carried out a baseline survey of the site.

Region IV (Atlanta, Georgia)

Region IV has not received any applications for ocean dumping permits. The region has sent letters to all State and Federal agencies which would have knowledge of ocean dumping activities, and all responses have been negative.

Several inquiries from potential permit applicants have been answered.

Region VI (Dallas, Texas)

Region VI is strictly regulating ocean dumping in the Gulf waters adjacent to Texas and Louisiana by imposing restrictions designed to minimize the effects of dumping on the marine environment and at the same time allow studies to begin leading to an understanding of the fate of waste materials. Each ocean dumping permittee is required to conduct toxicity studies of their waste using appropriate marine species so the acute damage can be minimized during future operations.

The most important and most difficult requirement of the permittee is in-situ bioaccumulation studies that will reveal the uptake and magnification, if any, of their waste in the marine organisms that inhabit the dump area at any stage during their life cycle.

In addition to regulating dumping and requiring studies, Region VI has required the permittee to record the water depth during dumping operations, permanently label all drums and provide a spill prevention containment and countermeasure plan to safeguard aquatic resources if an unplanned discharge occurs outside the approved dumping zone.

Ocean dumping personnel are actively compiling data on the potential deep water fishery that is being

developed through the efforts of the National Marine Fisheries Service and Texas Parks and Wildlife. Exploratory fishing is taking place on the Continental Slope from 100 to 1,000 fathoms and potential commercial concentrations of royal-red shrimp, tilefish, hake, and deep-water crabs have been discovered. Information related to this new fishery necessitates a re-evaluation of the approved dump sites and dictates the need for deeper sites as well as requirements for treatment schedules in lieu of dumping.

A meeting was held with the Coast Guard to determine their capability for surveillance and to include within future permits any special requirements that would apply. As a result of the meeting, additional requirements were added to the twenty-four hour notice from the permittee to the local Captain of the Port and EPA.

Numerous meetings have been held with each applicant for an ocean dumping permit to gather data and resolve differences between what is best for the environment and what is best for the applicant.

The region has eight (8) complete applications and two (2) incomplete applications to date. Of the eight complete applications Region VI has issued six permits, denied one and is still processing one.

Region IX (San Francisco, California)

Region IX has received two completed applications for ocean dumping permits. The H-10 Water Taxi Company, Ltd., of San Pedro, California, collects and disposes of ships' galley wastes from vessels in the Los Angeles-Long Beach Harbor area. Wastes are transported to a site about 7 miles east of Catalina Island. Public notice will be published and transmitted for review before the end of June 1973.

The Los Angeles Police Department requested a permit to dispose of the collection of contraband and unclaimed weapons each year between July 1 and 10 as required by the State Penal Code. Public notice was published and transmitted for review on June 5. On June 15 the applicant withdrew the application stating that it has located a

metal recycling facility which will accept the estimated 5.5 tons of material for disposal.

An application was received from California Salvage Company, Wilmington, to dispose of four to five tons of material, the majority being Lithium salts, with smaller portions of pure Sodium and Potassium, at a site about 13 nautical miles southwesterly of Los Angeles breakwater at a depth of about 485 fathoms. Additional data on this application is forthcoming.

Informal contact was made with three other potential applicants. In all cases they will probably resort to other methods of disposal.

Region X (Seattle, Washington)

Region X has received one letter of application and three inquiries requesting information.

Monsanto Industrial Chemicals Company applied to discharge 150,000 barrels a month of vanillin black liquor from a barge to the Strait of Juan de Fuca. The determination was made that those waters are presently classified as internal waters and are not subject to controls on ocean disposal under PL 92-532.

The U.S. Forest Service, Alaska (The South Tongass National Forest) is inventorying the beaches and adjacent uplands for discarded equipment left over from past logging and development actvities. As monies become available they plan to barge dump this scrap iron at several open water locations in at least 200 feet of water. At this point a question remains as to whether these locations are governed by the ocean dumping permit program or Section 402 of PL 92-500.

The titanium tetrachloride plant of Oregon Metallurigical Corporation, Albany, Oregon, is currently shut down, but recent favorable market forecasts have generated an interest in returning to production. Proposed waste material would be a sludge produced from titanium tetrachloride production. Proposed disposal would be off the mouth of the Columbia River.

Mr. L.F. Brown, Portland, Oregon, has inquired about the ocean disposal of 30,000 or more rubber tires, probably weighted with concrete.

TABLE I

Region I

Ocean Dumping Permits Granted,
April 23, 1973 - June 23, 1973

Applicant	Material Dumped	Date Issued	Amount Dumped	Frequency	Term (days)
U.S.Army Corps of Engineers	barge	5/18	1	1	60

Region II

Applicant	Material Dumped	Date Issued	Amount Dumped *	Frequency	Term (days)
New York City: (11 plants)					
Rockaway Sewage Treatment Plant (STP)	municipal sewage sludge	4/23	8,000 cy	4 loads in 90 days	90
26th Ward STP	"	4/23	13,000 cy	6/60	60
Wards Island STP	"	4/23	166,000 cy	37/60	60
Port Richmond STP	"	4/23	3,000 cy	12/90	90
Tallman Island STP	"	4/23	65,000 cy	17/80	80
Newtown Creek STP	"	4/23	242,000 cy	55/70	70
Hunts Point STP	"	4/23	73,000 cy	16/60	60
Bowery Bay STP	"	4/23	96,000 cy	35/80	80
Coney Island STP	"	4/23	27,000 cy	12/70	70
Owls Head STP	"	4/23	33,000 cy	13/70	70
Jamaica STP	"	4/23	40,000 cy	19/80	80
County of Nassau	"	4/23	65,000 cy		80
Passaic Valley Sewerage Comm.	"	4/23	167,000 cy	18/90	90

* during term of permit

Region II - 2

Applicant	Material Dumped	Date Issued	Amount Dumped	Frequency	Term (days)
Linden Roselle Sewerage Authority	municipal sewage sludge	4/23	16,279 cy		90
Bergen County Sewer Authority	"	4/23	68,000 cy	20/90	90
Middlesex County Sewerage Authority	"	4/23	94,000 cy	5/30	
American Cyanimid Co. Linden, NJ	chemical wastes	4/23	10,000,000 gal.	16-36/90	90
Allied Chemical Corp. Morristown, NJ	"	4/23	31,000 cy	15/90	90
E. I. duPont & Co.	inorganic salts	4/23	63,000 cy	12/70	70
NL Industries, Inc. (special permit)	spent sulfuric acid	4/23	719,000 cy	1-7/day	1 yr.
Moran Towing Corp. (special permit)	cellar dirt, construction rubble	4/23	300,000 cy	1.5/day	180
Merck, Sharpe & Dohme Puerto Rico	pharmaceutical wastes	4/26	12,690 cy	4/90	90
County of Westchester	municipal sewage sludge	4/27	25,000 cy	13/90	90
City of Camden	"	4/27	17,325 cy	1/30	90
Middletown Sewerage Authority	"	4/27	5,550 cy	1/30	90
City of Long Beach	"	4/27	6,000 cy	3/90	90

Region II - 3

Applicant	Material Dumped	Date Issued	Amount Dumped	Frequency	Term (days)
Joint Meeting of Essex and Union Counties	municipal sewage sludge	4/27	35,580 cy	6/90 days	90
Chevron Oil Co. Perth Amboy, NJ	spent caustic solution	4/27	6,300 cy	3/90	90
West Long Beach Sewer District	municipal sewage sludge	5/4	925 cy	1/90	90
Modern Transportation S. Kearny, NJ (municipal)	municipal sewage sludge	5/4	59,160 cy		90
Modern Transportation S. Kearny, NJ (industrial)	industrial waste	5/4	35,000 cy	10/90	90
Jonas Disposal, Inc. Caldwell Trucking Wm. Schaefer Septic	municipal, septic tank, industrial sludge	5/4	316,000 c ft.	7/90	90
Hess Oil Woodbridge, NJ	spent caustic solution	5/30	3,000-3500 cy	3-5/90	90
City of Paterson Police Department	guns	5/31	495 (1 ton)	1/30	30
New York City Police Department	dangerous weapons or objects	5/31	13 tons	1/30	30
U.S.Army Corps of Engineers, NY Dist.	tug and any additional sunken vessels obstructing navigation	5/31			180

Region II - 4

Applicant	Material Dumped	Date Issued	Amount Dumped	Frequency	Term (days)
		PERMIT DENIED			
Pratt & Whitney E.Hartford, CT	sludge from electro-chemical machining		5,300 cy	3/90	90

The permit was denied because the waste contained too much oil, chromium, and volatile solids.

Applicant	Material Dumped	Date Issued	Amount Dumped	Frequency	Term (days)
		APPLICATIONS PENDING			
Consolidated Edison Co. of NY	caustic cleaning water		1,000,000 gal.	1/90	90
Pollution Control Industries Puerto Rico	pharmaceutical wastes		426,000 gal.	1/wk.	90
Yabucoa Sun Oil Co.	elemental sulfur		11,000 tons plus 30 tons per day	1/3 days	90
RCA	ferric chloride with chromium		3,000 gal.	4/90	90
Oxochem Enterprise Puerto Rico Puerto Rico	organic wastes (oxo-alcohols)		32,000 cy	8/90	90
Puerto Rico Olefins Co.	spent caustic		5,200 cy		90
Ansul Company Marinette, WI	arsenic salts		40,000 tons	8/90	90

Region III

Applicant	Material Dumped	Date Issued	Amount Dumped	Frequency	Term (days)
City of Philadelphia	digested sewage sludge	4/23	75,000,000 gal./yr	38/180	180
E. I. duPont	acid wastes	4/23	120,000,000 gal./mo	20/mo.	180

Region VI

Applicant	Material Dumped	Date Issued	Amount Dumped * not to exceed	Frequency not to exceed	Term (days)
E. I. duPont Beaumont works	chemical wastes	5/1	144,000 T	24,000 T/mo	180
E. I. duPont Houston plant	chemical wastes	5/1	210,000 T	38,400 T/mo	180
E. I. duPont Belle plant	chemical wastes	5/1	45,000 T	9,600 T/mo	180
C.A.F.	industrial/chemical wastes	5/18	99,000 T	19,200 T/mo	165
E. I. duPont Ponchartrain	"	5/22	5,000 barrels	1,000 barrels/mo	160
Ethyl Corp. Baton Rouge, LA	sodium/calcium sludge	5/25	3,500 barrels	700 barrels/mo	155

E. I. duPont's Beaumont works also applied for a permit that would cover dumping of any material in an emergency situation. This application was denied.

* during term of permit

Research Strategy

The ocean dumping program strategy, described on page 12, prescribes an integrated approach to achieving the goals of the Marine Protection, Research and Sanctuaries Act of 1972, PL 92-532, and the related goals with the Federal Water Polluion Control Act Amendments of 1972, PL 92-500. As outlined, the program strategy includes the rapid development of criteria to guide the evaluation of permit applications, the implementation of a permit program, the evaluation of existing disposal sites and the monitoring and surveillance of sites. To date, actions have proceeded to allow each of these components to be initiated with all possible speed by participating agencies in the interest of rapid implementation. However, experience to date has demonstrated that the technical information which must serve as a basis for each of these components in the broad strategy is less than adequate. For example, in the development of the regulations and criteria for implementation of PL 92-532, the available information for setting criteria for evaluating permits was found to be sparse and that which existed was focused on problems other than those related specifically to ocean dumping on the marine environment. Consequently, recognition of the need to develop the scientific information to guide the implementation of the legislation has increased rapidly during the early stages of the program. The development of this scientific information is the primary goal of the ocean disposal research program.

The objectives designed to achieve the goal of the ocean disposal research program form a matrix of support for the components of the broad program strategy, while seeking to develop the mandated information necessary to be considered in the execution of the program. The objectives are cross supportive and interdependent because of the complex nature of the actual problems. The specific objectives are as follows:

1. Develop the scientific information necessary to establish and revise criteria for evaluating ocean disposal permit application as described in Section 102 of PL 92-532.

2. Develop the analytical methods, techniques and systems necessary to characterize waste materials, to determine effects in the marine environment, to characterize existing sites and to monitor existing and alternate sites.

3. Develop an understanding of the effects of past practices on existing sites and methodologies for evaluating the desirability of continued dumping at existing sites or initiating dumping at new sites.

4. Develop procedures for handling, transporting and dumping wastes to minimize overall effects of disposal actions.

5. Develop an understanding of the effects of extraneous influences (airborne pollutants, river and estuarine discharges and ocean outfalls) in relation to direct ocean dumping.

6. Develop alternatives to ocean dumping and information on the benefits of selective disposal actions.

7. Develop methodologies for assessing the effectiveness of the overall program through monitoring and other methods.

8. Develop the scientific expertise to support enforcement actions.

The elements of the strategy to achieve these objectives are dependent on the effective cooperation of the Federal agencies directly involved in implementing the respective acts and other agencies conducting research in the marine environment. An effective research program will require the integration of other agency activities as they relate to the ocean disposal program while maintaining the mission responsibilities of each agency. The principal elements of the strategy consist of the following:

1. Continuation of existing research programs in associated agencies with the recognition of the need for early integration into the overall planning for the ocean disposal research.

2. Establishment of a mechanism for interagency coordination of those research programs capable of contributing to the needs of the ocean disposal program.

3. Development of an overall interagency strategy to guide the development of ocean disposal research plan and specific agreements to implement the program.

4. Early identification of gaps in existing programs to establish the basis for long term resource requirements.

5. Development of a formal system for reporting, assessing and assimilating research information with the needs of the overall ocean disposal program.

Programs have been initiated by the agencies with research capabilities which will contribute to the objectives of the ocean disposal research program. EPA is conducting studies to determine the fate and effects of material on selective species and in the marine environment. NOAA is actively studying, along with other activities, the effects of past dumping practices in the New York Bight and the Corps of Engineers is pursuing a program to develop understanding of dredged spoil disposal problems. Actions currently underway will lead to the development of a coordinated Federal strategy and plan for the conduct of these programs.

Monitoring Strategy

The success of the regulatory aspects of the ocean dumping permit program will depend to a large extent on the degree to which the impact of permitted ocean dumping activities on the ocean environment can be determined in time to correct any adverse trends prior to non-reversible changes. This can be achieved only by a carefully planned and implemented program of monitoring dump sites and other areas which may be affected by dumping activities.

The needs of the ocean dumping permit program for continuing information on the health of the marine environment are only a part of the total national need for data on the oceans. The overall strategy to satisfy the needs of the ocean dumping permit program for information obtainable from monitoring is to incorporate these needs into the program requirements of other components of EPA and other agencies through active participation in the development and implementation of the national marine monitoring plan now being undertaken by the Subcommittee on Marine Baselines and Monitoring (SC/MBM) of the Interagency Committee on Marine Environmental Prediction (ICMAREP).

Such an approach will make it possible to use the full range of Federal capability and resources in satisfying the marine monitoring needs of the ocean dumping permit program under PL 92-532 as well as those of PL 92-500, which requires EPA to establish and maintain a marine water quality monitoring network for general pollution surveillance purposes. Such a strategy has the following major elements:

1. Strong support of NOAA in fulfilling its PL 92-532 research and monitoring requirements and close cooperation in its MESA projects;

2. Incorporation of PL 92-532 surveillance activities of the Coast Guard into the monitoring program;

3. Utilization of the marine monitoring activities of other Federal agencies;

4. Emphasis on incorporating on-going State marine programs into the overall scheme;

5. Strong orientation of EPA efforts toward providing laboratory support, quality control and standardization, data flow mechanisms, and establishment of a routine program of evaluating and reporting on the status of the marine environment in general, and areas relating to ocean disposal in particular, including definitions of additional monitoring and surveillance needs;

This strategy is directed toward carrying out a marine monitoring program to satisfy EPA's responsibilities under both PL 92-500 and PL 92-532, yet which is structured almost entirely on PL 92-532 requirements. The data produced by such a monitoring program should allow 1) evaluation of existing dumping sites and ocean outfalls; 2) location of possible alternative dumping sites; 3) tracing of pathways and locations of sinks of pollutants; 4) prediction of response of in-shore and off-shore water quality to man-induced changes; 5) location of control sites against which to measure long and short-term effects of ocean dumping and discharges from ocean outfalls; 6) determination of pollutant inputs to, and effects on, estuaries and other marine waters by upland drainage; and 7) determination of compliance with permit conditions.

An adequate monitoring program will be composed of three types of continuing monitoring activities:

1. Surveillance of dumping operations

2. Disposal site monitoring

3. Disposal site evaluation studies (baseline surveys)

None of these by itself can satisfy the full needs for environmental data on the impact of ocean dumping, and the obtaining of maximum information for minimum cost requires close coordination of all three types of activity.

Coordination of these activities is being achieved through the direct efforts of an Interagency Coordinating Committee for Ocean Dumping composed of representatives of EPA, NOAA, Coast Guard, and Corps of Engineers, which has taken the initial steps necessary to develop a coordinated

monitoring plan through the existing efforts of the ICMARLP.

Research and monitoring dealing with the long-range impact of pollution on the marine environment is the primary responsibility of NOAA under the Marine Protection, Research, and Sanctuaries Act of 1972 (PL 92-532). The designation of disposal sites, setting disposal conditions, and the designation of critical areas and times at which dumping may not occur is, however, an EPA responsibility. Full use will be made of the facilities of other Federal agencies in doing this, insofar as these can be made available, but it is up to EPA to determine what information is required for its purposes and the conditions under which it should be obtained.

Dumping may be done only at approved locations. Some existing dumping sites have been approved by EPA in the regulations for use on an interim basis pending the development and evaluation of the information necessary to approve dumping sites for use on a continuing basis. Sites will be approved through publication in the Federal Register and approval will be based on a thorough evaluation of sufficient data to determine the probable impact of wastes on the proposed sites.

Should an applicant request use of a dump site not already designated as an approved dumping area, the applicant will be responsible for providing to EPA data sufficient to evaluate the ecological value of the proposed site and the impact of waste materials upon it.

Dumping sites will not be approved for dumping on a permanent basis. Each site will be subjected to an initial baseline survey prior to approval for continuing use and will then be carefully monitored and resurveyed on a continuing basis. In general, sites in use will be approved for continuing use as long as they exhibit negligible damage from the wastes dumped at them and as long as the effects of the wastes do not impact other areas. If a site begins to exhibit degradation, then its use for dumping will be terminated permanently or until it recovers.

In approving a site for continuing use, the approach will be to prepare a full environmental evaluation of the

present conditions of the site and the probable impact of dumping upon it. This will be based on the volumes and nature of the waste material dumped within its boundaries and upon one or more baseline surveys of the site. Such surveys would not be of the level of effort needed for a thorough research study, but would give the data necessary to determine present conditions and probable impact of wastes on the site. Such a survey should include measurements of chemistry of the water column at and near the site; current structure and water mass movement and characteristics; bottom sediment geology, chemistry, and physical characteristics; bathymetry; nature and diversity of biota, including plankton and other floating life, pelagic, mid-level, and demersal crustaceans and fish, shellfish, and benthic organisms. Such a survey, repeated at periodic intervals would enable EPA to determine whether or not a site is being adversely affected and termination of its use is indicated.

The technical report on the baseline studies will serve as the basis for the environmental assessment and will be combined with other information on site use to provide an analysis of the overall environmental impact of the designation of the site as approved for continuing use.

The actual approval of a site will be done through promulgation in the Federal Register according to standard administrative procedures.

There have been 119 dumping sites approved on an interim basis. This approval has been based only on their prior use for the dumping of wastes. Within this list are sites which are heavily used at the present time and also sites which are not being used at all right now.

Among these 119 sites are those which should be evaluated as rapidly as possible to determine whether or not their use can be continued or whether or not alternate sites must be selected and dumping at the existing sites terminated. Because of the limited resources available for carrying out site evaluation studies, the evaluation of some sites must be deferred until a later time. The basis for setting priorities for site evaluation studies is as follows:

1. Sites Presently in Use

The approved interim dumping sites are of the highest order of priority for evaluation. Each site presently in use must be evaluated and either approved or disapproved for continuing use. Where disapproval of an existing site is indicated as a result of an evaluation, the selection and approval of an alternate site becomes of a high order of priority, depending on the nature and extent of the damage associated with the existing site.

Among the sites presently approved on an interim basis, the following orders of priority in disposal site evaluation are indicated:

a. Sludge dumping and industrial waste dumping sites in use and close inshore, i.e., within or immediately adjacent to the contiguous zone;

b. Sludge dumping and industrial waste dumping sites in use farther offshore than in 1.a.;

c. Inshore dredged spoil disposal sites in use;

d. Offshore dredged spoil disposal sites in use;

e. Garbage and refuse disposal sites in use;

f. Construction and demolition debris disposal sites in use;

g. Other sites in use.

2. Alternate Sites

When a disposal site evaluation study of an interim approved site indicates that use of that site should be suspended or terminated immediately, an alternate site should be selected and evaluated as rapidly as possible, and the priority for the selection of an alternate site should be the same as for the evaluation of the original site. The following results of a disposal site evaluation would provide strong indication that use of the site should be discontinued as soon as possible:

a. Movement of waste materials dumped at the site into estuaries or onto oceanfront beaches or shorelines;

b. Movement of waste materials dumped at the site into productive fishery or shellfishery areas;

c. Degradation of the ecosystem at the dump site which appears progressive and which might result in complete sterilization of the dump site if dumping is allowed to continue.

If the biota at an existing dump site are completely wiped out and if this condition is confined to the immediate vicinity of the dump site, the selection of an alternate site may not be of a high order of priority, since the use of an alternate dump site may only result in completely damaging two sites instead of one. A preferred approach would be to phase out dumping of the materials causing the damage as rapidly as possible.

3. Interim Approved Sites not in Use

Sites approved on an interim basis but not currently being used should be surveyed to determine the extent of damage and rate of recovery from past damage. Such sites may be approved as possible alternate sites, used as control sites, or recommended to NOAA for detailed research study to determine long-range impacts of ocean dumping.

Priorities among these sites will be set according to how recently dumping at the site was discontinued and the type of wastes dumped there. The highest priority would be assigned to sites at which sewage sludge and/or industrial wastes were most recently dumped.

4. Control Sites

As part of the long-range research and monitoring required to determine the impact of wastes on the marine environment, several control sites not impacted by wastes will be selected off each major coastal area; these will be surveyed on a routine continuing basis as a

means for tying together all disposal site evaluation studies, particularly in regard to normal fluctuations over a period of years.

Conclusion

Since the enactment of the Marine Protection, Research, and Sanctuaries Act of 1972 (PL 92-532), on April 23, 1973, the previously uncontrolled practice of transporting and dumping of wastes in ocean waters has come under control. A permit program under which each permittee is required to provide a detailed description of the waste material, method of disposal, and disposal site location has been implemented and is now operational. An interagency coordinating committee consisting of EPA (chairman), NOAA, Coast Guard, and Corps of Engineers has been formed to coordinate all activities under the Act. This committee has developed draft research strategies and monitoring strategies and is currently working on standard procedures and methods for carrying out monitoring and studies of disposal sites.

During Fiscal Year 1974, field investigations of existing dump sites will be conducted as a first step in determining the impact of permitted ocean dumping activities on the ocean environment. Standard procedures for sampling and monitoring will be initiated, and the interim regulations and criteria will be revised.

In the conduct of the dump site investigations EPA will, to the fullest extent practicable, utilize the marine facilities of other Federal agencies.